

# PS-II

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE

# CHRONICLES



SEMESTER II 2018-19

## From the Desk of the Editor

It is my great pleasure to bring forth the 7th edition of the PS Chronicles. This edition features over 579 articles from mentors, students and PS faculty sharing their experience from the II Semester of 2018-2019. This huge increase in numbers is a testimony to the usefulness of the PS- II Chronicles and its increasing popularity.

The primary aim of the PS Chronicles is to record the overall PS-II Experience of all the stakeholders – the students, the PS Faculty and the Industry Mentors.

The objectives of this Chronicle are manifold

- Prospective PS-II students can get to know about the experience of their seniors, currently at PS – thereby increasing awareness in the student community
- Increasing awareness among faculty about the nature of work happening in PS
- Bring back the experience gained in PS into academics- making the curriculum more industry relevant.

I would like to thank everyone who has participated in this activity- the students, the industry mentors and the faculty for sharing their experience. Thanks for making the 7th edition an even more bigger and better experience.

I would also like to thank Prof. Ashish Narang and Prof. Gaurav Nagpal for reviewing the articles. I would also extend my thanks to Mr. Om Prakash Singh Shekhawat of the Practice School Division, of BITS, Pilani – Pilani Campus for his help in bringing out the editions of PS II Chronicles.

I would be happy to receive any feedback regarding the Chronicles. Please feel free to email me at [psd@pilani.bits-pilani.ac.in](mailto:psd@pilani.bits-pilani.ac.in) or at [anil.gaikwad@pilani.bits-pilani.ac.in](mailto:anil.gaikwad@pilani.bits-pilani.ac.in)

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| Name: AMAN RAJ(2015A7PS0103P) .....  | 170        |
| <b>PS-II Station : Futures First- Financial Market &amp; Research (Quant) , Gurgaon</b> .....  | <b>171</b> |
| <b>Student</b> .....   | <b>172</b> |
| Name: SUKRUT ANOOP NIGWEKAR(2015A7PS0029P).....  | 172        |

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| <b>PS-II Station : Genpact , Bangalore.....</b>                                      | <b>173</b> |
| <b>Student .....</b>   | <b>173</b> |
| Name: DEEPAK CHAUHAN(2017H1490302P).....   | 173        |
| Name: SAKSHI DAS(2017H1490338P) .....  | 174        |
| <b>PS-II Station : GMR Infrastructure Ltd , Hyderabad.....</b>                       | <b>175</b> |
| <b>Student .....</b>   | <b>175</b> |
| Name: Kiran Krishnan(2017H1300082P) .....  | 175        |
| Name: S ROOPAK(2017H1430068P).....   | 176        |
| <b>PS-II Station : Goodera (Next Gen PMS) (Non IT) , New Delhi.....</b>              | <b>176</b> |
| <b>Student .....</b>   | <b>176</b> |
| Name: PIYOOSH SRIVASTAVA(2015A2PS0743P) .....  | 177        |
| <b>PS-II Station : Goodera (NextGen PMS Pvt. Ltd)- Non IT , Bangalore.....</b>       | <b>177</b> |
| <b>Student .....</b>   | <b>177</b> |
| Name: ANIRUDDHA SINGHAL(2014B2A20900H) .....   | 177        |
| Name: ABHRAJIT KAR(2017h1490346p).....   | 179        |
| <b>PS-II Station : Goodera (NextGen PMS) - IT , Bangalore .....</b>                  | <b>180</b> |
| <b>Student .....</b>   | <b>180</b> |
| Name: ROHAN SENGUPTA .(2015A7PS0092G).....   | 180        |
| <b>PS-II Station : HDFC Life , Mumbai.....</b>                                       | <b>181</b> |
| <b>Student .....</b>   | <b>181</b> |
| Name: ADVAIT JAYANT KHOBRADE .(2015A7PS0087G).....                                   | 181        |
| <b>PS-II Station : Healthcare Technology Innovation Centre (HTIC) , Chennai.....</b> | <b>182</b> |
| <b>Student .....</b>   | <b>182</b> |
| Name: SAMAN SAJJAD(2017H1290011P).....   | 182        |
| Name: S GAYATHRI(2017H1290020P) .....  | 183        |
| <b>PS-II Station : Here Maps - Distributed Data , Mumbai .....</b>                   | <b>184</b> |
| <b>Student .....</b>   | <b>184</b> |
| Name: SHOUNAK NIPUN RANGWALA .(2015A3PS0244G).....                                   | 185        |
| Name: DHRUVAL RANA(2014B1A30222P) .....  | 186        |
| <b>PS-II Station : Hindustan Unilever Research Centre , Bangalore.....</b>           | <b>187</b> |
| <b>Student .....</b>   | <b>187</b> |
| Name: DEVAVARAPU LAKSHMI SAHITHI(2014B2A10816H).....                                 | 187        |

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| Name: HARSH KANODIA(2014A1B10525P).....                          | 188        |
| Name: DEBOLINA CHAKRABARTY(2015A1PS0592P).....                   | 189        |
| <b>PS-II Station : Hourglass Research , Mumbai.....</b>          | <b>190</b> |
| <b>Student .....</b>   | <b>190</b> |
| Name: VANGALA NAGA PRANAV(2015A8PS0484H).....                    | 190        |
| <b>PS-II Station : IBM Security - Fiberlink , Pune.....</b>      | <b>191</b> |
| <b>Student .....</b>   | <b>191</b> |
| Name: AMRUTHAVANI R P(2016H3130073H).....                        | 191        |
| Name: WAGLE SHRISHA SHAM(2016H3130074H).....                     | 192        |
| <b>PS-II Station : IFB Industries , Goa.....</b>                 | <b>193</b> |
| <b>Student .....</b>   | <b>193</b> |
| Name: ABHISHEK GORLE .(2017H1410102H).....                       | 193        |
| <b>PS-II Station : IMI Mobile R&amp;D , Hyderabad.....</b>       | <b>194</b> |
| <b>Student .....</b>   | <b>194</b> |
| Name: ANGAD LAMBA(2014B3A70689P).....                            | 194        |
| <b>PS-II Station : IMS Health , Bangalore.....</b>               | <b>195</b> |
| <b>Student .....</b>   | <b>196</b> |
| Name: BOJJA JAVALI SUMAGATHRI .(2017H1460161H) .....             | 196        |
| Name: M.SADASIVAVIDYAKANT .(2017H1460151H) .....                 | 196        |
| Name: JOMON AUGUSTINE(2017H1460291P).....                        | 197        |
| <b>PS-II Station : IMS Health , Gurgaon.....</b>                 | <b>198</b> |
| <b>Student .....</b>   | <b>198</b> |
| Name: ILA TAKU(2017H1470268P).....                               | 198        |
| Name: NEHA HANS(2017H1080267P).....                              | 199        |
| Name: ILA TAKU(2017H1470268P).....                               | 200        |
| Name: MRITYUNJAY SHRIVASTAVA(2015A5PS0859H) .....                | 201        |
| <b>PS-II Station : Infinera , Bangalore .....</b>                | <b>202</b> |
| <b>Student .....</b>   | <b>202</b> |
| Name: HARSHITHA P K(2017H1400171P).....                          | 202        |
| <b>PS-II Station : Ingersoll Rand India Ltd , Bangalore.....</b> | <b>202</b> |
| <b>Student .....</b>   | <b>203</b> |
| Name: K SRAVYA VARMA .(2017H1480138H) .....                      | 203        |

**PS-II Station : InMobi- Business Development , Bangalore ..... 204**

**Student ..... 204**

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| Name: PATEL HARSH RAJESHKUMAR .(2014B4A40643G)..... | 204 |
| Name: TANISHQ SHARMA .(2015A1PS0735G).....          | 205 |
| Name: ROHAN KHURANA(2015A1PS0695G).....             | 205 |
| Name: AVINASH LADDHA .(2014B2A10715G).....          | 206 |
| Name: ABHAY KHANDELWAL .(2015A1PS0601G).....        | 207 |
| Name: APURVA KUMAR MISHRA .(2015A1PS0563G).....     | 208 |
| Name: PRASHANT(2017H1490305P).....                  | 209 |
| Name: SARTHAK SINGH .(2014B2A80710G).....           | 210 |
| Name: MEGHA SAINI(2015B2PS0969P).....               | 211 |

**PS-II Station : Intel India Technology , Bangalore..... 212**

**Faculty..... 212**

|                            |     |
|----------------------------|-----|
| Name: Swapna Kulkarni..... | 212 |
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**Student ..... 212**

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| Name: ABHISHEK SHARMA(2017H1230209P).....                | 212 |
| Name: TAHILIANI VINITA YOGENDRA(2017H1120236P).....      | 213 |
| Name: ABHIMANYU KAKKAR(2017H1230218P).....               | 214 |
| Name: MONIKA VIJAY(2017H1400159P).....                   | 215 |
| Name: PATURKAR ANIRUDDHA ASHUTOSH(2017H1240115P).....    | 215 |
| Name: HUSAIN SHOAB SCENTWALA(2017H1030118P).....         | 216 |
| Name: HANU AGGARWAL(2017H1230227P).....                  | 217 |
| Name: Akshay Joshi(2017H1400157P).....                   | 218 |
| Name: AMIT BHATT(2017H1230216P).....                     | 218 |
| Name: SARDESHPANDE SHUBHANKAR MILIND(2017H1400081G)..... | 219 |
| Name: PRATEEK(2017H1400172P).....                        | 220 |
| Name: POULAMI PAL(2017H1400160P).....                    | 221 |
| Name: ABHISHEK SHARMA(2017H1230209P).....                | 222 |
| Name: ABHIMANYU KAKKAR(2017H1230218P).....               | 222 |
| Name: VANYA GUPTA(2017H1230225P).....                    | 223 |
| Name: KOMAL(2017H1230207P).....                          | 224 |
| Name: TAHILIANI VINITA YOGENDRA(2017H1120236P).....      | 225 |

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| Name: AKSHAY KUMAR K(2014B1A30699H).....                                       | 226        |
| Name: KUNAL HARBHAJANKA(2017H1230223P).....                                    | 227        |
| Name: MADHURESH BHATTACHARYA(2017H1030139P).....                               | 227        |
| Name: ARUSH SHRIVASTAVA(2017H1230228P).....                                    | 228        |
| <b>PS-II Station : Intel India Technology , Hyderabad.....</b>                 | <b>229</b> |
| <b>Faculty.....</b>  | <b>229</b> |
| Name: Swapna Kulkarni.....   | 229        |
| <b>Student.....</b>  | <b>230</b> |
| Name: HARSHA BAJPAI(2015A3PS0337H).....  | 230        |
| Name: RITIKA RAMCHANDANI(2015A3PS0186H).....                                   | 231        |
| Name: ALURU KRISHNA SHYAM .(2017H1230121H).....                                | 232        |
| Name: TANMAY CHAUDHARY(2017H1230127H).....                                     | 232        |
| Name: HARSHA BAJPAI(2015A3PS0337H).....  | 233        |
| Name: SREENIDHI REDDY BOMMU(2015AAPS0279H).....                                | 234        |
| <b>PS-II Station : J P Morgan Services - GKN Markets , Mumbai.....</b>         | <b>235</b> |
| <b>Student.....</b>  | <b>235</b> |
| Name: RAJAT GUPTA(2015A1PS0465H).....  | 235        |
| <b>PS-II Station : J P Morgan Services Ltd - Finance , Mumbai.....</b>         | <b>236</b> |
| <b>Student.....</b>  | <b>236</b> |
| Name: SIDDHARTH GUPTA(2015A4PS0406H).....                                      | 236        |
| Name: SIDDHARTH GUPTA(2015A4PS0406H).....                                      | 237        |
| <b>PS-II Station : J P Morgan Services Ltd - GMG &amp; Quant , Mumbai.....</b> | <b>238</b> |
| <b>Student.....</b>  | <b>238</b> |
| Name: DESHMUKH ARJUN DEEPAK(2014B3A70517H).....                                | 238        |
| <b>PS-II Station : JDA Software Solutions , Bangalore.....</b>                 | <b>239</b> |
| <b>Student.....</b>  | <b>239</b> |
| Name: ANINDITA SINGHAI .(2014B1A40620P).....                                   | 239        |
| <b>PS-II Station : John F Welch Technology Center (GE) , Bangalore.....</b>    | <b>240</b> |
| <b>Student.....</b>  | <b>240</b> |
| Name: YASH DINESHBHAI PARIKH(2017H1410154P).....                               | 240        |
| <b>PS-II Station : Juniper Networks , Bangalore.....</b>                       | <b>241</b> |
| <b>Student.....</b>  | <b>241</b> |

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| Name: Rutvik Fadnavis(2015A8PS0510G) .....  | 241        |
| <b>PS-II Station : Lavelle Networks , Bangalore.....</b>                          | <b>242</b> |
| <b>Student .....</b>  | <b>242</b> |
| Name: GAUTHAM SUBRAMANI(2017H1490292P).....                                       | 242        |
| <b>PS-II Station : Law Pundits , Trivandrum.....</b>                              | <b>243</b> |
| <b>Student .....</b>  | <b>243</b> |
| Name: ROHAN BABU PAUL .(2015A1PS0682G).....                                       | 243        |
| <b>PS-II Station : LEA Associates , New Delhi.....</b>                            | <b>244</b> |
| <b>Student .....</b>  | <b>244</b> |
| Name: AKASH KAUL KASID(2017H1430067P).....  | 244        |
| <b>PS-II Station : Lightplane Technologies India Pvt. Ltd , Bangalore.....</b>    | <b>245</b> |
| <b>Student .....</b>  | <b>245</b> |
| Name: TUSHAR JOEL CORNELIUS .(2014B1A30858G) .....                                | 245        |
| <b>PS-II Station : Market Data Forecast (Research Associate) , Hyderabad.....</b> | <b>246</b> |
| <b>Student .....</b>  | <b>246</b> |
| Name: DEEPANSHU TIWARI(2014A2PS0512H).....  | 246        |
| <b>PS-II Station : MathWorks India Private Limited , Bangalore.....</b>           | <b>247</b> |
| <b>Faculty.....</b>   | <b>247</b> |
| Name: Pradheep Kumar K.....   | 247        |
| <b>Student .....</b>  | <b>247</b> |
| Name: PRANJAL PRIYADARSHI(2017H1120242P) .....                                    | 248        |
| <b>PS-II Station : MathWorks India Pvt. Ltd. , Hyderabad.....</b>                 | <b>249</b> |
| <b>Student .....</b>  | <b>249</b> |
| Name: DEVINENI ASLESHA .(2017H1240054H).....                                      | 249        |
| Name: NARRA PUJITHA(2016H3130075H) .....  | 250        |
| <b>PS-II Station : Maybank Labs Pvt. Ltd. , Bangalore .....</b>                   | <b>251</b> |
| <b>Student .....</b>  | <b>251</b> |
| Name: UPADHYE KALYANI SHASHANK(2017H1490310P) .....                               | 251        |
| Name: SANYA KHANNA(2017H1490348P) .....   | 252        |
| <b>PS-II Station : MediaTek Bangalore Pvt. Ltd. , Bangalore .....</b>             | <b>253</b> |
| <b>Faculty.....</b>   | <b>254</b> |
| Name: Rekha A.....  | 254        |

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| <b>Student</b> .....   | <b>254</b> |
| Name: SUDHANSHU SHEKHAR(2017H1230130H).....                                      | 254        |
| Name: TENDOLKAR ABHISHEK HEMANT .(2017H1230065G).....                            | 255        |
| <b>PS-II Station : Mercedes Benz , Bangalore</b> .....                           | <b>256</b> |
| <b>Student</b> .....   | <b>256</b> |
| Name: KUMAR VATSA .(2017H1410052G).....  | 256        |
| Name: SALUNKE OMKAR SHIVLING .(2017H1410098H).....                               | 257        |
| Name: RANIT DATTA(2017H1480137H).....  | 258        |
| Name: THAKER SAGAR BIPINBHAI(2017H1060203P).....                                 | 259        |
| <b>PS-II Station : MiQ Digital India Pvt. Ltd. , Bangalore</b> .....             | <b>259</b> |
| <b>Student</b> .....   | <b>259</b> |
| Name: AMIT SONI(2015A2PS0763P).....  | 260        |
| Name: TANMAY JAIN(2015A1PS0669P).....  | 260        |
| <b>PS-II Station : Morgan Stanley Advantage Services , Bangalore</b> .....       | <b>261</b> |
| <b>Student</b> .....   | <b>262</b> |
| Name: Deepak Guneja(2015A7PS0083P).....  | 262        |
| Name: ANANYASHREE GARG(2015A7PS0117P).....                                       | 262        |
| <b>PS-II Station : Morningstar - Index Technology , Mumbai</b> .....             | <b>264</b> |
| <b>Student</b> .....   | <b>264</b> |
| Name: SIDDHARTH SOMANI .(2014B4A80911G).....                                     | 264        |
| <b>PS-II Station : MSCI (NPD - Index Research) , Mumbai</b> .....                | <b>265</b> |
| <b>Student</b> .....   | <b>265</b> |
| Name: PIYUSH LALWANI(2015A4PS0272H).....   | 265        |
| <b>PS-II Station : MSCI Technology &amp; Development , Mumbai</b> .....          | <b>266</b> |
| <b>Student</b> .....   | <b>266</b> |
| Name: Kapil Sachar(2015A1PS0526P).....   | 266        |
| <b>PS-II Station : National Aerospace Laboratories , Bangalore</b> .....         | <b>267</b> |
| <b>Student</b> .....   | <b>267</b> |
| Name: SHETH KAVAN SAMIR(2014B2AB0314P).....                                      | 267        |
| <b>PS-II Station : National Centre for Biological Sciences , Bangalore</b> ..... | <b>267</b> |
| <b>Student</b> .....   | <b>268</b> |
| Name: NIMISHA NATH .(2017H1290003H).....   | 268        |

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| Name: NEHA RAVINDRA ASHTIKAR .(2017H1290009H).....                                      | 268        |
| Name: SARANYA S .(2017H1290007G).....   | 269        |
| Name: R.SHREENIDHI(2017H1290005P).....  | 271        |
| <b>PS-II Station : National Chemical Laboratory , Pune .....</b>                        | <b>272</b> |
| <b>Student .....</b>  | <b>272</b> |
| Name: NISCHAL HARISH GUTTIKAR(2017H1010039P).....                                       | 272        |
| <b>PS-II Station : National Instruments India Sales , Bangalore .....</b>               | <b>273</b> |
| <b>Faculty.....</b>   | <b>273</b> |
| Name: Rekha A.....  | 273        |
| <b>Student .....</b>  | <b>273</b> |
| Name: SHASHWAT SHARMA(2015A3PS0155P).....   | 273        |
| <b>PS-II Station : National Instruments Systems (India) Pvt. Ltd. , Bangalore .....</b> | <b>274</b> |
| <b>Mentor .....</b>   | <b>274</b> |
| Name : Mr. Manoj.....   | 274        |
| <b>Faculty.....</b>   | <b>274</b> |
| Name: Rekha A.....  | 274        |
| <b>Student .....</b>  | <b>275</b> |
| Name: YADVINDER SINGH .(2017H1240059H) .....  | 275        |
| <b>PS-II Station : NetApp , Bangalore.....</b>  | <b>276</b> |
| <b>Student .....</b>  | <b>276</b> |
| Name: MONISHA NAIR(2017H1120241P).....  | 276        |
| Name: GAIKWAD KOMAL SONBA .(2017H1030032G) .....  | 277        |
| <b>PS-II Station : Netcore Solutions , Bangalore.....</b>                               | <b>278</b> |
| <b>Student .....</b>  | <b>278</b> |
| Name: R ANAND(2017H1490361P).....   | 278        |
| <b>PS-II Station : NetSkope Software India Pvt. Ltd. , Bangalore .....</b>              | <b>280</b> |
| <b>Student .....</b>  | <b>280</b> |
| Name: RAJAT BISWAS(2015A7PS0107H).....  | 280        |
| <b>PS-II Station : Nomura - Wholesale Strategy , Mumbai .....</b>                       | <b>281</b> |
| <b>Student .....</b>  | <b>282</b> |
| Name: SHAH URVAL DHAVAL .(2015A4PS0272G).....   | 282        |
| <b>PS-II Station : Nomura Global Finance , Mumbai.....</b>                              | <b>282</b> |

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| <b>Student</b> .....  | <b>282</b> |
| Name: ARNAB PANDA(2015A4PS0343P).....   | 283        |
| Name: ROMIL HIMATBHAI SORATHIA(2015A2PS0476P) .....                           | 283        |
| Name: NIHAL GUPTA .(2015A4PS0247G).....                                       | 284        |
| <b>PS-II Station : Novartis , Hyderabad</b> .....                             | <b>285</b> |
| <b>Student</b> .....  | <b>285</b> |
| Name: SAJAL BANSAL(2014B1A10657H).....  | 285        |
| <b>PS-II Station : Nreach Online Services Pvt. Ltd. , Bangalore</b> .....     | <b>286</b> |
| <b>Student</b> .....  | <b>286</b> |
| Name: Priya Rana(2015D2PS0994P).....  | 286        |
| <b>PS-II Station : Nutanix Technologies India Pvt. Ltd. , Bangalore</b> ..... | <b>287</b> |
| <b>Student</b> .....  | <b>287</b> |
| Name: KATHAN KASHIPAREKH .(2014B3A70792G) .....                               | 287        |
| Name: ABHISHEK NELAABH GHOSH(2014B2A70899H).....                              | 288        |
| Name: T DINESH RAM KUMAR(2014A3A70302P).....                                  | 289        |
| Name: BHAVSAR NEEL HITESHBHAI(2015A7PS0014H) .....                            | 290        |
| Name: DHANANJAY MANTRI(2015A7PS0139P).....                                    | 291        |
| Name: BHAGWAT SWAROOP SANJAY .(2015A7PS0121G).....                            | 292        |
| <b>PS-II Station : Nvidia Graphics - Hardware , Bangalore</b> .....           | <b>293</b> |
| <b>Mentor</b> .....   | <b>293</b> |
| Name : Sathya K.....  | 293        |
| Name : Vimal Zalariya.....  | 294        |
| Name : Suresh Kumar Meesala.....  | 295        |
| Name : Pavan Kumar Yakamuri.....  | 295        |
| Name : Rimu Kaushal.....  | 296        |
| Name : Vishwajit Reddy G.....   | 297        |
| Name : Roshan Paul.....   | 298        |
| <b>Faculty</b> .....  | <b>298</b> |
| Name: Brajabandhu Mishra .....  | 299        |
| Name: MANCHALI MANISH(2015AAPS0256H) .....                                    | 300        |
| Name: RUTWIK NARENDRA JAIN(2015A3PS0726P).....                                | 301        |
| Name: CHIVUKULA SAI ABHISHEK(2015AAPS0241H).....                              | 302        |

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| Name: Sreemanth Prathipati(2015AAPS0223H).....                        | 303        |
| Name: S SIDDHARTHA RAMAN(2015AAPS0572H).....                          | 304        |
| Name: A LOHITH(2015A3PS0215H).....                                    | 304        |
| Name: Sanjay Gupta(2015A3PS0270G).....                                | 306        |
| Name: RUTWIK NARENDRA JAIN(2015A3PS0726P).....                        | 307        |
| Name: YASHWARDHAN SINGH(2014B5AA0759H).....                           | 308        |
| Name: DEVASTHALE DHRUVA DILIP(2015A3PS0172P).....                     | 309        |
| Name: ADEESH BHARGAVA(2015A3PS0266P).....                             | 310        |
| Name: CHIVUKULA SAI ABHISHEK(2015AAPS0241H).....                      | 311        |
| Name: ANSHUL JAIN(2015A8PS0398P).....                                 | 312        |
| Name: RAM KRISHNA(2015A3PS0280P).....                                 | 313        |
| Name: ANUVRAT SRIVASTAVA .(2015A8PS0504G).....                        | 314        |
| Name: CHAMARTY SRI SAI SRINIVASA VISWABHARGAV(2015AAPS0158H).....     | 315        |
| Name: DITTAKAVI VISHNU MOHAN(2015A8PS0464H).....                      | 316        |
| Name: RISHABH MISHRA(2015A8PS0466H).....                              | 317        |
| Name: DESHMUKH DEEPANKAR YESHWANT(2015A8PS0587P).....                 | 318        |
| Name: RISHABH MISHRA(2015A8PS0466H).....                              | 319        |
| <b>PS-II Station : Nvidia Graphics - Software Systems , Pune.....</b> | <b>320</b> |
| <b>Mentor.....</b>  | <b>320</b> |
| Name : Ranjith Babu Kannikara.....                                    | 320        |
| Name : Jimit Raja.....  | 320        |
| Name : Harshraj Rao.....  | 321        |
| Name : Pooja Krishnamurthy.....                                       | 321        |
| Name : Kirankumar Bobbu.....  | 322        |
| <b>Faculty.....</b>   | <b>323</b> |
| Name: Brajabandhu Mishra.....   | 323        |
| <b>Student.....</b>   | <b>324</b> |
| Name: SONAWANE AJINKYA LAKHAN .(2014B1A70940G).....                   | 324        |
| Name: SHREEDA PATTANAIK(2015AAPS0226H).....                           | 324        |
| <b>PS-II Station : Nvidia Graphics -Software , Bangalore.....</b>     | <b>325</b> |
| <b>Student.....</b>   | <b>325</b> |
| Name: SHUBHAM MALPANI(2014B2A80778H).....                             | 325        |

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| Name: PRAKHAR GUPTA(2014B2A30906H) .....   | 327        |
| Name: SHIKHAR SHARMA(2015AAPS0474H) .....  | 328        |
| Name: NIKHIL MADAAN(2015A3PS0283H) .....   | 329        |
| Name: UTKARSH AGARWAL(2015A8PS0858P) .....   | 329        |
| <b>PS-II Station : OfBusiness , Gurgaon.....</b>                                   | <b>330</b> |
| <b>Faculty.....</b>  | <b>330</b> |
| Name: Ashish Narang.....   | 330        |
| <b>Student .....</b>   | <b>331</b> |
| Name: MRIDUL ARORA(2015A7PS0075H).....   | 332        |
| <b>PS-II Station : OYO Tech , Gurgaon .....</b>                                    | <b>333</b> |
| <b>Faculty.....</b>  | <b>333</b> |
| Name: Ashish Narang.....   | 333        |
| <b>Student .....</b>   | <b>334</b> |
| Name: SIDDHANT THAKURIA(2014B1A30466P) .....                                       | 334        |
| Name: KUMAR HARSH PATEL(2015A3PS0233P).....  | 335        |
| Name: RISHAB MEHRA(2015A3PS0347H) .....  | 336        |
| Name: MANDEEP SINGH .(2015A3PS0260G).....  | 337        |
| Name: SUMEET KUMAR GUPTA .(2015A8PS0467G).....                                     | 338        |
| <b>PS-II Station : OYO Tech , Hyderabad.....</b>                                   | <b>339</b> |
| <b>Student .....</b>   | <b>339</b> |
| Name: Mukund Kothari(2015A7PS0133H) .....  | 339        |
| <b>PS-II Station : PAYPAL , Bangalore.....</b>                                     | <b>340</b> |
| <b>Student .....</b>   | <b>340</b> |
| Name: KASHILKAR ADITYA SOMNATH(2015A7PS0098H) .....                                | 340        |
| Name: KRITIKA SHARMA(2017H1030071H) .....  | 340        |
| <b>PS-II Station : Paypal , Chennai.....</b>                                       | <b>342</b> |
| <b>Student .....</b>   | <b>342</b> |
| Name: MOHAMMAD SALIM ALI KHAN(2015A7PS0017H).....                                  | 342        |
| Name: Anand S Shankar(2014B1A70726H) .....   | 342        |
| Name: GURAJAPU SRAVAN SRI HARSHA(2015A7PS0063P) .....                              | 343        |
| Name: SHILPA RAJU .(2015A7PS0095G).....  | 344        |
| <b>PS-II Station : Petasense - Services &amp; App Development , Bangalore.....</b> | <b>345</b> |

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| <b>Student</b> .....   | <b>345</b> |
| Name: DEEPAK ALAPATT .(2014B4A30340G).....                                   | 345        |
| <b>PS-II Station : Pfizer Ltd. , Ahmedabad</b> .....                         | <b>346</b> |
| <b>Student</b> .....   | <b>346</b> |
| Name: SONAWANE KANCHAN RAJENDRA(2017H1460158H).....                          | 346        |
| <b>PS-II Station : Pfizer Ltd. , Chennai</b> .....                           | <b>348</b> |
| <b>Student</b> .....   | <b>348</b> |
| Name: GUPTA SAKSHI ASHOK(2017H1460284P).....                                 | 348        |
| Name: LAKSHMI K(2017H1080261P).....  | 349        |
| Name: C SARAVAN KRISHNA(2017H1460285P).....                                  | 350        |
| Name: SANDEEP MISHRA(2017H1460286P).....                                     | 351        |
| <b>PS-II Station : PharmaACE , Pune</b> .....                                | <b>352</b> |
| <b>Student</b> .....   | <b>352</b> |
| Name: SAKSHI JEEVAN NERE(2017H1080255P).....                                 | 352        |
| Name: SOURADEEP BOSE(2017H1080264P).....                                     | 353        |
| <b>PS-II Station : Piramal Group , Mumbai</b> .....                          | <b>353</b> |
| <b>Student</b> .....   | <b>354</b> |
| Name: FARHAN ALI .(2015A8PS0471G).....                                       | 354        |
| Name: GOTLASETH TARONISH ADIL(2015A3PS0348H).....                            | 355        |
| <b>PS-II Station : Pluss Advanced Technologies Pvt. Ltd. , Gurgaon</b> ..... | <b>356</b> |
| <b>Student</b> .....   | <b>356</b> |
| Name: AKSHAT RASTOGI .(2014B5A10702G).....                                   | 356        |
| <b>PS-II Station : PricewaterhouseCoopers (PWC) , Mumbai</b> .....           | <b>356</b> |
| <b>Student</b> .....   | <b>357</b> |
| Name: JAIN VAIBHAV PRITHVIRAJ(2015A4PS0290P).....                            | 357        |
| <b>PS-II Station : PricewaterhouseCoopers (PWC) , New Delhi</b> .....        | <b>357</b> |
| <b>Student</b> .....   | <b>357</b> |
| Name: OZA VILOM GANPATLAL(2015A4PS0399P).....                                | 358        |
| <b>PS-II Station : Publicis Sapient , Bangalore</b> .....                    | <b>358</b> |
| <b>Student</b> .....   | <b>358</b> |
| Name: AJAY KUMAR K .(2017H1030039G).....                                     | 358        |
| Name: SHRIRAM R(2015A7PS0011H).....  | 359        |

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| Name: SWARAJ K R .(2017H1030047G).....                           | 361        |
| <b>PS-II Station : PwC DIAC US Advisory , Bangalore.....</b>     | <b>362</b> |
| <b>Student .....</b>   | <b>362</b> |
| Name: VERMA SHREYAS VIVEK(2015A8PS0369P) .....                   | 362        |
| <b>PS-II Station : PwC DIAC US Advisory , Mumbai .....</b>       | <b>362</b> |
| <b>Student .....</b>   | <b>362</b> |
| Name: SAMIP JASANI(2015A7PS0127P).....                           | 363        |
| Name: SAMIP JASANI(2015A7PS0127P).....                           | 363        |
| <b>PS-II Station : Qualcomm India Pvt Ltd, Bangalore .....</b>   | <b>364</b> |
| <b>Student .....</b>   | <b>364</b> |
| Name: GOURAB PAUL .(2017H1400084G).....                          | 364        |
| Name: VINEETH G K(2017H1230208P).....                            | 365        |
| Name: VINEETH G K(2017H1230208P).....                            | 366        |
| Name: ADITYA DUBEY(2015AAPS0181H).....                           | 367        |
| Name: VINEETH G K(2017H1230208P).....                            | 368        |
| Name: DILSYA JOY(2017H1230220P) .....                            | 368        |
| Name: PATIL SWARALI MILIND(2015A3PS0306H) .....                  | 369        |
| Name: ABHISHEK .(2017H1230071G).....                             | 370        |
| Name: MAYEKAR KIRAN UDAY(2017H1230212P).....                     | 371        |
| <b>PS-II Station : Qualcomm India Pvt Ltd. , Hyderabad .....</b> | <b>372</b> |
| <b>Student .....</b>   | <b>372</b> |
| Name: PRATEEK RAI(2015A3PS0273P).....                            | 372        |
| Name: B.N.V.V.VINAY DEEPESH .(2017h1230068g).....                | 373        |
| Name: POLISETTI RAHUL SAI KUMAR(2015AAPS0240H).....              | 373        |
| <b>PS-II Station : Qubole , Bangalore .....</b>                  | <b>374</b> |
| <b>Student .....</b>   | <b>374</b> |
| Name: ANSA ZAIBA SM(2014B1A70659H) .....                         | 374        |
| Name: VIVEK SINGHVI(2015A7PS0108P).....                          | 375        |
| Name: SIDDHARTH SHAH(2015A7PS0059G).....                         | 376        |
| Name: P SUDARSHAN(2014B3A70749H).....                            | 377        |
| Name: KAPADIA DARSHIL CHITAL(2015A7PS0113P).....                 | 378        |
| Name: ROHIT LODHA(2015A7PS0040P) .....                           | 379        |

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| Name: AAYUSHMAAN JAIN(2015A7PS0043P).....   | 380        |
| <b>PS-II Station : Ramboll India Pvt. Ltd. , Gurgaon .....</b>                          | <b>381</b> |
| <b>Student .....</b>  | <b>381</b> |
| Name: SHUBHAM SANGRAM SHARMA .(2017H1430036H).....                                      | 381        |
| <b>PS-II Station : Reflexis Systems India Pvt Ltd. , Pune .....</b>                     | <b>382</b> |
| <b>Student .....</b>  | <b>382</b> |
| Name: Yogendra Singh Chouhan(2014B2A30786G).....  | 382        |
| <b>PS-II Station : Reliance Jio , Mumbai .....</b>                                      | <b>383</b> |
| <b>Student .....</b>  | <b>383</b> |
| Name: CHORDIYA ANAND RAJESH(2015A7PS0118P).....   | 383        |
| <b>PS-II Station : Rivigo Tech , Gurgaon.....</b>                                       | <b>384</b> |
| <b>Faculty.....</b>   | <b>384</b> |
| Name: Ashish Narang.....  | 384        |
| <b>Student .....</b>  | <b>385</b> |
| Name: AKUTHOTA GURU RAJ VAISHNAV(2015AAPS0255H).....                                    | 385        |
| Name: Rishabh Vijayvargiya(2014B3A80753P).....  | 387        |
| Name: Divanshu Gupta(2015A3PS0174P).....  | 388        |
| Name: TALLAM KUMAR KAUSHIK(2015A7PS0201P).....  | 389        |
| Name: ARPIT KUMAR TIWARI(2015A3PS0240P) .....   | 389        |
| <b>PS-II Station : Rivigo Services (Non Tech) Gurgaon .....</b>                         | <b>390</b> |
| <b>Faculty.....</b>   | <b>390</b> |
| Name: Ashish Narang.....  | 390        |
| <b>PS-II Station : Robert Bosch Center for Cyber Physical Systems , Bangalore .....</b> | <b>391</b> |
| <b>Student .....</b>  | <b>391</b> |
| Name: ARUN D PRABHU(2015A7PS0046P) .....  | 391        |
| Name: VADERIA SHYAMAL LALITBHAI(2015A7PS0048P).....                                     | 392        |
| <b>PS-II Station : Samhita Social Ventures , Mumbai .....</b>                           | <b>393</b> |
| <b>Student .....</b>  | <b>393</b> |
| Name: Rohitashva Vashishtha(2015B4PS0546H).....   | 393        |
| <b>PS-II Station : Samsung R &amp; D Institute , Bangalore .....</b>                    | <b>394</b> |
| <b>Student .....</b>  | <b>394</b> |
| Name: ANIRUDH AGGARWAL(2015A3PS0222P).....  | 394        |

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| Name: AMARTYA SHARMA .(2014B2A30597G).....   | 395        |
| Name: Dwait Bhatt(2015A3PS0284P) .....   | 396        |
| Name: DIVYA KUMAR .(2017H1030040G).....  | 397        |
| Name: MEGHA SHISHODIA(2014B3A70605P).....  | 398        |
| Name: SHREE GARG(2015A7PS0074G).....   | 399        |
| Name: ADITYA DESAI(2015A3PS0211H).....   | 399        |
| Name: BHAVANAM SRAVAN KUMAR REDDY(2015A7PS0072P).....                              | 400        |
| <b>PS-II Station : Samsung R&amp;D Institute , Noida.....</b>                      | <b>401</b> |
| <b>Student .....</b>   | <b>401</b> |
| Name: PRANEET ASHOK MEHTA(2015A3PS0342H) .....                                     | 401        |
| Name: SIDDHARTH SHANKAR TRIPATHI(2014B2A30365P) .....                              | 402        |
| <b>PS-II Station : Samsung Semiconductor India R&amp;D Center , Bangalore.....</b> | <b>403</b> |
| <b>Student .....</b>   | <b>403</b> |
| Name: MANOJ J .(2017h1400089g).....  | 403        |
| Name: Aunirban Dutta(2017H1230213P).....   | 404        |
| Name: KANDARP GUPTA .(2017H1400086G) .....   | 405        |
| <b>PS-II Station : Sattva Media &amp; Consulting Pvt Ltd , Bangalore.....</b>      | <b>406</b> |
| <b>Student .....</b>   | <b>406</b> |
| Name: DIVYA JAIN .(2015A1PS0661G).....   | 406        |
| <b>PS-II Station : Searce , Bangalore .....</b>                                    | <b>407</b> |
| <b>Student .....</b>   | <b>407</b> |
| Name: DEEPAK KUMAR KAR(2015A7PS0129P) .....  | 407        |
| <b>PS-II Station : Servicenow Software Development India , Hyderabad .....</b>     | <b>408</b> |
| <b>Student .....</b>   | <b>408</b> |
| Name: SHIVANG DIXIT(2015A7PS0113H).....  | 408        |
| Name: SHIVANG DIXIT(2015A7PS0113H).....  | 409        |
| <b>PS-II Station : Siemens technology and Services Pvt ltd , Bangalore.....</b>    | <b>410</b> |
| <b>Faculty.....</b>  | <b>410</b> |
| Name: Pradheep Kumar K.....  | 410        |
| <b>Student .....</b>   | <b>410</b> |
| Name: D ANIL .(2017H1060109H).....   | 410        |
| <b>PS-II Station : Skoda Auto India Pvt. Ltd. , Aurangabad.....</b>                | <b>411</b> |

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| <b>Student</b> .....  | <b>412</b> |
| Name: PATEL DHRUV BHARATBHAI(2017H1420178P).....                                      | 412        |
| Name: PATEL DHRUV BHARATBHAI(2017H1420178P).....                                      | 412        |
| <b>PS-II Station : Skoda Auto India Pvt. Ltd. , Mumbai</b> .....                      | <b>413</b> |
| <b>Student</b> .....  | <b>413</b> |
| Name: DEVASHISH GIRISH BONDE(2015A4PS0438P).....                                      | 413        |
| <b>PS-II Station : Society for Health Information Systems Programme , Noida</b> ..... | <b>414</b> |
| <b>Student</b> .....  | <b>414</b> |
| Name: ANAMITRA LAYEK .(2017H1290005H).....  | 414        |
| <b>PS-II Station : Spicer India Ltd. , Jodalli</b> .....                              | <b>415</b> |
| <b>Student</b> .....  | <b>415</b> |
| Name: AMIT KUMAR GHOSH(2017H1060192P) .....   | 415        |
| <b>PS-II Station : SRF Ltd. , Gurgaon</b> .....                                       | <b>416</b> |
| <b>Student</b> .....  | <b>416</b> |
| Name: ABHAY SHRANGRAJ(2017H1010034P) .....  | 416        |
| Name: ABHAY SHRANGRAJ(2017H1010034P) .....  | 417        |
| Name: AMEER MAQSOOD(2017H1010027P) .....  | 418        |
| Name: HARSHIT KUMAR SINHA .(2014B2A10888G).....                                       | 419        |
| <b>PS-II Station : Synopsys India Pvt. Ltd. , Hyderabad</b> .....                     | <b>420</b> |
| <b>Student</b> .....  | <b>420</b> |
| Name: MANGALAGIRI DINESH KUMAR(2017H1230134H).....                                    | 420        |
| Name: AMIT KAPATKAR(2017H1230206P).....   | 421        |
| <b>PS-II Station : Tata Autocomp Systems Ltd. , Pune</b> .....                        | <b>422</b> |
| <b>Student</b> .....  | <b>422</b> |
| Name: SHWETA YADAV .(2017H1060105H) .....   | 422        |
| <b>PS-II Station : Tata Chemical Innovation Center , Pune</b> .....                   | <b>423</b> |
| <b>Student</b> .....  | <b>423</b> |
| Name: Swapnil Pramod Kumar(2015A1PS0732G) .....                                       | 423        |
| <b>PS-II Station : Tata Motors Ltd. , Pune</b> .....                                  | <b>425</b> |
| <b>Student</b> .....  | <b>425</b> |
| Name: KAMBHAMPATI VENKATA SAI ANISH(2015A4PS0383H).....                               | 425        |
| <b>PS-II Station : Tata Technologies , Pune</b> .....                                 | <b>425</b> |

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| <b>Student</b> .....   | <b>426</b> |
| Name: RAJAT KUMAR PANIGRAHI .(2017H1410091H).....  | 426        |
| <b>PS-II Station : Taxilla Info Pvt. Ltd. , Hyderabad</b> .....                                    | <b>427</b> |
| <b>Student</b> .....   | <b>427</b> |
| Name: KOPELLA MANIKANTA SWAMI(2015A4PS0349H).....  | 427        |
| <b>PS-II Station : Techure Structures Pvt Ltd. , Nagpur</b> .....                                  | <b>427</b> |
| <b>Student</b> .....   | <b>427</b> |
| Name: SWETHA KANNEPALLI(2017H1430069P).....  | 428        |
| <b>PS-II Station : Tega Industries SEZ Ltd , Dahej</b> .....                                       | <b>428</b> |
| <b>Student</b> .....   | <b>428</b> |
| Name: KARNAM ABHISHEK(2017H1420181P).....  | 429        |
| <b>PS-II Station : Tejas Networks , Bangalore</b> .....  | <b>430</b> |
| <b>Student</b> .....   | <b>430</b> |
| Name: GUNE SHRIYA SHRISH .(2014B4A30895G).....   | 430        |
| <b>PS-II Station : TESCO Hindustan Service Centre , Bangalore</b> .....                            | <b>431</b> |
| <b>Student</b> .....   | <b>431</b> |
| Name: YOGANSH SHARMA(2015A2PS0806P).....   | 431        |
| Name: THAKRE ABHIJEET ONKAR .(2014B5A80631G).....  | 432        |
| <b>PS-II Station : Texas Instruments (I) Pvt. Ltd - Systems , Bangalore</b> .....                  | <b>432</b> |
| <b>Student</b> .....   | <b>432</b> |
| Name: PREETHAM N REDDY .(2015A3PS0174G).....   | 433        |
| <b>PS-II Station : Thornton Tomasetti , Mumbai</b> .....   | <b>434</b> |
| <b>Student</b> .....   | <b>434</b> |
| Name: SOVIK MAITRA(2017H1430066P).....   | 434        |
| <b>PS-II Station : Thorogood , Bangalore</b> .....   | <b>435</b> |
| <b>Student</b> .....   | <b>435</b> |
| Name: TAMANNA PAHOOJA .(2014B3A30793G).....  | 435        |
| Name: ARITRA CHOWDHURY .(2014B5A30602G).....   | 436        |
| <b>PS-II Station : UBER , Hyderabad</b> .....  | <b>437</b> |
| <b>Student</b> .....   | <b>437</b> |
| Name: ADITYA CHITRAY(2015A4PS0412H).....   | 437        |
| <b>PS-II Station : UBS Business Solutions (India) Private Limited - Finance Group , Pune</b> ..... | <b>438</b> |

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| <b>Student</b> .....   | <b>438</b> |
| Name: MOHAMMAD FARHAN KHAN(2017H1490293P).....   | 438        |
| <b>PS-II Station : UBS Business Solutions (India) Private Limited - Group Operations , Hyderabad</b> ..... | <b>439</b> |
| <b>Student</b> .....   | <b>439</b> |
| Name: ANIRBAN MUKHOPADHYAY(2017H1490337P).....   | 439        |
| Name: ASHISH YADAVA(2015A2PS0520H).....  | 441        |
| <b>PS-II Station : UBS Business Solutions (India) Private Limited - RAS FINANCE , Mumbai</b> .....         | <b>442</b> |
| <b>Student</b> .....   | <b>442</b> |
| Name: Shreya Sharma(2013B4A20749P).....  | 442        |
| <b>PS-II Station : UBS Business Solutions (India) Private Limited - RAS FINANCE , Pune</b>                 | <b>443</b> |
| <b>Student</b> .....   | <b>443</b> |
| Name: Ganisha BhawsarÂ(2014B3A80800G).....   | 443        |
| Name: RATHI NISCHAY MAHESH(2017H1490306P).....   | 444        |
| <b>PS-II Station : Udaan , Bangalore</b> .....   | <b>445</b> |
| <b>Student</b> .....   | <b>445</b> |
| Name: RAKSHITH CHANDRA M S .(2014B2A10791G).....   | 445        |
| Name: ANCHIT AHUJA .(2014B3A40581G).....   | 446        |
| <b>PS-II Station : UPGRAD , Mumbai</b> .....   | <b>447</b> |
| <b>Student</b> .....   | <b>447</b> |
| Name: CHELLAPILLA SHRI AKHIL(2015A3PS0314H).....   | 447        |
| Name: PARTH SANDIP MEHTA(2015A7PS0044G).....   | 449        |
| <b>PS-II Station : UST Global - Business Domain( Cochin) , Cochin</b> .....                                | <b>450</b> |
| <b>Student</b> .....   | <b>450</b> |
| Name: AYUSH GARG(2017H1490362P).....   | 450        |
| <b>PS-II Station : UST Global - Cochin , Cochin</b> .....  | <b>450</b> |
| <b>Student</b> .....   | <b>450</b> |
| Name: GEETHKRISHNA R .(2014B5A80587G).....   | 451        |
| <b>PS-II Station : UST Global Infinity Labs-Robotics , Thiruvananthapuram</b> .....                        | <b>451</b> |
| <b>Student</b> .....   | <b>451</b> |
| Name: SHREYASH ANAND(2014B4A10803P).....   | 451        |

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| Name: DESHPANDE GANDHAR MAKARAND(2015A8PS0419G).....                             | 452        |
| PS-II Station : UST Global- Trivandrum , Trivandrum.....                         | 453        |
| <b>Student</b> .....   | <b>453</b> |
| Name: NIHAL REDDY BARLA(2014B1A80792H).....                                      | 453        |
| PS-II Station : Viacom18 Media Pvt. Ltd - Digital Ventures , Mumbai.....         | 454        |
| <b>Student</b> .....   | <b>454</b> |
| Name: GAURAV RAJENDRA MANDLECHA(2014B3A40725P).....                              | 454        |
| PS-II Station : Vittor Health Science.....                                       | 455        |
| <b>Mentor</b> .....  | <b>455</b> |
| Name : Vikram Rai.....   | 456        |
| PS-II Station : VMS (Vakil Mehta Seth) Consultants Private Limited , Mumbai..... | 456        |
| <b>Student</b> .....   | <b>456</b> |
| Name: ANKIT SINGH MEHRA(2017H1430070P).....                                      | 456        |
| PS-II Station : VMware Software India Pvt. Ltd. , Pune.....                      | 458        |
| <b>Student</b> .....   | <b>458</b> |
| Name: SAVANI ABHISHEK AJAYKUMAR(2015A7PS0087H).....                              | 458        |
| PS-II Station : Wabco India Pvt. Ltd , Chennai.....                              | 459        |
| <b>Student</b> .....   | <b>459</b> |
| Name: BHAUTIK BIPINBHAI PATEL .(2017H1060104H).....                              | 459        |
| PS-II Station : Western Digital (SANDISK) , Bangalore.....                       | 460        |
| <b>Student</b> .....   | <b>460</b> |
| Name: DIVYANSH MAHAJAN(2014B3A30935H).....                                       | 460        |
| Name: YADAV KRISHNA KUMAR AMRITLAL(2017H1230217P).....                           | 461        |
| Name: SHWETA NARAYAN SHETTY .(2017H1400085G).....                                | 461        |
| Name: Tushar Aherkar(2017H1030084H).....   | 462        |
| Name: SHILPI VARSHNEY(2017H1240105P).....  | 463        |
| Name: HARRY JOHNSON(2017H1030120P).....  | 464        |
| Name: AYUSHI BAPNA .(2017H1230076G).....   | 465        |
| Name: ABHISHEK KUMAR SINGHANIA(2017H1230222P).....                               | 465        |
| Name: NISHANT RANJAN .(2017H1230066G).....                                       | 466        |
| Name: DIVYAMAN SINGH(2015A3PS0332H).....   | 467        |
| Name: Yalaj Goyal(2015A8PS0243G).....  | 468        |

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| Name: KARADKHEDKAR SIDDHI MUKUND(2017H1230067G).....                               | 469        |
| Name: VENKATA SAI KRISHNA VALLURY(2017H1240099P).....                              | 470        |
| <b>PS-II Station : Whirlpool , Pune.....</b>                                       | <b>471</b> |
| <b>Student .....</b>   | <b>471</b> |
| Name: BHARADWAJ J(2017H1410145P).....  | 471        |
| <b>PS-II Station : William O Neil India Pvt Ltd , Bangalore.....</b>               | <b>472</b> |
| <b>Student .....</b>   | <b>472</b> |
| Name: NAREDDY NITHIN REDDY(2015A4PS0208H).....                                     | 472        |
| <b>PS-II Station : Worley Parsons India , Mumbai.....</b>                          | <b>473</b> |
| <b>Student .....</b>   | <b>473</b> |
| Name: PARAB NACHIKET SUBHASH(2015A3PS0282G).....                                   | 473        |
| <b>PS-II Station : Xilinx India Technology Services Pvt. Ltd. , Hyderabad.....</b> | <b>475</b> |
| <b>Student .....</b>   | <b>475</b> |
| Name: GURUKALYAN MOHANTY(2017H1400162P).....                                       | 475        |
| <b>PS-II Station : Zendrive India Pvt Ltd , Bangalore.....</b>                     | <b>475</b> |
| <b>Student .....</b>   | <b>476</b> |
| Name: ABHISHEK JOSHI(2015A7PS0116P).....   | 476        |
| Name: AMOGH SHARMA(2015A7PS0053P).....   | 477        |
| Name: ANURUP DOSHI(2015A3PS0208P).....   | 478        |
| Name: Abhishek Aggarwal(2015A3PS0250P).....  | 479        |
| <b>PS-II Station : ZiMetrics Technologies Pvt. Ltd. , Pune.....</b>                | <b>480</b> |
| <b>Student .....</b>   | <b>480</b> |
| Name: RISHABH GAUR(2014B1A40404P).....   | 480        |
| <b>PS-II Station : Zinnov Management Consulting Pvt. Ltd., , Bangalore.....</b>    | <b>481</b> |
| <b>Student .....</b>   | <b>481</b> |
| Name: JAIESH KUMAR JAIN(2015A4PS0409P).....  | 481        |
| Name: NADEEM(2015B5PS0976P).....   | 482        |
| Name: VENKAT MOHIT SORNAPUDI(2014B5AB0751H).....                                   | 483        |
| Name: Diksha Singh(2014B2A10897H).....   | 484        |
| Name: MALAVIA KUNAL JAYENDRA .(2014B2A30948G).....                                 | 485        |
| <b>PS-II Station : Zinnov Management Consulting Pvt. Ltd., , Gurgaon.....</b>      | <b>486</b> |
| <b>Student .....</b>   | <b>486</b> |

## Domain: Core Engineering

### PS-II Station : Aditya Birla Fashion and Retail Ltd. , Bangalore

#### Student

Name: SHIVAM MAHESHWARI(2015A4PS0125P)

#### Student Write-up

**Short Summary of work done during PS-II :** Worked closely with the industrial engineering team to develop an excel based tool to estimate the production time of a shirt of a given design. The tool was developed to be used by Product and Design team of Peter England Brand.

**Tool used (Development tools - H/w, S/w) :** MS Excel

**Objectives of the project :** To create an automatic SMV calculation tool

**Major Learning Outcomes :** 1) Overview of ABFRL and inner workings of ABG

2) In-depth knowledge of the fashion and retail industry

3) The production process and standards at Garment manufacturing units.

4) Advanced Excel Skills

5) Communication skills and Presentation skills

**Details of Papers/patents :** None.

**Brief Description of working environment, expectations from the company :** Unlike a core engineering company, fashion and retail company is more flexible and relaxed. ABFRL had a very vibrant and colorful culture. The work in this company is very fast paced, but it manages to keep the work place stress-free.

ABFRL is a employee centric company with a lot of emphasis on their individual growth e.g. they have an internal university programme for employees known as ACE under which they can enrol in whatever courses they think can help advance or change their roles.

Being a part of a much larger conglomerate: Aditya Birla Group, one experiences not only the culture of a company but also that of its parent group. The group's management is always in constant touch with company's management and there is a lot of transfer of knowledge and personnel.

It is a good place to work if interest lies in textiles, fashion or retail industries

**Academic courses relevant to the project :** None

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**Name:** K ARAVIND(2014B5AB0689H)

### **Student Write-up**

**Short Summary of work done during PS-II :** Worked on multiple projects, initially was given very small work which was part of large projects. Later projects involved many Analytics, ML modeling and Optimization techniques which are based on the issues faced by Birla Group Industries.

**Tool used (Development tools - H/w, S/w) :**

**Objectives of the project :** 1)Reduction in Turn-Around-Time between plant and Warehouse.  
2)Network Optimization for distribution cost reduction 3)Predictive modelling of rolling process parameters for improving Aluminum recovery.

**Major Learning Outcomes :** Understanding Business part of Analyzing a problem. Knowledge of various skills required to work for the projects.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company** : Great place to work. Expectations are high as well as the responsibility given. Deadlines are strictly followed. People around are very helpful.

**Academic courses relevant to the project** : Operation research, Probability and Statistics, Programming

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## **PS-II Station : Aditya Birla Insulators , Halol**

### **Student**

**Name:** MANEPALLI RAVI TEJA .(2017H1410057G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Project: pug mill barrel standardization and new barrel validation

aim of this project is to find the reason behind circular crack rejections and to give suggestions to reduce them and standardize the barrel setups to be used in various barrels

**Tool used (Development tools - H/w, S/w)** : Abaqus

**Objectives of the project** : Reduce circular cracks

**Major Learning Outcomes** : Learned abaqus

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : No

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**Name: ANURAG RANJAN(2017H1410155P)**

## **Student Write-up**

**Short Summary of work done during PS-II** : Topic: Recovery of waste metal flange from scrapped Insulators

During discussion with my mentor, we came to conclusion that a new cutter will help solve the challenging issue of extracting metal flanges from broken/rejected insulators. This will help save costs by reusing the metal caps.

A new cutter body and tool was designed in a 3D cad software( fusion 360) and stress analysed using paramaters estimated for worst case scenario whilst the tool shall come to a complete stoo during working and still be able to handle all the torque from motor.

Also a simple and easy to implement design was made. A report was submitted to my mentor, who liked the design and was in process to find fabrication vendors to make the cutting tool.

**Tool used (Development tools - H/w, S/w)** : 3D design CAD software, fusion 360

**Objectives of the project** : To design a cutter tool to help extract metal flanges from rejected insulators

**Major Learning Outcomes** : Product design and practical usage of software tools during design phase.

**Details of Papers/patents** : Not Applicable.

**Brief Description of working environment, expectations from the company** : Working environment is good, and support from mentors is acceptable. But lack of support in case of providing softwares does become a bottleneck.

**Academic courses relevant to the project** : FEM, Product Design, Strength of Material, Material Science.

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## PS-II Station : Aditya Birla Science & Technology Company Ltd. , Mumbai

### Student

Name: PATADIA KAUSHAL NILESH(2017H1010031P)

### Student Write-up

#### Short Summary of work done during PS-II :

Tool used (Development tools - H/w, S/w) : MATLAB, PYTHON, Microsoft Office, Origin

**Objectives of the project** : 1. Development of a correlation between Thermal imaging to the moisture content of fiber bed in a conveyor belt dryer. 2. Prediction of moisture using the Artificial Neural Networks and Regression analysis. 3. Development of digital twin of conveyor belt dryer using Process modeling.

**Major Learning Outcomes** : 1. Knowhow of the fiber production and application of chemical engineering in the Fibre and textile industry.

2. Application of theoretical knowledge in actual industry scenario.

3. Learning of a High-level programming language named Python.

4. Learning a new field of study, Data analytics and its application in chemical engineering and in the chemical industries

5. Application of the concept of Digitization, Automation and Industry 4.0

#### Details of Papers/patents :

#### Brief Description of working environment, expectations from the company :

**Academic courses relevant to the project** : advanced Process Control, Chemical Process Optimization, Advanced Transport Phenomenon

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**Name:** VISHAKHA GAUR(2017H1010033P)

### **Student Write-up**

**Short Summary of work done during PS-II** : Modelling of a chemical process is an imperative step for reaching a quality target. Currently modelling is being done by extracting online data, followed by modelling of this offline data. The developed model is then applied on the process. Thus, it would be efficient if modelling would be done online. Regression techniques that are used for online estimation and control generally yield poor models if the data is not rich enough. In this report a modified block-wise dynamic recursive PLS technique that is based on selection of rich data has been studied for online adaptation and control. Because of its ability to accommodate a wider range of forgetting factors, the technique is found to track the dynamics of slow as well as fast changes in the processes. The reviewed algorithm has been studied with respect to the carbon black process. In an effort to self-tune the carbon black process, a deeper understanding of the reviewed technique has been done by reviewing the basic techniques such as Principle component analysis, partial least square technique and recursive partial least square technique along with an in-depth review of the carbon black process itself. The methodology towards achieving the goal of self-tuning has also been proposed along with a future vision to attain more clarity.

**Tool used (Development tools - H/w, S/w)** : matlab, ms office, origin

**Objectives of the project** : • To understand Regression and its different types • To understand data analysis • To study different self tuning methods and their algorithm • To analyze Matlab codes for previously developed tuning methods • To develop a Matlab code for self tuning of carbon black process (mainly reactor) • To model the real time plant dataset using Partial Least square Regression and Modified Partial Least square Regression . • To compare their predictive capability.

**Major Learning Outcomes :** • The modification made in the forgetting factor calculation gives better results.

- Month by month addition of new datasets allows us to view change in model adaptation.
- From the given graphs it can be concluded that Modified Block-wise Recursive PLS is better at model adaptation as compared to Partial Least Square Regression because:
  - o Model adaptation is faster
  - o Error from the actual values is smaller.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Process Modelling



**Name:** ARNAL NANDA CHOUDHURY(2017H1010049P)

**Student Write-up**

**Short Summary of work done during PS-II :** The project 'Life Cycle Analysis of Crucial Elements involved in Aluminium Smelting Plant' tends to provide insight on the overall Aluminium Smelting plant and thereby develop a generic mass balance model to aid in the prediction of volatile fumes and gases being emitted from the plant and in the analysis of the impact of impurities present in alumina and carbon anode raw materials.

**Tool used (Development tools - H/w, S/w) :** Microsoft excel, Microsoft word, Microsoft Powerpoint

**Objectives of the project :** Objectives are to understand the carbon anode manufacturing process (green anode plant and anode baking furnace) ,to perform element wise mass balance calculations for more precise monitoring and control of the process and to analyse the impact of impurities which are present in the raw materials

**Major Learning Outcomes** : This project gave me the idea about how chemical engineering, metallurgical process and data analytics can go hand in hand. As this project is part of the Digital Twin journey of the Aluminium Smelting plant, introduction to various dimensions of artificial intelligence was also one of the learning outcomes.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : The working environment in the company is very good. Mentors are quite approachable and always ready to help. The company has provided me a great level of exposure in the last 5.5 months.

**Academic courses relevant to the project** : Process Calculations, Reaction Engineering, Chemical Engineering Thermodynamics

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## PS-II Station : Adobe Systems , Bangalore

### Student

**Name:** SHUBHAM PRADHAN(2014B5A70807G)

### Student Write-up

**Short Summary of work done during PS-II** : Animate is a vector graphics based tool for creating animations. So, in the animation industry every frame is drawn separately, then every frame is colored separately. This is a very tedious task and takes a lot of time. So, we tell the user to color the first frame, and we color the remaining frames taking this as reference using a machine learning algorithm. We called this feature Auto-Color

Another problem we had to solve was finding an algorithm to close small gaps as we cannot color open regions. So, we developed an algorithm for this problem.

We called this feature Auto-Close.

I was part of a two man team for adding this feature into Animate. Implementation of Auto-Color and Auto-Close was done completely by the both of us. We researched for the machine learning algorithm to use for Auto-Coloring and the features to use.

Auto-Close implementation was also created by the both of us.

It was very challenging to go through the massive code base and integrate this feature to the product.

This feature went into two Pre-Release versions as well, and received customer feedback as well.

**Tool used (Development tools - H/w, S/w) :** Microsoft Visual Studio, Adobe Animate CC

**Objectives of the project :** Auto Color and Auto Close frames in Adobe Animate

**Major Learning Outcomes :** Importance of feature extraction in a machine learning algorithm

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Work culture is great as they don't overload you with work. You are given achievable deadlines, so there is very little work pressure. You are treated as a full time employee and not just an intern. Everyone in my team was very helpful and it was a great experience.

**Academic courses relevant to the project :** Machine Learning, Artificial Intelligence, Neural Networks, OOP

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**PS-II Station : AFour Technologies , Pune**

## Student

Name: ANKIT GUPTA(2014B3A10687P)

### Student Write-up

**Short Summary of work done during PS-II :** Worked on web application architecture focusing on scalability and performance. Involved in creating AFour ERP from scratch. Wrote Python scripts to automate things

**Tool used (Development tools - H/w, S/w) :** ReactJS, Prodigy, Python, NodeJS

**Objectives of the project :** Creating a single portal AFour ERP to manage everything inside the organisation

**Major Learning Outcomes :** Web application architecture

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Great place to work and learn

**Academic courses relevant to the project :** NA

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**PS-II Station : Altair Engineering India Pvt. Ltd. - Software Division ,  
Bangalore**

Student

**Name: AVEERUP DEB(2015A4PS0415H)**

## **Student Write-up**

**Short Summary of work done during PS-II** : Getting acquainted to HyperWorks and creation of mechanisms using points, bodies, joints, graphics, motion etc. and study of Degree of Freedom.

Learning Python and creating a dialog box for running analysis of vehicle events. Adding of events, naming of events etc.

Development of Motor Bike tire graphics using MDL after taking parameters as inputs from user.

Re-architecting the existing codebase for full vehicle events to object oriented paradigm.

**Tool used (Development tools - H/w, S/w)** : HyperWorks, Python, MDL

**Objectives of the project** :

**Major Learning Outcomes** : Mechanisms and DOF, Python, MDL

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Altair's software HyperWorks is fast developing. There are many teams with different work domains. I am in team SDG-II. Team members are very helpful and supportive. Everyone has their own assigned work and there are meetings sometimes to discuss about progress/ address any doubts. The working hours are flexible.

**Academic courses relevant to the project** : Kinematics and Dynamics of Machines, Object Oriented Programming Language

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## PS-II Station : Amazon Development Center , Bangalore

### Mentor

Name : Arpit Mithal

Designation : SDE II & Ad-Optimisation Department

**comments** : Student feedback by mentor-Remarkable persistency showed by the student.Able to finish the work done ahead of time.Very co-operative.Was helping the team members in their CRs. Very eager to learn.Make sure that his work is done by approaching the right people.

Name : Roshan Jha

Designation : SDE 1 & Platform Development

**comments** : Student was part of coding,testing,Documentation .Exhibited remarkable performance.Very supportive.Pro active.Solved many issues in the already existing code.Was able to scale up with a very less hand holding. Gave the mentor also a chance to learn from the student.

### Faculty

Name: Pradheep Kumar K

**Comments: Expectations from industry** : Students should be equipped with skills on Artificial Intelligence, Deep Learning, Machine Learning and Data Analytics

### Student

Name: SHAH ADITI CHIRAGBHAI(2017H1120251P)

## **Student Write-up**

**Short Summary of work done during PS-II :** 1. Generating Business Reports for the new payment method. Worked on various AWS tools and many other internal tools to generate reports.

2. Integrating with API and developing some modules in back end

**Tool used (Development tools - H/w, S/w) :** DynamoDB, RedShift, QuickSight and other internal tools.

**Objectives of the project :** To generate reports that will be used by leadership to measure success and take decisions.

**Major Learning Outcomes :** AWS tools - DynamoDB, RedShift, QuickSight  
Languages - Scala, Java

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Work Environment : Is good. Team mates are friendly and helpful .Enjoyable workplace.Flexible schedule.

Expectation : Curious to learn new things, work in a team, Deliver the results

**Academic courses relevant to the project :** Data Warehousing, Object Oriented Analysis and Design

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**Name: SHAH ADITI CHIRAGBHAI(2017H1120251P)**

## **Student Write-up**

**Short Summary of work done during PS-II :** Org: Payment Services

My first task(major project) was to generate Business metrics for Emerging Payments. For this I need to get data from DynamoDB to RedShift Cluster. Created a pipeline for it. After that integrated with QuickSight and published the report.

Next task was to do integration with an API to get status of refund for our payment method in Scala. Written unit test and integration test for the same.

Apart from them I worked on maintaining RedShift Cluster, configuring alarms, on boarding on various tools to capture click stream data, cleaning up weblabs.

**Tool used (Development tools - H/w, S/w) :** AWS Services - QuickSight, RedShift Cluster, DynamoDB and other internal tools

**Objectives of the project :** Measure success of the project in quantitative terms and business decisions are taken based on it

**Major Learning Outcomes :** Knowing different AWS Service and how to integrate it

Integration with API's in Scala

Multiple frameworks and internal tools

**Details of Papers/patents :** -

**Brief Description of working environment, expectations from the company :** Teammates are friendly and helpful during entire internship

Expectation - Team work , Ownership ,Completing the project

**Academic courses relevant to the project :** Data Warehousing, Object Oriented Analysis and Design

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**Name:** MANISH KUMAR TRIPATHI(2017H1030075H)

**Student Write-up**

**Short Summary of work done during PS-II** : Consolidate information owned by different teams at one place (Elastic-search domain) for search heavy operation and always keep this information in sync with all the input sources to provide the real time data in a single view.

**Tool used (Development tools - H/w, S/w)** : DynamoDB, DynamoDB streams, Lambda, SQS, SES, Elastic-search, VPC

**Objectives of the project** : Real Time Reporting Using Elasticsearch

**Major Learning Outcomes** : Working in Fast paces environment, coding

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Work environment is friendly, colleagues are supportive. We are encouraged to take initiative and participate, commit and deliver.

**Academic courses relevant to the project** : Cloud computing

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**PS-II Station : Amazon Development Center , Chennai**

**Student**

**Name:** SAGAR VERMA(2017H1120246P)

**Student Write-up**

**Short Summary of work done during PS-II** : I got to work on two individual projects:

1. Migrating the logging system for one of their services to ELK Stack (Elasticsearch, Logstash, Kibana). This was basically a design problem which required me to emit and parse application logs in such way that the process is fast, and it gets me a number of attributes which can later be used to perform different kinds of analysis on Kibana.

2. I was required to design and implement an Article Scoring Tool from scratch. This tool would be responsible to rank articles based on factors like user rating, how they render on devices of different resolution, look and feel of the article, etc. This ranking would then be used in article recommendation engines.

**Tool used (Development tools - H/w, S/w) :** AWS Elasticsearch, Logstash, Java Spring

**Objectives of the project :** Log Analysis, Article Scoring

**Major Learning Outcomes :** Software design, Coding practices

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Flexible working hours, Great work from home policies, Chilled out working environment, These people love coding so they don't have any work-life balance (RIP :P)

**Academic courses relevant to the project :** Software Architecture, Software Testing, Object Oriented Analysis and Design, Data Mining

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**PS-II Station : Amazon Development Center , Hyderabad**

**Student**

**Name: Ramakrishna(2017H1030081H)**

### **Student Write-up**

**Short Summary of work done during PS-II** : Added Repair Details Functionality to Amazon Internal Tool named Voyager. Enhanced Promotion Scenario in BCM which is again Amazon Internal Tool. Added Change Review Feature to BCM.

**Tool used (Development tools - H/w, S/w)** : IntelliJ IDE, Java-8, Hibernate, AUI CSS and JS, Spring Framework, Angular MVC

**Objectives of the project** : Adding new Features which are requested from Internal Customers

**Major Learning Outcomes** : Learnt Design Principles, HLD and LLD, Frameworks like Spring MVC, Hibernate and Angular MVC.

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : Working Environment is friendly, it might seem daunting at first but people are humble enough to help you with doubts and clarifications. Can learn a lot as Amazon is vast and different teams use different tools and frameworks.

**Academic courses relevant to the project** : Java, OOPS and Software Engineering.

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**Name: SANCHIT KHANNA(2015A7PS0138P)**

### **Student Write-up**

**Short Summary of work done during PS-II** : Develop the Returns Center Landing PageHome page in PREXWebApp stack, and to migrate the traffic from ORS stack. Gurupa stack to

Horizonte stack. ORS was based on legacy Gurupa technology, while PREXWebApp is based on Horizonte. The page is the final piece of the Returns-related webpages on Amazon website that is not vended by PREXWebApp. The projects aim is to support all Customer Returns Experience through PREXWebApp. Also, since the Gurupa page was developed many years ago, we have planned to add several new features to the page for providing a seamless returns experience.

**Tool used (Development tools - H/w, S/w) :** Java, Scala, JSP, JQuery

**Objectives of the project :** Developing a new page for Amazon Returns

**Major Learning Outcomes :** Spring framework

Programming languages like Scala, JSP, JQuery.

Unit testing using Junit, Mockito.

Better problem-solving abilities.

Working in a team and taking part in discussions to come up with the most optimal solution.

Writing cleaner and more readable code.

**Details of Papers/patents :** N/A

**Brief Description of working environment, expectations from the company :** People are very helpful and friendly, my experience at amazon made me a better software engineer due to the coding standards followed in the organization.

**Academic courses relevant to the project :** N/A

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**Name:** AMRUTIYA VARUN ALPESHKUMAR(2017H1120244P)

**Student Write-up**

**Short Summary of work done during PS-II** : My main task was to develop an feature for an internal portal.

**Tool used (Development tools - H/w, S/w)** : Java Spring, Guice framework, React Native framework.

**Objectives of the project** : To on-board Amazon Advertising to the Amazon Touchstone portal as a client.

**Major Learning Outcomes** : Got to system design along with java based development in service oriented architecture.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Object Oriented design patterns, Java,

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**Name:** [ARJUN KUMAR CHOUDHARY\(2014B4A70719P\)](#)

**Student Write-up**

**Short Summary of work done during PS-II** : Worked on User contact management in the withholding tax team where i got to work on different AWS services.Worked on Design and Development of Contact Management components

**Tool used (Development tools - H/w, S/w)** : AWS step function, simple queue service, simple notification service, AWS secrets manager, AWS lambda

**Objectives of the project** : User Contact Management

**Major Learning Outcomes** : Ability to deal with Ambiguity. Work independently, Work on varied set of tools and applications, building scalable and secure application.

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** : Working environment was very good and my teammates were very helpful. There is a lot of flexibility here at Amazon such as your work timings, choice of language etc. Also while working here, one will get ample opportunities to work on different AWS services.

**Academic courses relevant to the project** : NA

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## **PS-II Station : Amazon Development Center , New Delhi**

### **Student**

**Name:** SNIMARPAL SINGH .(2014B3A70646G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Task was to develop APIs to allow custom workflows on invoice processing by subjecting them to approvals. This would speed up the processing of invoices and help the company to reduce the time to pay for the invoices. APIs were developed to scale automatically by using asynchronous processing by implementing them in tandem with SQS consumers.

**Tool used (Development tools - H/w, S/w)** : Java, Ruby, AWS tools like SQS,SNS,DynamoDB, S3, Lambda etc , AngularJS

**Objectives of the project** : Automate manual processing of invoices through Approval Workflows

**Major Learning Outcomes** : Microservices Architecture, Dependency Injection, Amazon Web Services

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** : Working environment is good and interns are treated at par with the employees. Organisational structure is pretty flat and everyone is approachable. New ideas are encouraged and thoroughly discussed. One can learn a lot during the internship about professional life in general.

**Academic courses relevant to the project** : Object Oriented Programming, DBMS

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**Name:** SAHAJ SRIVASTAVA(2015A7PS0091P)

### **Student Write-up**

**Short Summary of work done during PS-II** : I worked on an alarming system for threat cases. I built the system from scratch which is hardly given to interns. This task entailed sending two sets of notifications which will inform the SVOT team of the case recently transferred to them. The first one to be sent as soon as the case was transferred and the second one to act as a gentle reminder to the team to respond to the case within a period of 4 hours.

**Tool used (Development tools - H/w, S/w)** : Java , Spring framework , AWS

**Objectives of the project** : To create a case management system and a landing page

**Major Learning Outcomes** : How the corporate culture works. Learning about Amazon code production architecture.

**Details of Papers/patents : NA**

**Brief Description of working environment, expectations from the company :** The working environment is quite professional. I had a bunch of pretty enthusiastic, full of zeal, and really helpful peers. The best thing I liked about Amazon is the no boundary attached policy. That means, I was free to work on any aspect of any program. If I had some ideas, my opinions were well discussed and thought upon. The agility and the rather active work environment is something Amazon is known for. I worked with some of the cutting edge technologies.

**Academic courses relevant to the project :** Object Oriented Programming

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**Name: Shilpi Bansal(2017H1120230P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** CRejects V5 ML model aimed to reduce reseller abuse by suppressing COD of suspicious customer before the purchase.

Generic ML transformer- A generic transformer for converting various file formats to rodb format.

**Tool used (Development tools - H/w, S/w) :** Python, ML, mockito, junit, git

**Objectives of the project :** CRejects V5 ML model aimed to reduce reseller abuse by suppressing COD of suspicious customer before the purchase.

**Major Learning Outcomes :** Learnt overall business model of Amazon.

**Details of Papers/patents : NA**

**Brief Description of working environment, expectations from the company** : Nice working environment.

**Academic courses relevant to the project** : ML

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## **PS-II Station : Amazon Operations (Area Manager) , Bangalore**

### **Student**

**Name:** SAURABH J PATIL(2015A2PS0598H)

### **Student Write-up**

**Short Summary of work done during PS-II** : The work involved managing timelines for different projects. I was involved in one of the Prime Now expansion (modification) site. This involved preparing and managing timelines to reach required goals of the project. Other projects were much more involved in learning of the current facilities and what could be improved about those.

**Tool used (Development tools - H/w, S/w)** : Basic Excel tools, Amazon's internal project management tool

**Objectives of the project** : To make checklist for site work, to reach at a BOQ for a type of site, managing different teams at site for project

**Major Learning Outcomes** : Site work gives opportunity to apply the concepts we learned in college in real world.

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company : -**

**Academic courses relevant to the project :** CPT (Construction, Planning and Tech - CEF242), Steel Design, Soil Mechanics, Foundation engineering, Reinforced concrete structures, LEAN manufacturing

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## **PS-II Station : Amazon Operations (Area Manager) , Gurgaon**

### **Student**

**Name:** ANIRUDH TUSNIAL(2015ABPS0715P)

### **Student Write-up**

**Short Summary of work done during PS-II :** I have managed shifts in Outbound department in Amazon FC DEL2 in Gurgaon, shipping an average of 15,000 customer shipments a shift and a maximum of 30,000 a shift.

I have worked on a project for improving the overall productivity by 7% by redesigning pack stations where customer orders are packed. I have also worked on multiple Excel tools for tracking errors by Associates to avoid tarnished customer experience, determination of support hour deployment as per volumes processed and so on.

**Tool used (Development tools - H/w, S/w) :** SQL, Advanced Excel

**Objectives of the project :** To improve pack productivity by 14 Units per hour and overall productivity by 2.5 throughout per man hour.

**Major Learning Outcomes** : Manpower Management, Understanding how E-Commerce companies deliver efficiently, software/languages like Excel and SQL

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : As an Area Manager Intern you generally have a team of undergraduates from lower ranked colleges working under you and you may be managing a team of over 100+ Associates, Problem Solvers and Process Assistants.

The first month is spent understanding the technicalities of work and learning by doing tasks yourself. The team is generally supportive, however expectations in terms of work load will vary depending on the site.

Daily work is not very brain racking and is entirely related to effective manpower management. However the project can offer learning opportunities if selected well.

There is also a very good PPO opportunity at the end.

**Academic courses relevant to the project** : Manufacturing Management/Production Planning and Control, Lean Manufacturing

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## **PS-II Station : Amazon Operations (Area Manager) , Mumbai**

### **Student**

**Name:** DALIA SAGAR ASHOK(2015A8PS0299P)

### **Student Write-up**

**Short Summary of work done during PS-II** : Worked with the Projects team, which is responsible for site setup of various buildings. Worked on developing a tool to analyze the

project health during the progress of the site. Then worked on procurement of items required for various projects. Figured out issues with the process and helped cut down the budgets and developed an SOP. Finally handled a medium delivery station project completely from end-to-end. Assisted in a lot of other bigger sites in handling support functions.

**Tool used (Development tools - H/w, S/w) :** Excel VBA Macros

**Objectives of the project :** To analyse health of ongoing projects

**Major Learning Outcomes :** Learned about the complete supply chain, learned making macros, basics of site setup and managing resources

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** CP

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## **PS-II Station : American Express - Big Data Labs (BDL) , Bangalore**

### **Student**

**Name:** VIGNESH NANDA KUMAR(2015A7PS0355P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Worked on the XGBoost algorithm. Analysed existing boosting algorithms and their differences. Worked on the distributed XGBoost algorithm and improved the working of approximate algorithm. Analysed the weighted quantile sketch

algorithm both mathematically and in code. Optimised existing features and added new features requested by modelling teams to the XGBoost algorithm.

**Tool used (Development tools - H/w, S/w) :** C++, Shell scripting, Python

**Objectives of the project :** Optimize existing features in axgboost and add new features requested by modeling teams

**Major Learning Outcomes :** Learnt how to read through a research paper and the mathematics behind it. Understanding a large open source codebase and fixing and adding new features to it. Concepts of object oriented programming used extensively. Also, learnt about the software development lifecycle.

**Details of Papers/patents :** -

**Brief Description of working environment, expectations from the company :** Work environment is good. All the team members are quite helpful. Also, the working hours are flexible. Along with completing the given task, it is important to understand the concepts applied in doing that task, be it coding or understanding a research paper.

**Academic courses relevant to the project :** Machine Learning, Parallel Computing, Data Structures and Algorithms, Object Oriented Programming, Probability and Statistics

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**Name:** SHIVANKIT GAIND(2015A7PS0076P)

**Student Write-up**

**Short Summary of work done during PS-II :** 1. A Sub Intent Classifier is built using a 3-stage pipeline (including data labelling, training a classifier on manually annotated data and building/training the final classifier using the huge labelled data provided by applying the previous classifier on unlabelled data).

2. A clustering technique is developed (involving LSSVM) that could capture the context beyond singleton utterances.
3. A filter is developed for intelligently selecting utterances for manual labelling i.e. building a system to select utterances from chats which could be helpful for the task of sub-intent detection.

**Tool used (Development tools - H/w, S/w) :** Python, Sklearn, Spacy, CoreNLP, Keras

**Objectives of the project :** The project aims at utilising the existing customer care chat data, natural language processing tools as well as latest text classification and clustering techniques for introducing sub-intent (finer intent) detection feature in Amex Bot (American Express customer care chatbot service).

- Major Learning Outcomes :**
1. Dealing with real world domain-specific data.
  2. Overcoming the problem of absence of labelled data.
  3. Utilising latest Natural Language Processing tools and libraries like Spacy, CoreNLP etc.
  4. Dealing with various clustering and classification techniques and understanding their application on text (chat) data.
  5. Dealing with deep learning models, parameter optimisations, and training techniques.
  6. Dealing with pattern extraction techniques using Regex based on Part-Of-Speech Tags and Dependencies.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The work environment is pretty good at Amex. The projects are challenging, timings are flexible, and people are ready to help whenever you are stuck.

**Academic courses relevant to the project :** Machine Learning, Neural Networks and Fuzzy Logic, Information Retrieval, Deep Learning

## **PS-II Station : American Express India-Risk Information Management-Capabilities(RIM-C) , Gurgaon**

### **Student**

**Name:** KASHISH MALHOTRA .(2014B3A30590G)

#### **Student Write-up**

**Short Summary of work done during PS-II :** Built a natural language processing system for better conversational experience

**Tool used (Development tools - H/w, S/w) :** S/w : Python, ML, Hive

**Objectives of the project :** To deliver a smarter grammar model

**Major Learning Outcomes :** Python, data analysis, Machine learning

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :**

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## **PS-II Station : AmericanExpress-RiskInformation-Management-Capabilities(RIM-C) , Bangalore**

## Student

**Name:** ANANY MISHRA(2015A7PS0064P)

### Student Write-up

**Short Summary of work done during PS-II :** Worked on various American Express Credit Risk Model implementation on actual customer data

**Tool used (Development tools - H/w, S/w) :** S/w-PySpark, Hadoop

**Objectives of the project :** To create repositories of various credit risk models

**Major Learning Outcomes :** Internal American Express Risk Models

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** DSA, DBMS

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**Name:** ANANY MISHRA(2015A7PS0064P)

### Student Write-up

**Short Summary of work done during PS-II :** Default Detection Systems

**Tool used (Development tools - H/w, S/w) :** S/w-Hive, PySpark, Hadoop

**Objectives of the project :** Create repositories for default detection

**Major Learning Outcomes** : Default detection schemes and implementation algorithmically

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : DSA, OOP

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## **PS-II Station : Analog Devices India Pvt. Ltd. , Bangalore**

### **Student**

**Name:** MEGHASHREE S.(2017H1400090G)

### **Student Write-up**

**Short Summary of work done during PS-II** : I worked on Post Silicon Validation on ADI Evaluation Boards. The Validated Board features include communication protocols like I2S, I2C, LED Dimming and blinking feature using Pulse Width Modulation(PWM), GPIO over Distance and few Customer Use cases of Audio Routing.

**Tool used (Development tools - H/w, S/w)** : Sigma Studio and Cross Core Embedded Studio

**Objectives of the project** : To perform Post Silicon Validation on ADI Evaluation Boards so as to find and fix bugs ensuring correct functionality before releasing the product into the market.

**Major Learning Outcomes** : Reading the data sheet and Board Schematics, Debugging skills, hands on experience on Communication protocols, proper usage of Oscilloscopes.

## **Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment was very healthy and encouraging to improve. The expectation was to learn and understand the company product quickly and to validate all the possible cases so as to find bugs and to fix them.

**Academic courses relevant to the project :** Embedded system design (because of communication protocols) and rest is specific to the organisation.

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## **PS-II Station : Apple India Pvt Limited , Hyderabad**

### **Student**

**Name:** CHOUDHARY TWINKLE JAYANTA(2015A7PS0014P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Worked on forecasting Application which is part of the Apple sales CRM. The application is used by sales partners for forecasting sales in a territory on a quarterly and weekly basis. The application gives a forecast summary in which the forecasted values are calculated by using historical trends. Configured the application for onboarding new Route to Markets. Automated the data aggregation process for populating the database used for forecasting. Proposed a UI based solution for separating the existing modules. Designed a Web UI for the existing version of the application. Used time series on existing data to add exploratory features in the latest application. The proposed changes will help save a lot of time and ease the whole onboarding process to a great extent. Added features like simulation and recovery from lost rules for new rule creation during forecasting.

**Tool used (Development tools - H/w, S/w) :** Spring Boot, AngularJS, REST , Postgresql

**Objectives of the project :** Scalability of the Application to increase client base

**Major Learning Outcomes :** Enterprise level software development, development lifecycle.

Worked with various technologies used industry wide.

Working as a part of global team with members of the team residing in various geographical locations.

Apple culture and people at Apple.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Friendly environment with very helpful co-workers. Enough flexibility is given to explore and try new areas. Every idea proposed is considered. Platform for innovation. One can expect a very supportive environment and an opportunity to work on leading technologies which are used industry wide. Real life problems to solve with a lot of learning involved. Exposure to a global team and understanding how a global team works. Almost all teams are spread across the globe. Regular events to keep the work life fun. Overall skill development which includes soft skills as well.

**Academic courses relevant to the project :** OOP

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**PS-II Station : ARM Embedded Technologies Private Limited , Bangalore**

**Faculty**

**Name: Rekha A**

**Comments: Expectations from industry :** The students are working in various VLSI and communication projects like peak detection and power estimation on I/Q data, receiver impairments estimation in MIMO systems, Fuel Gauge Algorithm Development in Li-Ion Batteries, Analysis on 2G logs, convert RTL design into netlist, design verification etc. Students are using Labview, verilog, VHDL and scripting languages like tcl, python , PLA tool, in their projects. The students can refresh their basics and learn basics of scripting languages before they come for PS 2

## **Student**

**Name: SANDEEP KUMAR KOTHARI(2017H1230219P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Debugging of various processor design related issues through RIS tool.

**Tool used (Development tools - H/w, S/w) :** RIS (Random Instruction Sequence) tool

**Objectives of the project :** To understand basics to top level CPU verification

**Major Learning Outcomes :** ARM architecture, various verification aspects

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment absolutely professional. The colleges are patient and understanding throughout.

**Academic courses relevant to the project :** VLSI architecture and Adv. VLSI architecture

**Name: A ANUSHA(2015A3PS0318H)**

**Student Write-up**

**Short Summary of work done during PS-II** : Synthesis and placement steps in physical design process.

**Tool used (Development tools - H/w, S/w)** : Tcl, Innovus, Genus

**Objectives of the project** : Performing PPA trails to hit the desired targets in synthesis and placement processes in the physical design flow to achieve desired frequency. Timing analysis to be done for all the process corners while keeping the setup timing issues at the minimum.

**Major Learning Outcomes** :

**Details of Papers/patents** : N/A

**Brief Description of working environment, expectations from the company** : N/A

**Academic courses relevant to the project** : Computer architecture and Analog, Digital and verilog devices

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**PS-II Station : Arup India Pvt. Ltd. , Hyderabad**

**Student**

**Name: PRANJAL SINGH .(2017H1410051G)**

## **Student Write-up**

**Short Summary of work done during PS-II :** During our PS-II time at ARUP, we worked on enhancements, keywords and bugs for new software release, PRIMER 17.0. Apart from that, we also got some training in using LS-DYNA along with PRIMER, D3PLOT, T/HIS and REPORTER. We also worked on the small project of positioning user defined block in SBA model, dummy positioning and seat-squash

**Tool used (Development tools - H/w, S/w) :** C-language, JAVASCRIPT

**Objectives of the project :** to create PRIMER software

**Major Learning Outcomes :** Beneficial if want to enter in coding sector.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment is quite good here as no work pressure is their on any of the employee . Also you have to complete \* working hours a day which is quite good.

**Academic courses relevant to the project :** C-language, FEM.

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**PS-II Station : Ascent Health and Wellness Solutions Private Limited,  
Mumbai**

**Student**

**Name: AARTI JHA(2017H1290026P)**

## **Student Write-up**

**Short Summary of work done during PS-II :** The first project was documentation. Starting right from scratch it involved having face to face sessions with concerned people and making a plan as of how to begin and design the page view. It is an ongoing process. The next project was about automating MDM cleanups and mapping by helping create programs which will reduce the manual work and time. This was done by learning python from scratch along with querying in SQL. All further projects were based on this. Working on other projects like enrichment of MDM master data, automation of quality check, photobuddy, supply chain hierarchy etc.

**Tool used (Development tools - H/w, S/w) :** Python, SQL

**Objectives of the project :** Help organize content generated by multiple teams in one place and help the DGT in cleanup by automation

**Major Learning Outcomes :** Learned about pharmaceutical terms like schedule, atc codes, python, SQL

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** None

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**Name:** [INDUKURI VIKRAM VARMA .\(2017H1460159H\)](#)

## **Student Write-up**

**Short Summary of work done during PS-II :** Ascent Health and wellness solutions is into a Pharma supply chain management. It has a data of different attributes related to pharma and

some FMCG products and Ascent had a data for around 2.2 lakh products. The entire data related to these products are stored in Master Data Management (MDM). So different distributor and retailers have their own data base where they can record details of products but MDM as a master maintains the data of each product with a unique code to each product, MDM acts as a single source of truth by standardizing the data and incorporated rules in order to find incorrect data, new rules are made with some logics and algorithms to find the incorrect data and helps to identify the products with issues, these products with issues should be cleaned by Data Governance Team (DGT), along with cleaning process DGT also works on Mapping, Levelling, Quality Checks etc. The data in MDM should be validated by some professionals so as a part of DRX-Doctor's Program doctors are hired to validate required data in MDM. MDM system is critical for analytics, financial reporting, customer management, customer care, compliance, product regulatory adherence, cross-selling and up-selling between the warehouses and ensure smooth supply chain management .Finally, Resource Scoring Framework was done in order to standardize the Data governance team to give One Agent One Score (OAOS). OAOS was implemented based on the performance of each member by considering few parameters of each team member such as Quality, Efficiency, Adherence, Utilization, Knowledge etc.

**Tool used (Development tools - H/w, S/w) :** SQL, DATA EDO, AWS

**Objectives of the project :** To help in building a better medicine master by getting doctors as consultants and work with Data Governance Team in order to improve the quality of the data we have and help to build a robust and through validation layer of Master Data Management. To create new Health Metric tests to improve the quality of the data in Master Data Management (MDM). Creation of Resource Scoring framework based on the performance of the team member of Data Governance Team.

**Major Learning Outcomes :** • DATA EDO is a tool where I had written the table and column description to each attribute related to products and their related entity. Which acts as a meta data helps for internal purposes and for third party.

- I had written STANDARD OPERATING PROCEDURES (SOP) for the validation of attributes which helps the DGT team to understand the procedure for validation of attributes.
- I had written the reference documents for the 2 attributes which helps the DGT team to refer the documents for further reference.

- Came up with the new Health Metric test which helps the DGT team to identify the manufacturer, measurement, schedule related details.
- As a part of DRX- Program onboarded 4 doctors as a consultant to the organisation which helps the DGT team in validating the data.
- Guided Quality Check Team and Cleared a small concepts to them and helped them to minimise the products failing Health metric.
- Making dashboards helps the DGT team to understand the complete data on sight. Making this dashboard twice a week which give the summary of the entire data.
- Recently started working on resource framework i.e One Agent One Score (OAOS) and continuously working on it to improve and standardise this. Helps to understand the area where the agent is really weak and helps management to give training to a agent in a particular area. This is at a pilot level and will expand soon.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment is really good and can really learn new things

**Academic courses relevant to the project :** DOSAGE FORM DESIGN

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**PS-II Station : Ashoka Buildcon Ltd , Mumbai**

**Student**

**Name:** PATIL VISHWAJEET NAMDEV(2017H1300087P)

**Student Write-up**

**Short Summary of work done during PS-II :** Observation of Construction work execution

**Tool used (Development tools - H/w, S/w) :** All road construction machinery

**Objectives of the project :** Widening of 4 lane NH to 8 lane

**Major Learning Outcomes :** Construction execution

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Highway construction practices, Pavement material characteristics

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**Name:** VERMA ADITYA NANDLAL(2017H1300084P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Learned different techniques of construction practices and planning and implementation of design work into the field. Designing of Job mix for Stone Matrix asphalt pavement and research on Foam Bitumen for cold recycling. proposal of signage and markings on JNPT road project.

**Tool used (Development tools - H/w, S/w) :** construction materials

**Objectives of the project :** This internship was a useful experience. I have gained new knowledge, skills and met many new people. I achieved several of my learning goals. I got insight into professional practice. I learned the different facts of working within a construction company. I experienced that proper planning, management and execution, as in many organizations, is an important factor for the progress of projects. Related to my study I learned more about the Designing and construction of all types of pavements and materials. I have

witnessed various construction activities and have got better understanding of practical knowledge. I understand the concept of use of WMM as crack relief layer to avoid reflection cracking from CTSB and CTB. Since it is coastal area provision of CTB and CTSB as GSB layer is followed by the guidelines. I learned how calculations are done for no of passes and assigned the rolling pattern for different types of pavement. Construction of pavement quality concrete and load transfer mechanism of construction joints, i.e. Dowel and Tie bar. Apart from construction of pavements I learned about various methods of pavement and structure testing. I learned about falling weight deflectometer which runs upon the pavement surface to analyze the rutting effect of traffic on pavement and determines the new overlay thickness. For super structures Non Destructive Testing with ultrasonic transducers to determine the quality of structures and analyze the future life of structure. The calculations concluded satisfactory as per the IRC guidelines. During the internship, under the guidance of Er. Devendra Marode sir, I was assigned a project which is Job mix design for Stone Matrix Asphalt. By following the guidelines of IRC SP 79 and MoRTH specification I conducted various testes on Marshall mold, such as density test, specific gravity test, VCA dry rodded test, stability and drain down test for percolation of bitumen during transportation. All the test provided the satisfactory results as per the MoRTH guidelines and this concept of job mix formula will be used in future projects of Ashoka Buildcon Ltd. I would conclude that the internship was good to find out what my strengths and weaknesses are. This helped me to define what skills and knowledge I have to improve in the coming time. At last this internship has given me new insights and motivation to pursue a career in highway designing, planning and construction.

**Major Learning Outcomes :** Planning, Management and Designing

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Pavement materials and construction, Highway construction practices, Highway geometric design.

## PS-II Station : Avaamo , Bangalore

### Student

Name: VARUN AGARWAL(2015A7PS0052P)

#### Student Write-up

#### Short Summary of work done during PS-II :

**Tool used (Development tools - H/w, S/w) :** Python, SQL, Ruby on Rails, Angular, NLP, Machine Learning

**Objectives of the project :** Address the cold start problem in bot creation and document question answering

**Major Learning Outcomes :** Understanding on Natural Language Processing and various retrieval algorithms

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Information Retrieval, Object Oriented Programming, Data Structures and Algorithms, Database Systems

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## PS-II Station : B.G.Shirke Construction Technology Pvt. Ltd. , Pune

## Student

Name: NITESH JAIN(2017H1430039H)

### Student Write-up

**Short Summary of work done during PS-II :** The main work of this company includes precast construction technology. Thus, I was exposed to this technology through various live projects like analysis of G+16 building, design of retaining walls and design of G+3 industrial building.

Apart from precast, i got first hand experience on analysing and designing of steel structures. The projects on steel design were design of 12.5mx12.5m roof, two steel warehouse, steel Parking towers and 160m steel bridge.

Most of the time was spent on design of steel parking tower, G+26, and two towers of G+15 with different plan area.

**Tool used (Development tools - H/w, S/w) :** ETABS, SAFE, AUTOCAD, PLANWIN and Excel.

**Objectives of the project :** The objectives of the projects are- 1. To study the architecture plan in detail, 2. Analysis and design of the structure as per new codes and such that they are structurally stable, ductile and serviceable for desired designed life period and 3. To optimise the construction cost by using optimum section properties and other design techniques.

**Major Learning Outcomes :** Design of steel structures, Precast technology and optimisation of project.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The interactions with the Vice President of the department were very fruitful, worthy and interesting.

**Academic courses relevant to the project :** Design of concrete structures, Earthquake engineering, Design of Steel Structures and Strength of Materials

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## PS-II Station : Bajaj Auto , Pune

### Student

**Name: Tushar Sharma(2015A4PS0439P)**

#### Student Write-up

**Short Summary of work done during PS-II :** Fan design - Designing a fan that gives high flow rate (CFM) while consuming low power.

**Tool used (Development tools - H/w, S/w) :** Star CCM+, UG NX, Excel

**Objectives of the project :** Designing an axial fan for radiator cooling

**Major Learning Outcomes :** Learnt new softwares and various aspects of fan design.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Good working environment.

**Academic courses relevant to the project :** Prime Movers and Fluid Machines

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**Name: NIKHIL KUMAR ROY(2015A4PS0443P)**

## **Student Write-up**

### **Short Summary of work done during PS-II :**

**Tool used (Development tools - H/w, S/w) :** AutoCAD, Siemens NX, AGV programming

**Objectives of the project :** Implementation of Automated Guided vehicle for material movement, Shop floor layout design and changes, Planning the material handling in new BAJAJ Auto shop.

**Major Learning Outcomes :** Learned about Automated guided vehicles which are used in industries for material handling. Learned the programming of automated guided vehicle. Different technology used in industries.

### **Details of Papers/patents :**

### **Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Production, planning and control, Lean manufacturing and Quality Control Assurance and Reliability

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**Name:** SUKRIT GAIRA .(2014B3A40515G)

## **Student Write-up**

**Short Summary of work done during PS-II :** Press and its tools were studied. A visit to NAPL was arranged to get the practical understanding of presses. Operations of the Press were studied along with the defects arising in them. PAM-STAMP software was learnt from GALAXY Vendor by observing the simulation of 2 Parts i.e. Outer and Inner Door. Removal of the defects arising in the form Simulation of Reinforcement has been performed with three materials to

check the effect of R-Value and N-Value on metal formability. As the part has cracks and wrinkles even after a design modification it is currently in the design stage.

**Tool used (Development tools - H/w, S/w) :** PAM-STAMP

**Objectives of the project :** USE OF FORMABILITY TO ELIMINATE DEFECTS AT DESIGN STAGE FOR SHEET METAL PARTS

**Major Learning Outcomes :** Learnt PAM-STAMP software

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Good working environment

**Academic courses relevant to the project :** Material Science

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**Name:** BANTUPALLI NAGA MANIKANTA SURYA BHASKAR(2015A4PS0173P)

### **Student Write-up**

**Short Summary of work done during PS-II :** A) Optimization of multi link suspension of two wheeler 1. for a certain wheel force, wheel displacement 2. For a certain spring along with bump stopper at end

B) finding effect of manufacturing tolerances on wheel rate, wheel displacement(travel) so that liad it can support won't be less than allowable design load

**Tool used (Development tools - H/w, S/w) :** Microsoft excel, VBA, MSC Adams

**Objectives of the project :** Optimization of multi link suspension of two wheeler for both types  
1) suspension with bell crank directly mounted to swing arm 2)suspension with bell crank

mounted between link and to frame and effect of manufacturing tolerances on reaction forces on joints and wheel force

**Major Learning Outcomes** : Suspension, VBA, Msc adams

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Kinematics and dynamics of machines

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## **PS-II Station : Baldor Technologies Pvt Ltd , Mumbai**

### **Student**

**Name:** SHUBHAM SINGAL(2015A7PS0168H)

#### **Student Write-up**

**Short Summary of work done during PS-II** : Created many apps related to fraud detection and implemented instrumentation in apps like using pact, dredd, tracing, also created an Alert system to notify all employees if any system breaks.

**Tool used (Development tools - H/w, S/w)** : VS code, git, many libraries of python, ruby, elixir, goolang

**Objectives of the project** : Alerts related

**Major Learning Outcomes** : writing production ready code, writing test and other instrumentation for the same, also deploying apps

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** great working environment

**Academic courses relevant to the project :** DBMS, oop, cloud computing(not so imp),

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## **PS-II Station : Bharat Forge Ltd , Pune**

### **Student**

**Name:** SHIVAM TIWARI(2017H1420188P)

### **Student Write-up**

**Short Summary of work done during PS-II :** My work at Bharat Forge Aerospace involved finding out the cause of aero-engine fan blade distortion while CNC milling of this blade. The problem of distortion is prevalent in the aerospace manufacturing industry, be it titanium, aluminium or even in inconel. Boeing and Airbus lost millions of dollars in scrap because of this. Residual Stress is considered as main culprit behind the distortion. So in this project I studied residual stress and measured it through X-ray diffraction method. There are various methods through which stresses can be measured. In this project I understood about the causes of residual stresses be it mechanical or heat treatment processes. Also I made some recommendations in the process change i.e 1st machining setup before heat treatment.

**Tool used (Development tools - H/w, S/w) :** X-ray Diffraction setup, DEFORM can be used

**Objectives of the project** : To understand the causes of distortion by studying residual stresses and ways to minimize distortion

**Major Learning Outcomes** : Understood about the residual stresses, their measurement methods, Metallurgical aspects of Ti6Al4V alloy, micro-structure, tensile and other testing necessary for aerospace parts. Most importantly I got to know how industry works, pace and decision making .

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Working environment at Bharat Forge Aerospace limited is good, conducive and people are helpful. You have to have patience because you might not get work and related details at very first. This is somewhat due to confidentiality purpose also. But as you spend your time and work here, people will start helping. But start has to be made by oneself only. You are free to learn and suggest ideas and if possible and feasible they try to implement within aerospace.

**Academic courses relevant to the project** : Material Science, Stress Analysis, Fracture Mechanics, Manufacturing Science( PT-1 &2), FEM (for simulations and modelling-Contour method for stress measurement).

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**PS-II Station : Bosch Research and Technology center , Bangalore**

**Student**

**Name: ANUSHREE S HEDE(2015A7PS0958H)**

**Student Write-up**

**Short Summary of work done during PS-II** : Industries like Bosch have with them a large magnitude of categorical time-stamped text data which needs to be analyzed to obtain insights. In this project we tackle the tedious task of extracting the most significant terms or “trends” in the text, in order to measure their growth in popularity over time. To accomplish this, we describe a novel “semantic infusion” method, which infuses special marker strings in the word vector space of the text, in order to locate these trending terms. We also demonstrate the power of our method by comparing its results qualitatively and quantitatively with those of a well-established algorithm, the Online Processing Variant of LDA. We outline a few industrial applications for our method which were tested so far. We then shift our focus to a different area of interest at Bosch: prediction of product recall incidents from complaints data of automobiles. In this task, we focus on developing a usable dataset, using a set of rules applied to existing complaint and recall data. We build a deep neural network classifier, pass this dataset to it, and aim to predict if a complaint against an automobile will result in its recall or not. We provide our results and a short analysis of our observations from it.

**Tool used (Development tools - H/w, S/w)** : Python, Keras library, Word2Vec

**Objectives of the project** : 1) Develop an automated method of extracting the trends from the corpus by introducing the concept of semantic trends. 2) Compare semantic trend results with the results of a well-established trend analysis algorithm, Online Processing Variant of LDA, to establish a qualitative and quantitative improvement of the semantic infusion technique. 3) Develop a classifier, specifically a bidirectional Long Short-Term Memory to identify whether a complaint is severe enough to warrant a recall of the product. 4) Prepare a dataset which can be directly used by the classifier, and observe how the predictive power of the model changes when it is trained with data from different time window sizes.

**Major Learning Outcomes** : 1) Performing experiments to test the quality of results from an algorithm.  
2) Documenting the complete project into a paper for a conference.  
3) Preparing a dataset from existing resources to supply to a classifier.  
4) Building a deep learning model to classify text.

**Details of Papers/patents** : Submitted a paper to CIKM 2019.

**Brief Description of working environment, expectations from the company :** Working environment was relaxed. I was able to work at my own pace without strict timings and deadlines since it was a research center. My mentor worked closely with me to design and carry out research activities according to a timeline and always helped me out when I was stuck. He also encouraged me to submit the research work to a external conference. Other employees were also helpful and friendly. I got a good exposure to corporate world and I was also able to explore my research interests with like-minded and motivating individuals.

**Academic courses relevant to the project :** Machine Learning, Information Retrieval

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**Name:** BAYANAGARI VARA LAKSHMI(2015A7PS0112H)

### **Student Write-up**

**Short Summary of work done during PS-II :** We built a simple and flexible interactive segmentation model that segments foreground objects of a video sequence. Our baseline model is pre-trained on Imagenet weights, thereby applying the transfer learning technique. We went ahead and built a weak supervision pipeline from the baseline model and trained it on DAVIS 2017 train set. The challenge was to make our model learn from a scribble, which gives as minimal information of a desired object as a stroke, unlike semi supervised segmentation model which learns from a complete mask. We achieved this by additional skip connections in our model and preprocessing the scribble in our pipeline. Our model showed great results on DAVIS 2017 validation set, with average Jaccard value of 55.3 for 30 sequences and maximum being 80.5 for pigs sequence.

**Tool used (Development tools - H/w, S/w) :** Software: Python Kerala, Hardware: Nvidia GPUs

**Objectives of the project :** To build a segmentation model that tracks foreground objects in a video sequence

**Major Learning Outcomes** : Hands on experience in Computer Vision applications. The work that entails in a corporate research industry. An opportunity to publish a paper, if one has worked on proof of concept.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Machine learning, Data Mining, Deep learning models

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**PS-II Station : Bundl Technologies Private Limited (Swiggy) - Nontech , Bangalore**

**Student**

**Name:** SHIVAM JAISWAL(2015A1PS0717P)

**Student Write-up**

**Short Summary of work done during PS-II** : - Primarily, I worked on optimizing area launches for Swiggy.

- Another task of mine was to prepare extensive and insightful reports on the performance of around 12 Swiggy cities.

- Also, I worked to open Swiggy in whole of Kerala in the end.

**Tool used (Development tools - H/w, S/w)** : Dbeaver, Power BI, Excel

**Objectives of the project** : To optimise city and area launches for entire country

**Major Learning Outcomes :**

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The company is really good in terms of culture, with qualified, helpful and intelligent people as your peers and superiors. One will surely learn a lot if one does come here.

The working hours easily stretch to 10 on regular days. Chances of PPO depend chiefly on your manager and company openings.(People coming in the 1st sem, choose accordingly)

**Academic courses relevant to the project :** Principles of Management

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**Name: Shudhendu Mishra(2015ABPS0696H)**

**Student Write-up**

**Short Summary of work done during PS-II :** Worked in the operation analytics team. Analyzed the performance of delivery executives and worked on their delivery related metrics like speed, delivery time compliance, etc.

**Tool used (Development tools - H/w, S/w) :** Excel, SQL, python, R

**Objectives of the project :** To enhance the performance of the delivery executives and looking into the issues they face.

**Major Learning Outcomes :** Business, analytical and technical learning

**Details of Papers/patents :** N/A

**Brief Description of working environment, expectations from the company :** Healthy learning environment with helpful colleagues

**Academic courses relevant to the project** : Business analytics based courses

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**Name:** GAURAV VIRMANI(2015A3PS0175P)

**Student Write-up**

**Short Summary of work done during PS-II** : I am working on cost per delivery reduction of Swiggy POP orders. The work involves devising strategy and aligning all the stakeholders to get it executed. I considered all the factors that contribute to delivery cost and the corresponding levers that we have. For each lever, I considered the pros and cons of moving it on business metrics (like number of orders, number of transacting users, etc.) and devised a strategy accordingly. I also wrote the Standard operating procedure for executing it and published it to the concerned stakeholders. Apart from that, we were also tracking the impact of execution on business metrics in a dashboard/sheet. The strategy was improved in an iterative manner after prioritising business goals and receiving feedback from the stakeholders involved. The learnings from this were used before scaling the process to other places and made into a playbook.

**Tool used (Development tools - H/w, S/w)** : Excel, SQL, Word

**Objectives of the project** : To reduce the cost per delivery for Swiggy POP orders

**Major Learning Outcomes** : Stakeholder management, devising business strategy, analytics

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Professional Ethics, Principles of Economics, PAVA

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**Name: PRAVEEN RANGANATH P .(2014B2A10883G)**

**Student Write-up**

**Short Summary of work done during PS-II :** Setting up new processes, Management and marketing

**Tool used (Development tools - H/w, S/w) :** powerBI, SQL, Excel

**Objectives of the project :** Execute marketing and improvising SOPs

**Major Learning Outcomes :** Management, Understanding scenarios and meeting deadlines

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** Very steep learning curve

**Academic courses relevant to the project :** POM

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**Name: SHIVAM JAISWAL(2015A1PS0717P)**

**Student Write-up**

**Short Summary of work done during PS-II :** - Primarily, I worked on optimizing area launches for Swiggy.

- Another task of mine was to prepare extensive and insightful reports on the performance of around 12 Swiggy cities.

- Also, I worked to open Swiggy in whole of Kerala in the end.

**Tool used (Development tools - H/w, S/w) :** Dbeaver, Power BI, Excel

**Objectives of the project :**

**Major Learning Outcomes :**

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The company is really good in terms of culture, with qualified, helpful and intelligent people as your peers and superiors. One will surely learn a lot if one does come here.

The working hours easily stretch to 10 on regular days. Chances of PPO depend chiefly on your manager and company openings.(People coming in the 1st sem, choose accordingly)

**Academic courses relevant to the project :** Principles of Management

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## **PS-II Station : Bundl Technologies Private Limited (Swiggy) - Tech , Bangalore**

### **Student**

**Name:** SANSKRITI SINHA(2014B2A80865G)

### **Student Write-up**

**Short Summary of work done during PS-II :** I worked with data science team of the company. I built model for real time prediction of orders. The objective of the project was to predict the

number of orders that will come in next 30- mins from a restaurant. I started our with machine learning algorithm gradient boosting for predictive modelling using various relevant features. Later on, in order to improve the coverage percentage I used deep learning algorithm long short term memory.

**Tool used (Development tools - H/w, S/w) :** MYSQL, PYTHON

**Objectives of the project :** To predict the number of orders about to come in next 30-mins from a restaurant

**Major Learning Outcomes :** I learnt to extract data and build models using real life industrial data.

**Details of Papers/patents :** N/A

**Brief Description of working environment, expectations from the company :** The working environment in the company is really positive. The people are really helping and they give interns their time to learn and then work on the problems. Working in Swiggy has been a real learning experience with great intellectual minds around me. The people focus more on coming up with new ideas and trying it out.

**Academic courses relevant to the project :** N/A

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**PS-II Station : Capillary Technologies - Testing Automation , Bangalore**

**Student**

**Name: HIMANSHI SHARMA .(2017H1400083G)**

## **Student Write-up**

**Short Summary of work done during PS-II :** The work mostly involved front-end development along with some back-end tracing. Dotnet framework was used majorly for all the development. There were three tasks that were assigned during the internship that included creating config logs on the database for all the changes user does on the page, Creating a new page for Order allocation for all the failed orders (my team being E-Commerce) and integrating GA tracking and hotjar onto their control panel.

**Tool used (Development tools - H/w, S/w) :** Visual Studio, Redis, VirtualBox, SQL workbench, Github,

**Objectives of the project :** The project was divided into sub tasks. The objectives of each being Creating audit logs for all the user interaction, Creating a order Re-allocation page and Integrating Google analytics tracking API and Hotjar onto the Control Panel.

**Major Learning Outcomes :** You'll get the taste of Industry standard tools like getting experience with version control hosting services, major tools and platform used.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment is quite ethical. You'll get to taste the benefits of team work. People are helpful. Learning curve is steep.

**Academic courses relevant to the project :** Basically you should know how to code.

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**PS-II Station : CEG Limited , Jaipur**

## Student

Name: ABHINAV SEHRAWAT(2017H1300080P)

### Student Write-up

**Short Summary of work done during PS-II** : The multifaceted nature of the project makes it indispensable for the student to possess a broad spectrum of knowledge in various domains of engineering. The student is put to the test on her/his basic comprehension of the pertinent areas involving mathematics, physics, highway geometric design, traffic engineering, pavement analysis, and design, transportation planning as well as sporadic computer programming. I was able to provide assistance to the design engineers in the following areas:

- Alignment Design
- Profile Design
- Cross Section Development
- Earthwork calculation and estimation
- Signs and Markings
- Pavement Design

**Tool used (Development tools - H/w, S/w)** : S/W - MX Road, CIVIL 3D, ADVANCED EXCEL, MS WORD

**Objectives of the project** : Development of a framework for the design a high-speed expressway (150 kmph) as per the Indian conditions

**Major Learning Outcomes** : Through the project, I was able to apply my knowledge to dynamic real-world complications encompassing geometric design which also paved way for me in developing a framework for the design of a high-speed expressway in the Indian conditions. I learned about a plethora of tricks which would be useful in the design process. I also learned about the programming language of the road design software which proves to be effective while designing roads in hilly terrains or sharp bends. Apart from this, I was also able to tap into the almost infinite potential of advanced excel. The overall exposure at CEG Ltd, Jaipur enhanced my basic concepts and learning abilities.

**Details of Papers/patents** : Paper on a framework for the design a high-speed expressway (150 kmph) as per the Indian conditions

**Brief Description of working environment, expectations from the company** : CEG provides the interns with ample opportunities to learn. I have been exposed to almost four diverse projects under the guidance of my mentor which helped me in developing an aptitude for the highway as well as expressway design. The working atmosphere is flexible and provides ample opportunities to flourish. The company also believes in the evolving with time and keeps on concocting new ways to stand out in this turf. This is precisely what an intern would expect from a reputed establishment like CEG Ltd. and almost all my expectations were met. This training provided me with a podium to expand my horizons, enhance my existing skills and be industry ready in a span of just 5.5 months.

**Academic courses relevant to the project** : Probability and statistics, Physics, Highway geometric design, Traffic engineering, Pavement analysis, and design, Transportation planning, CAD and Programming

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**Name:** CHANDAN SHARMA(2017H1430071P)

### **Student Write-up**

**Short Summary of work done during PS-II** : This PS station works on design of roadways and metro. During PS-II, i was able to design skew box culvert and bow string bridge.

**Tool used (Development tools - H/w, S/w)** : STAAD pro, Midas, MS Excel, AutoCAD

**Objectives of the project** :

**Major Learning Outcomes** : Design of bow string bridge, design of skew box culvert, design of pile foundation, design of retsining wall

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** CEG has healthy environment. Employees are friendly and extremely helpful

**Academic courses relevant to the project :** Bridge Engineering, Advanced Steel Structures, Earthquake Engineering, Advanced Structural analysis

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**PS-II Station : Central Leather Research Institute (CLRI) , Chennai****Student**

**Name:** M AJAY SHRINIVAS(2015A2PS0849p)

**Student Write-up**

**Short Summary of work done during PS-II :** Designed, fabricated and tested a direct - force ventilation solar dryer for Municipal Solid Wastes. Characterised several organic wastes based on their total & volatile solids. Assisted in finding the biogas potential of organic municipal solid wastes mixed in different ratios.

**Tool used (Development tools - H/w, S/w) :** AutoCAD, Ansys

**Objectives of the project :** To design, fabricate and test a solar dryer for organic municipal wastes; To arrive at optimum mixing ratio of wastes for drying

**Major Learning Outcomes :** Solar dryer design, biogas potential & inhibition calculation (chemical analysis)

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Renewable Energy, Analysis of Structures, Environmental Engineering

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## **PS-II Station : Century Rayon , Mumbai**

### **Student**

**Name:** JAY HARSHAD PARMAR .(2015A1PS0516G)

### **Student Write-up**

**Short Summary of work done during PS-II :** Our project was aimed at recovery of sulfur from slag sulfur & recovery of zinc from zinc sludge. We developed various processes for recovering these valuable products. Process Flow Diagrams, Flow Sheets and Cost Benefit analysis of our PFDs were also undertaken. We found that process can be made profitable under certain circumstances.

**Tool used (Development tools - H/w, S/w) :**

**Objectives of the project :** Recovery of Sulfur & Zinc from wastes

**Major Learning Outcomes :** Learning various methods of recovery, understanding the working of a plant, first hand experience of plant based cost benefit analysis.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** People are very helpful, kind and also willing to learn new things from us well. They respect students from BITS university for their knowledge. Low level of internal politics. The company has expectations from the students to be punctual and be devoted to the work. The training HR manager also asked as to why only 2 students are sent for PS-2 and was willing to take few more people as there are enormous opportunities to explore in their projects.

**Academic courses relevant to the project :** Engineering Chemistry, Heat Transfer, Process Design, Equipment Design.

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**Name:** JOSHI ANUJ SANJAY .(2015A1PS0660G)

### **Student Write-up**

**Short Summary of work done during PS-II :** For sulfur recovery, one method using lime and hydrochloric acid was completed. Three trials were taken for the same. For zinc recovery, three methods were tried using sulfuric acid, sulfur dioxide gas and hydrochloric acid as starting materials. For each of the three methods, complete analysis at each stage of the experiments was done. At the same time, plant-scale design for both, sulfur recovery and the best method for zinc recovery was done.

**Tool used (Development tools - H/w, S/w) :** Mostly Hardware tools such as apparatus from chemical laboratory were used to carry out the experiments.

**Objectives of the project :** The main objective of the project was to recover valuable elements and compounds from the waste generated in the plant; namely sulfur from slag sulfur waste and zinc from ETP waste.

**Major Learning Outcomes :** Due to this project, I got to know about various new reactions, especially those involving sulfur and zinc and also about the manufacturing process of rayon

and of the chemicals used in making it. Apart from that, I got to learn various testing methods and plant-scale design as well.

**Details of Papers/patents** : [1]"Manufacture Of Sulphur". United States Patent Office, Patent no. 1,492,489 dated Apr. 29, 1924.

[2]"Zinc Precipitation and Recovery from Viscose Rayon Wastewater". U.S. Environmental Protection Agency, Report 12090 ESG, 1974.

[3]"Manufacture of Zinc O

**Brief Description of working environment, expectations from the company** : The working environment was very good. All the staff was very knowledgeable and helpful.

**Academic courses relevant to the project** : Engineering Chemistry

Heat Transfer

Kinetics and Reactor Design

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## PS-II Station : Cirel Systems, Bangalore

### Faculty

Name: Rekha A

**Comments: Expectations from industry** : The students are working in various VLSI and communication projects like peak detection and power estimation on I/Q data, receiver impairments estimation in MIMO systems, Fuel Gauge Algorithm Development in Li-Ion Batteries, Analysis on 2G logs, convert RTL design into netlist, design verification etc. Students are using Labview, verilog, VHDL and scripting languages like tcl, python , PLA tool, in their

projects. The students can refresh their basics and learn basics of scripting languages before they come for PS 2

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## **PS-II Station : Cisco Systems (India) Pvt. Ltd - Software Engineering , Bangalore**

### **Student**

**Name:** MANIK BHASIN .(2017H1240050H)

### **Student Write-up**

**Short Summary of work done during PS-II :** Intrducing a feature of command accounting for Calvados VM for E-XR platforms which don't have any dedicated connection to the TACACS server.

**Tool used (Development tools - H/w, S/w) :** C, Python, Google ProtoBuffer, XML and ACME Tools

**Objectives of the project :** Developing IPC between XR and Calvados to enable command accounting service for calvados for E-XR platforms.

**Major Learning Outcomes :** learned UT automation, Proto Buffer Implementation

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** NONE

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**Name: NIKHIL ANAND(2017H1400161P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** I have been working on verification of Fibre channel switching module. Here I learnt various aspect about verification like How to create environment to test modules . Wrote Attributes and test cases for testing some assertions and coverage in the project . I really enjoyed working here , people are very cool .

**Tool used (Development tools - H/w, S/w) :** Synopsys VCS , Mentor Graphics Questa are two simulation tools .

**Objectives of the project :** Verification of Fibre channel Switch

**Major Learning Outcomes :** 1. Build Environment for Testing Module.  
2. Writing test cases and assertions .

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** I really love Working here . People are very helpful , they are ready to help whenever you need . There are team outings which is very enjoyable.

**Academic courses relevant to the project :** VLSI Test and Testability.

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**Name: MANIK BHASIN .(2017H1240050H)**

**Student Write-up**

**Short Summary of work done during PS-II :** Developing an IPC for transferring command accounting logs from calvados VM to XR VM using google's protobuf and do the unit automation testing for the same.

**Tool used (Development tools - H/w, S/w) :** C , Python, XML, Protobuf,

**Objectives of the project :** To Enable Calvados Accounting for E-XR platforms

**Major Learning Outcomes :** Gained good knowledge to develop IPC using Protobuf. Learned about the working of TACACS and AAA servers.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** NONE



**Name: MOHAMMAD FUAAD KHAN(2017H1490312P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Roles and Responsibilities:

1. Implement Report Automation using Python language for different weekly/monthly reports.
2. Perform Business Analysis on Vendor and Partner data based upon management requirements.

3. Handle AS Fixed cases, publish report & provide bookings and invoice hold related support.
4. Carryout data research to collect the relevant data to cater to different BI models.

**Tool used (Development tools - H/w, S/w) :** Python, Tableau, MS Excel & Powerpoint

**Objectives of the project :** 1.Productivity Improvement. 2.Business Analysis

**Major Learning Outcomes :** Report Automation using Python, Business Analysis and Data Visualisation Skills

**Details of Papers/patents :** N/A

**Brief Description of working environment, expectations from the company :** Work environment is ideal when it comes to corporate world. There is enough freedom to think, express and come up with solutions to business problems. The team members, although being senior, don't hesitate in mentoring and helping to resolve the queries and provide suggestions to enhance the quality of deliverable. Manager as well as the team mentor takes very good care of our interests and allocate tasks accordingly as per our skills and capability. More emphasis is given on quality learning and providing sustainable solutions to business problems. To summarize, the work environment is same as one must expect from Fortune Top 500 companies.

**Academic courses relevant to the project :** Data Analytics and Quantitative Methods

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**Name:** VAISHALINI .(2017H1240055H)

**Student Write-up**

**Short Summary of work done during PS-II** : Developed a GUI support for Redfish (RESTful interface) for managing Cisco C-series server. Implemented a Redfish Schema validator (at front end) for validating queries. Ported interface modules from LUA language to C for its lightweight execution. Used version control software (Git) to track source code.

**Tool used (Development tools - H/w, S/w)** : Javascript, CSS , HTML,JSON parsing technologies

**Objectives of the project** : GUI support for Redfish Interface to navigate through data model and help QA and Dev-Ops for debug issue.

**Major Learning Outcomes** : Web development tools and Programming techniques

**Details of Papers/patents** : -

**Brief Description of working environment, expectations from the company** : The working environment of organisation is quite dynamic. Its a great work environment, anyone from a colleague to a senior level director is quite approachable and open to discussion.

**Academic courses relevant to the project** : Web development

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**Name:** THAKRAR ASHISH SHAILESHKUMAR(2017H1030123P)

**Student Write-up**

**Short Summary of work done during PS-II** : Worked on a cross platform internal testing tool ("samosa") for Cisco AnyConnect's NVM module. NVM had new features and the internal testing tool needed test support to test those new features.

**Tool used (Development tools - H/w, S/w)** : S/w : Python

**Objectives of the project** : To add test support for new features in AnyConnect's NVM to the internal testing tool - samosa, and improve it.

**Major Learning Outcomes** : Python, Cross Platform Development and Testing

**Details of Papers/patents** : N/A

**Brief Description of working environment, expectations from the company** : The working environment and team has been very helpful throughout the internship and has helped me learn a lot.

**Academic courses relevant to the project** : N/A

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**Name:** GUNTURI VENKATA SAI MANOJ KUMAR(2013HS400267P)

**Student Write-up**

**Short Summary of work done during PS-II** : Scripting in Perl for automation of certain verification flows. Writing Test cases in System verilog.

**Tool used (Development tools - H/w, S/w)** : vcs, questa sim

**Objectives of the project** : Verification flow automation, Block level verification using SV

**Major Learning Outcomes** : Learnt System Verilog, Understood how massive h/w projects are handled at industry level

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company :** Great company for doing PS. Friendly team members, Flexi timings -- Team dependent. Great opportunity to learn. Projects will be likely based on your interest.

**Academic courses relevant to the project :** VLSI Test and Testability( System Verilog ), Digital Design, VLSI Architecture, VLSI Design

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**Name:** PRIYANKA ANAND(2017H1490350P)

### **Student Write-up**

**Short Summary of work done during PS-II :** I was assigned a role of Project Specialist in the Project Management team. Project Management Team is the team responsible for effective and efficient management of various projects for customers for different architecture / technology areas as available in the portfolio of Advanced Services such as Datacenter, Security, Mobility, Networking and others.

**Tool used (Development tools - H/w, S/w) :** WebEx, Primavera P6, Oracle Projects- PM, Oracle Projects- Admin, PSS tool, BAT2, Next Gen SOW Central, Cisco Commerce Website, Service Now

**Objectives of the project :** To ensure smooth functioning and execution of various activities that constitute a project cycle.

**Major Learning Outcomes :**

1. How a project transitions in various project management stages
2. Collaborative and team building approaches for proper functioning of cross functional teams
3. Stakeholder management

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project : NA**

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**Name: AASTHA MAINGI(2017H1400163P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Worked on full-stack web development to create a SAN Health web application, for the health monitoring of the SAN-DC(Storage-Area-Network Data Center) for Cisco's DC customers. Worked on technologies like ReactJS for frontend, NodeJS for hosting the web application on the local server, Python flask server for the backend, and MongoDB, for the database management.

Also, developed a network traffic monitoring application, using 'Grafana' for visualization, gRPC for server-client interaction from the SAN switches to the local machine, and InfluxDB as a time-series database for storage, and plotting of the graphs in Grafana.

**Tool used (Development tools - H/w, S/w) :** ReactJS, NodeJS, Python flask, MongoDB, InfluxDB, Grafana

**Objectives of the project :** To get an overall view of the SAN DC network and get familiar with full-stack web development

**Major Learning Outcomes :** Full stack web development, Time series database

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment is quite friendly, everyone is easily approachable on the team. But, mostly you are left on your own to figure out the exact design choices for achieving your particular objective, which gives you a lot of flexibility to experiment with things, before going ahead with

implementation. For example, I was just given a problem statement to make a web application, which can achieve certain goals, but the exact design choices to make were left upto me.

**Academic courses relevant to the project** : Database Management System (DBMS), Computer Networking, Web development

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**Name:** GANTA SWATHI .(2017H1030042G)

### **Student Write-up**

**Short Summary of work done during PS-II** : TLS v1.2 enabled sites used to give the certificate in the plain text. But, TLS v1.3 protocol took the security and performance to the greater heights. TLS v1.3 protocol started encrypting the server certificate providing greater security and by introducing 0-RTT it provides enhanced performance. But, introduction of encrypted certificate leads us into the trouble, if some hackers using TLS v1.3 protocol try to send some malware into our systems. If we know the server certificate, this problem can be avoided. Because, certificate gives us the authenticity of the server. Certificate helps us in blocking such Malware content from entering our systems. My work during internship was to get the certificate of the server so that we can make a decision regarding whether to allow the traffic or block the traffic. This is one of the policy decision that can be used for SSL decryption.

**Tool used (Development tools - H/w, S/w)** : openssl, Python, c, wireshark, Working on switch

**Objectives of the project** : Getting the certificate of TLS v1.3 enabled sites

**Major Learning Outcomes** : I got to work on the trending security protocol i.e TLS v1.3 with different development tools which I never worked on before

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Work environment was pretty awesome. Everyone was so helpful. Especially, my mentor. He is so cooperative and approachable. As this is a new area where they are experimentaing on, Their expectations were pretty simple. They wanted me to make a POC of my project before actually start working on the switch.

**Academic courses relevant to the project** : Computer Networking

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**Name:** KUNDU ANIKET NAREN(2017H1240104P)

**Student Write-up**

**Short Summary of work done during PS-II** : Polaris migration

**Tool used (Development tools - H/w, S/w)** : C language on Linux O.S.

**Objectives of the project** : Make file conversions from viptela modules to polaris components

**Major Learning Outcomes** : Make file analysis and enhancing debugging skills

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : Working environment is diligent . No such expectations from the company .

**Academic courses relevant to the project** : Networking and Cryptography

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**Name: MODITA BEHL(2017H1120231P)**

## **Student Write-up**

**Short Summary of work done during PS-II :** One of the major components of WebEx Meetings is a SIP proxy which is deployed on various nodes across all data centres. Different teams are continuously working on various solutions related to WebEx Meetings which requires changes in the versions of applications deployed on different nodes. There is no way consolidated to track the changes at the management level and our team is facing the various problems which requires a comprehensive view of all such nodes. Hence, the aim is to build a global dashboard that provides comprehensive view of all SIP proxy nodes across all data centres.

**Tool used (Development tools - H/w, S/w) :** Django, Python, Nginx, Gunicorn, Docker, Jenkins, Ansible,

**Objectives of the project :** To develop a dashboard for SIP proxy nodes across all data centres. Develop the dashboard end to end from design to development to deployment.

**Major Learning Outcomes :** Got to design and develop the project end to end.

Got to learn and work on various technologies.

Got used to the DevOps way of development.

Got exposure to Agile way of development

**Details of Papers/patents : -**

**Brief Description of working environment, expectations from the company :** The work culture of the company was very encouraging and supportive. The interns were allowed to access all the resources such as VMs, source code, Docker registry equally as a full time employee. I was given an opportunity to build a project from scratch. The mentor allocated was very helpful and supportive throughout the internship. The project manager was very encouraging and recognised the work done. In short the work life balance and working environment was very motivating and enriching.

**Academic courses relevant to the project** : Basic Language course, Software Engineering Projects

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**Name:** MADHUR PODDAR .(2017H1030037G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Implemented part of a firmware update and support utility in c. The utility resides within BMC and is able to intelligently decide the type of channel to be followed in real time by analysing the request data. The utility is a daemon and is able to work as a intermediary between client side and the host(server) such that it is a management engine that drives the overall firmware management.

**Tool used (Development tools - H/w, S/w)** : C & Golang

**Objectives of the project** : To develop a utility as part of a feature to be deployed in the upcoming release.

**Major Learning Outcomes** : Clean and secure coding practice, Understanding the working of the server domain.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : C and C++, Data structures.

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**Name: PRATYAKSH PRASOON.(2017H1030043G)**

## **Student Write-up**

**Short Summary of work done during PS-II :** Security Management Appliance (SMA) comes under Content Security of Security Business Group in Cisco. It Centralizes management and reporting functions across multiple Cisco email and web security appliances. Cisco Email Security Appliance (ESA) is used for email security and high availability email protection against dynamic, rapidly changing threats affecting our organisation while Cisco Web Security Appliance (WSA) is used for web security.SMA portal UI is split into 4 categories namely login, reporting, tracking and quarantine and each of them is a Single Page Application (SPA). Aim is to design Data Availability component that comes under reporting part of next generation Security Management Appliance web portal, both UI development using Angular JS and TypeScript and Backend using Python. Another task is a POC where I need to make a Spring boot application using Redis as Cache , to understand how Redis can be used as Cache mainly to solve some issues in Cloud Email Security.

**Tool used (Development tools - H/w, S/w) :** Sublime text, PyCharm, NGINX, Tomcat , Spring Tool Suite, Postman

**Objectives of the project :** To introduce me to UI development and also how to expose out API endpoints from backend. To bring a cost effective solution by using Redis as cache on cloud

**Major Learning Outcomes :** Angular JS, TypeScript , Python Programming , Spring Boot

**Details of Papers/patents :** N/A

**Brief Description of working environment, expectations from the company :** Working environment was really good. I loved being a part of my team as all the team members are very helpful and co-operative especially my Mentor. His valuable guidance helped me a lot.Manager is also very approachable. It was overall a very good experience.

**Academic courses relevant to the project :** N/A

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**Name: VAISHALINI .(2017H1240055H)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Developed a GUI support for Redfish (RESTful Interface) for managing Cisco C-Series Server. Applied Javascript, CSS and Json Parsing technologies to create user-oriented visuals and features. It is an interactive GUI that allows a user to view parts of Redfish namespace, display resources & URI within each resource, using HTML browser. Used version control software (Git) to track source code. This avoids the use of cURL command which is more tedious as everytime we need to provide authentication credentials. The GUI is more user friendly and provides a better visual implementation. The hyperlink used in UI will make it easier to browse the box completely & also aids to debug faster than using multiple times cURL command. It can be used by QA, Developers and TAC. Also worked on ongoing project of cRedfish where i have ported interface modules from LUA language to C for its light weight execution.

**Tool used (Development tools - H/w, S/w) :** JavaScript , CSS , HTML

**Objectives of the project :** GUI Support for Redfish Interface on Cisco C-Series Server

**Major Learning Outcomes :** Understand the requirement , design the proper work flow to achieve task and prioritizing the tasks. Writing good quality production code , presenting project demo. Explored the architecture of web applications and the technologies that are used in the three main components: client, server and data store.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Great Experience. Learnt many new things during the tenure of my internship and enjoyed working with my team. There will be lot of options to learn and improve your knowledge. Overall great

work environment, anyone from a colleague to a senior level director is quite approachable and open to discussion.

**Academic courses relevant to the project** : Web/UI Development

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**Name:** MADLE SNEHA MALASIDDHA .(2014B5A70705G)

### **Student Write-up**

**Short Summary of work done during PS-II** : The Cloud services provided by Cisco need a platform to be hosted on the infrastructure made available by various cloud providers. Our team facilitates and maintains the much needed platform. The platform is responsible for creating/deletion nodes, scaling up/ down of the service, managing the hardware requirements of the application and the continuous monitoring. My project is concerned with the continuous health monitoring of each node. Presently there is an application in place that monitors the health of each node and in case of a failure, the person on pager duty is notified. My task is to monitor each process on a node and in case of failure have a web page display it.

**Tool used (Development tools - H/w, S/w)** : Django Framework , jenkins, docker

**Objectives of the project** : TO develop a service monitoring App

**Major Learning Outcomes** : How the cloud services are implemented and maintained in an organisation.

**Details of Papers/patents** : N/A

**Brief Description of working environment, expectations from the company** : At cisco, you get to learn a lot from your team, not only in terms of academic knowledge but technical skills, soft skills. Everyone is very helpful in case you are stuck on your project. As an intern, i worked with a geographically dislocated team, but there werent any hassles in communication or lack of

technical help. Even as interns, we were asked to emphasize on work life balance and complete your deadlines. All in all, its a great place to work !

**Academic courses relevant to the project** : Computer Networks, Network Programming

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**Name:** ALOY KUMAR DAS .(2017H1030083H)

### **Student Write-up**

**Short Summary of work done during PS-II** : Designed the Node Functional View of an ONS Node. Node view enables users to view and manage ONS 15454s that have DCC connections to the node. It is a Cisco Optical product which is essentially an Element Management System that helps the management of a network element. In this all data is displayed in a graphical/diagrammatic format instead of tables which will help the user to access the data related to ports, optical patch cords and the cards involved in the connections. The end user will be able to see all relevant information at one place in a much easier to comprehend kind of way. The idea was further taken ahead to extend the view to a manager which will allow the provisioning of patch chords and line cards from the view itself.

Technologies used: ReactJS, Javascript, HTML, CSS

Tools Used: Figma, VSCode, IntelliJ, Cisco-NSO

**Tool used (Development tools - H/w, S/w)** : Javascript, ReactJS, CSS, HTML, Figma

**Objectives of the project** : To design the Node Functional View of an ONS node in the network with configurable options for the node.

**Major Learning Outcomes** : Learnt to write code in a large scale application.

Learnt industry standard of coding.

How to write manageable code.

Frontend Development.

**Details of Papers/patents : N/A**

**Brief Description of working environment, expectations from the company :** The working environment was really positive. Everyone including mentor and manager were very helpful and encouraging and always pitched whenever help was required. The work assigned was challenging and a great learning experience.

**Academic courses relevant to the project : N/A**

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**Name: GELIVI SASIDHAR(2017H1030122P)**

**Student Write-up**

**Short Summary of work done during PS-II :** I have completed preprocessing stage which includes data cleaning, encoding and dimensionality reduction. Clustering using DBSCAN, HDBSCAN has been performed. During inspection of both results it has been found out HDBSCAN has more noise compared to DBSCAN. For cluster analysis REST APIs are developed using Flask server, MongoDB and deployed in Postman Framework. To predict new endpoints Apache Kafka streaming has been used. Testing needs to be performed using Pytest framework.

**Tool used (Development tools - H/w, S/w) :** Python, Pycharm, Apache Kafka, MongoDB, REST API's

**Objectives of the project :** Build Machine Learning model to predict new devices

**Major Learning Outcomes :** Machine Learning, Apache Kafka, MongoDB

**Details of Papers/patents : N/A**

**Brief Description of working environment, expectations from the company :** Everyone is friendly and cooperative. Mentor gave constant guidance in every phase.

**Academic courses relevant to the project :** N/A

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**Name:** PRATEEK SHARMA(2017H1030138P)

### **Student Write-up**

**Short Summary of work done during PS-II :** The Telephony Spark Bot is made to provide anytime, anywhere access to data to the employees. The employee just type in query as an input and the bot pulls data from the production databases or appropriate portal and reply back to the user. The data is pulled in two ways, through direct connection to database and through Restful API. The Bot takes natural language input from the user, cleans the input and searches keywords from it, the keywords or entities are collected and sent to the routing engine. The routing engine then tries to identify the intent of the user. When found, it routes the flow to the intended functionality with the entities as inputs. The specific function processes the entities and returns the desired result, which is then pushed to the bot space. The Bot is made proactive in nature, so if multiple failures/Errors happens, the bot gives a notification to the required bot space. It also provides a link in description where the problem can be handled from. The Bot also checks changes/delta in logs, if any, is immediately pushed to space. It also understand human language as it is programmed with natural language processing (NLP), a component of Artificial Intelligence. This makes the bot communicate in a meaningful and interactive way.

**Tool used (Development tools - H/w, S/w) :** No hardware tools, Software tools used are Nodejs, Python, Restful api's, VM Servers

**Objectives of the project :** Telephony spark bot is a employee solution that answers employee queries using API calls to different production databases, portals and knowledge bases.

**Major Learning Outcomes :** Nodejs, Bot framework, Python, Rest api's

**Details of Papers/patents : NA**

**Brief Description of working environment, expectations from the company :** Cisco engineers work in variety of fields to analyse, develop, and evaluate large-scale, complex systems. For this, they are continuously in need of production databases, portals and knowledge bases to access data in their day to day work. The data is distributed in so many platforms and portals, making the process to access data difficult to remember and time consuming. Analysis of data, logs is done manual or with very little automation. Threat and bug evaluation is done manually, hence time consuming. To solve this problem, Telephony spark bot helps employees to get access to data easily, faster and without manual authentication. The employees can access data just by chatting with the Bot. This solution will provide easy access to all portals and production databases, hence increasing employee's efficiency.

**Academic courses relevant to the project :** Nodejs, Python, NLP

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**Name:** K SAI PRASHANTH(2017H1240064H)

**Student Write-up**

**Short Summary of work done during PS-II :** Security scanning of various Cisco products is necessary. Not only just scanning regularly but automating them to run continuously helps us in dealing with the security issues in a better way to ensure the Stability and Security of the products. I had to debug and stabilize various security scan scripts using different tools.

**Tool used (Development tools - H/w, S/w) :** Python, Jenkins

**Objectives of the project :** Debudding and Stabilizing the various security scan scripts

**Major Learning Outcomes :** Learnt Python, Jenkins automation tool and various security tools

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Great experience working in this organization. The work culture and learning opportunities are really good for any fresher.

**Academic courses relevant to the project :** None

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**Name:** MADHU PREETHA V(2014B1AA0769H)

### **Student Write-up**

**Short Summary of work done during PS-II :** Created an alert monitoring system, the picks out interesting alerts from all the alerts generated by Nagios(system health monitoring software). The model built, uses isolation forest anomaly detection algorithm to isolate interesting alerts. The model further identifies the causative hosts by using statistical analysis.

**Tool used (Development tools - H/w, S/w) :** MySql, Jupiter notebook, Nagios

**Objectives of the project :** Identify interesting alerts from system health monitoring alerts generated by Nagios

**Major Learning Outcomes :** Python programming, databases and their integration, application of machine learning concepts, email clients , REST APIs.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Databases Management Systems, Machine learning

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**Name: NITESH CHANDRA(2017H1240101P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Deployment of VM in redhat virtualisation to support cisco asav.

**Tool used (Development tools - H/w, S/w) :** Postman,C++,python,Rest API

**Objectives of the project :** Deploy the VM with userconfig management ip

**Major Learning Outcomes :** REST API,LINUX,UCSM FRAMEWORK

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** NA

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**Name: NIKHIL ANAND(2017H1400161P)**

**Student Write-up**

**Short Summary of work done during PS-II :** 1) Understanding of the RTL design  
2) wrote Test cases for the verification of functionalities of RTL design.  
3) Regression Testing.

4) ECC testing

**Tool used (Development tools - H/w, S/w) :** Synopsys VCS

Mentor Graphics Questa

**Objectives of the project :** Verification of Fibre channel line card.

**Major Learning Outcomes :** 1) writing verification environment

2) Doing Testing

3) Debugging

4) writing Test cases

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Very Good

**Academic courses relevant to the project :** VLSI test and testability

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**Name:** BANGARU GIRISH(2017H1240114P)

**Student Write-up**

**Short Summary of work done during PS-II :** My job is to do optimize the Current ACL's for better outcome results at router side

**Tool used (Development tools - H/w, S/w) :** C, C++, Python

**Objectives of the project :** Optimising ACL's

**Major Learning Outcomes :** ACL

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** : Working Culture is great here.

**Academic courses relevant to the project** : Computer Networks

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**Name:** MADHUR PODDAR .(2017H1030037G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Worked on a firmware update utility, more specifically on the out of band components - BIOS, VIC adapters etc.

The utility aims to reduce the maintenance downtime window for the host customers and also to extend the utility support for the Cisco Intersight team.

The work done is part of Cisco proprietary release and is applicable to both Rack and Blade server types.

**Tool used (Development tools - H/w, S/w)** : C, Cisco proprietary hardware

**Objectives of the project** : To develop a utility to manage firmwares efficiently

**Major Learning Outcomes** : Learnt the domain of Rack servers.

**Details of Papers/patents** : Not Applicable.

**Brief Description of working environment, expectations from the company** : The work environment is very dynamic and fast paced and follow CI/CD flow of software development. The company as a whole has a welcoming culture.

**Academic courses relevant to the project** : None

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**Name: SONU BALIYAN(2017H1240098P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Developed a Controller that will provide security to IoT Devices connected to network and controller will enforce the context specific policies defined by the manufacturer of the device on to the network.

**Tool used (Development tools - H/w, S/w) :** Free Radius server, Switch, Intel Gateways, Raspberry, Linux

**Objectives of the project :** To provide security to IoT Devices.

**Major Learning Outcomes :** Completed the RFC implementation end to end working.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Python, Perl, Database(MongoDB), Networking Basics

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**Name: BHASKAR KHANDELWAL.(2017H1230079G)**

**Student Write-up**

**Short Summary of work done during PS-II :** 1.) Environment bring up to analyse power consumption for the design block using ANSYS Power Artist.  
2.) Analysis of power critical components to minimise average power consumption across design block.  
3.) Application of low power techniques and other possible architectural and design changes at RTL level to optimise power.

**Tool used (Development tools - H/w, S/w) :** ANSYS - Power Artist

**Objectives of the project :** Analysis and optimisation of power at RTL level

**Major Learning Outcomes :** Learned the various low power techniques and approaches for possible changes in logic of the design for optimisation of power.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** VLSI Architecture, Verilog

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**Name:** KAUSAM BHAT .(2015A7PS0116G)

**Student Write-up**

**Short Summary of work done during PS-II :** After learning basics of Kubernetes and Golang, I got started with the implementation of the clear subscriber command on ops-center cli. This command sends a HTTP request to the rest-endpoint and the rest-endpoint in turn sends it to the smf-service via gRPC. After this I dealt with the show subscriber command. The fact that this command ends up calling all other microservices and that it aggregates all the responses before sending it to the command line user made it trickier. At this point my mentor noticed that having rest-endpoint accumulate the results from other microservice is overloading it. He asked

me to shift the clear and show subscriber commands' processing to nodemgr, a relatively less loaded microservice. After the code migration, I worked on the fetch IP Pool info command. The command fetches information like the network IP address, number of free IPv4 and IPv6 addresses left etc. from nodemgr. Finally, all the implemented commands were tested. The show subscriber command was tested for different intermediate session setup stages(UDM, PCF, UPF).

**Tool used (Development tools - H/w, S/w) :** Golang, Python, Java, Kubernetes, Helm

**Objectives of the project :** The objective was to develop commands on a CLI which can get subscriber information from different microservices and give insights into the IP addresses allocation from each pool.

**Major Learning Outcomes :** Golang, 5G Core Network Architecture and basics of Kubernetes, Helm, Jenkins etc.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment in Cisco is good. I was given the freedom to explore different possible ways of solving a problem. Everyone was very kind and helpful. This gave me an opportunity to learn new technologies like Kubernetes, Jenkins in a better way. My project work involved working on the Cisco's 5G network products. This improved my knowledge and skills in the networking field. I got familiar with Cloud Native and DevOps methodology.

**Academic courses relevant to the project :** Computer Networks, Network Programming

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**PS-II Station : Cloudcherry Analytics Pvt Ltd , Bangalore**

## Student

**Name:** GOPALAM MOHAN PAVAN PARDHU(2015AAPS0245H)

### Student Write-up

**Short Summary of work done during PS-II :** Custom Excel report generation feature for the product, Web scraping for curating suitable datasets and Product implementation.

**Tool used (Development tools - H/w, S/w) :** Visual Studio, Spyder Python, Excel

**Objectives of the project :** Understanding the working of the Product and to help implement smoothly/improve.

**Major Learning Outcomes :** A thorough understanding of Customer Experience management domain. The working & implementation of a Product. Exposure to software development process, writing better code and Work place behavior.

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** The Folks are pretty friendly if you take a step and get to interact with them early on. The office hours are flexible and has the two weekend days off. It being a startup, you will be expected to learn everything on your own. The more enthusiasm and better learning curve you show, the better it would be for you. Since they are thinking of expansion at the moment, make sure you work as if you are looking forward to join them. They don't really encourage I-am-not-looking-for-a-PPO interns. Hierarchy here has smudged boundaries. So, one has to be conscious about whom he/she is talking to and make use of the opportunity. The VPs & managers interact on regular basis and might even give you tasks if you perform well. Free snacks round the clock and probably free lunch too.

**Academic courses relevant to the project :** OOP, Software Engineering

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**Name: KAPIL KALRA .(2014B5A30707G)**

### **Student Write-up**

**Short Summary of work done during PS-II :** The aim of the first project, “Quantify Open-Text User Comments using various kinds of Word Embedding Techniques” is to investigate existing word embedding techniques that can allow us to quantify, the otherwise unstructured but information rich texts. These texts are primarily obtained through UX surveys filled by customers/members regarding a company’s service or product. The aim of the second project, “Intelligent Insights Mining (extended)” is to help the users of the CloudCherry Platform gain Actionable Insights on their key metrics with regards to their customer/member base. These insights will be mined and surfaced to the user automatically, without the user having to manually track various parameters through numerous widgets, which is the more traditional and effort intensive approach. This is an extension to my previous project, “Intelligent Insights Mining” done here last semester.

**Tool used (Development tools - H/w, S/w) :** Visual Studio, Jupyter Notebook

**Objectives of the project :** Understand significance testing and Word Embedding Techniques

**Major Learning Outcomes :** Introduction to Applied Statistics and Natural Language Processing

**Details of Papers/patents :** Not Applicable

**Brief Description of working environment, expectations from the company :** Being start-up you will be given plenty of work and will get to grow as a coder. You will have a mentor guiding you through your projects. Working hours are flexible and you can take breaks from work to play TT/Foosball, relax etc. Just finish the work in the stipulated time and you'll be sorted. Also you will be provided with lunch. People here are just great. Really understanding and helpful.

**Academic courses relevant to the project** : Probability and Statistics, OOP, Machine Learning

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## **PS-II Station : Credit Suisse - Credit Analytics , Mumbai**

### **Student**

**Name:** KANNAN KAPOOR .(2014B1A30923G)

### **Student Write-up**

**Short Summary of work done during PS-II** : My team was GM, Algos & IBCM under Model Risk Management. We validated and reviewed the models in the above-mentioned fields, with respect to their theoretical soundness, ongoing governance, monitoring, compensating controls, risk tiers etc. I particularly worked in the IBCM and Global Markets models.

**Tool used (Development tools - H/w, S/w)** : R, Excel and VBA, Thompson Reuters

**Objectives of the project** : Assessing model risk exposures of the firm

**Major Learning Outcomes** : Model reviews and Validations process learnt

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : The working environment in Credit Suisse overall has been really nice and amicable. Everyone is very friendly. You are expected to complete the work you are allotted, on time; either by coming early and going early or by coming late and staying till late. Each colleague would be willing to go out of the way and help you if you are stuck with something.

**Academic courses relevant to the project** : FRAM, FinMan, SAPM, DRM

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## **PS-II Station : Credit Suisse - Global Markets Controls COO , Mumbai**

### **Student**

**Name:** PRADYUMNA CHAKRABORTY(2015ABPS0551H)

### **Student Write-up**

**Short Summary of work done during PS-II** : Was allotted the Supervision and Oversight team. Work here mostly includes managing daily operations as per BAU(Business As Usual) tasks. Working with large chunks of data is needed to work properly and efficiently. Tasks range from drafting SLAs, to reporting, and investigating e-learning, client-facing trips, CnCs and other tasks which pose compliance risks. A lot of the tasks are ad-hoc based, so there is no particular frequency according to which they are to be performed. Very few projects, that too mostly long duration ones concerning entire system revamps, so not really meant for interns. Was allotted one project to check the impact on trader compliance due to localized FO calendars. Moderately heavy, due to the large amount of data that was to be analysed.

**Tool used (Development tools - H/w, S/w)** : Excel, Word, Proprietary Internet Applications

**Objectives of the project** : To measure the impact of localized FO calendars on Trader Compliance Rates

**Major Learning Outcomes** : Working with large datasets; Data Sourcing; Merging Datasets; Advanced Excel Functions

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : Working environment is very good. Necessary IT support is available on any working day through the internet and desk phone. Floor had a Break Room/Cafe and a TT table. And most importantly, the team members were extremely supportive - everyone always had time to address any doubts, and were always there to help whenever needed. People were extremely friendly, and the whole team would make sure to stay updated on the work and progress of the interns, so as to prevent them from getting into any tight spots. The BITS alumni in the team were also very pleasant people, and being direct seniors, were more akin to friends than colleagues. Even the higher-ups were also very easily approachable, as everyone was always happy to help. All in all, could not have asked for a better workplace.

**Academic courses relevant to the project** : BAV, FM, Operations Management

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## **PS-II Station : Credit Suisse - Information Technology , Pune**

### **Student**

**Name:** AKARSH SHUKLA(2015A3PS0185P)

### **Student Write-up**

#### **Short Summary of work done during PS-II :**

**Tool used (Development tools - H/w, S/w)** : Python , Oracle PL/SQL , IBM Netezza , Unix

**Objectives of the project** : Automation of Liquidity indicator and last market mapping tables for Fee calculation . Also linking client and street side trade records to calculate fees .

**Major Learning Outcomes** : Business Logic , Workflow of daily ETL process, Stitching ,Scorecard . Understanding nuances of Trade , Market and reference data

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Programming , DBMS

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**Name:** TANAY KUDAPA(2015A4PS0390H)

**Student Write-up**

**Short Summary of work done during PS-II** : Development of a AI chatbot capable of Natural Language Understanding

**Tool used (Development tools - H/w, S/w)** : Python, Js,

**Objectives of the project** : Automate bank processes

**Major Learning Outcomes** : Experience in agile methodology and machine learning methods

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Machine Learning

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**Name: Madhur Kumar Dodeja(2014B5A30669G)**

### **Student Write-up**

**Short Summary of work done during PS-II :** I was introduced to Fund Transfer Pricing, which is an existing project in the Group Finance IT department of CS, Bangalore. My work was to develop scripts which will help users load data and hence calculate transfer pricing one division must charge the other division.

**Tool used (Development tools - H/w, S/w) :** IBM Cognos TM1 - This is an enterprise planning software, uses Turbo-integrator to develop scripts and has its own front end and back end tools.

**Objectives of the project :** Help existing team in their day to day development.

**Major Learning Outcomes :** Agile Methodology, Need of FTP system in a bank, development in IBM Cognos TM1

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Basic Programming

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**PS-II Station : Credit Suisse - International Wealth Management , Mumbai**

**Student**

**Name: ANMOL GUPTA(2015A1PS0635P)**

## **Student Write-up**

**Short Summary of work done during PS-II** : I am working with the Investment Solutions and Products team, on the Private Banking Side which cater to HNIs and UHNIs. Analysts specialise in different asset classes, and as an intern I worked on both short and long term projects. Short term projects included building simple models to verify/confirm the views taken by the house. This helped me gather knowledge about all asset classes including, but not restricted to, equities, hedge funds, commodities, fixed income, Forex, and real estate. My long term project included the preparation of a model to show a quick snapshot to any analyst of how different asset classes perform during various regimes of a business cycle. These projects have helped me to excel at the use of different tools used for financial analysis and more importantly gather insights about the industry and the markets.

**Tool used (Development tools - H/w, S/w)** : Microsoft Excel, Microsoft PowerPoint

**Objectives of the project** : Preparation of a model to show a quick snapshot to any analyst of how different asset classes perform during various regimes of a business cycle.

**Major Learning Outcomes** : Excellence at understanding and using tools for financial analysis. Insightful learning about the industry and financial markets.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : I experienced a work environment encouraging of learning and holistic development enabling me to assimilate into the corporate work culture.

**Academic courses relevant to the project** : Fundamentals of Finance and Accounting, Derivatives and Risk Management, Security and Portfolio Management, Financial Management, Business Analysis and Valuation.

## PS-II Station : Credit Suisse - Prime Services , Mumbai

### Student

Name: Shreyas Hejib(2014B3A30783P)

### Student Write-up

**Short Summary of work done during PS-II :** I was part of the Delta One Index Trading team. The main responsibilities were hedging the clients' positions on indices which involved understanding dividends and various corporate actions in detail and how they would affect our inventory. Also, I had the opportunity to create and analyse certain event-driven trading strategies, the event being index rebalancing. Strategies were developed by forecasting index rebalances well in advance.

**Tool used (Development tools - H/w, S/w) :** MS Excel, MS Access, VBA

**Objectives of the project :** Along with the daily activities, a particular project that I had performed was dividend forecasting. The objective was to forecast dividends to be given by the S&P 500 companies in the next one year, so as to determine fair value of futures, which the traders can quote in the market, and generate profits.

**Major Learning Outcomes :** 1. Basics of working and treatment of an index. 2. Different index trading strategies. 3. Methodologies of various indices and strategies based on treatment of corporate actions. 4. Analysis of dividends.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment was very friendly, quite informal and motivating, which for me was one of the best parts about this internship. Each member of the team was an amazing mentor as well as a

friend. The company expects you to climb the initially steep learning curve quickly and then to be able to suggest and carry out tasks independently.

**Academic courses relevant to the project** : Business Analysis and Valuation, Financial Engineering

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## **PS-II Station : Credit Suisse - Risk & Finance Data Analytics, Reporting , Mumbai**

### **Student**

**Name: PADALA SIDDARTHA(2015A8PS0451H)**

### **Student Write-up**

**Short Summary of work done during PS-II** : I, as a part of the Market Liquidity Risk Management department in Credit Suisse, have been assigned to investigate the VaR moves and Market Value breaches of Government/Agency Guaranteed Securitized Products and provide comments on why the moves have occurred. These comments would be published to the broader audience i.e. trading desks who then make new trades to balance out the risks generated and maintain the capital required for Risk Weighted assets and make profits from the trades. The investigation involves breaking down the VaR calculations into risk types and time series data to evaluate the driver for the move in VaR. The breakdowns have to be cross checked with the market value moves with different products. This requires a strong knowledge base in Securitized products and how the risks are calculated for each product. This is the Business as usual activity assigned to me to be performed daily.

**Tool used (Development tools - H/w, S/w)** : Microsoft Excel, SQL Programming, VBA Programming, JAVA Development

**Objectives of the project :** I worked with the New York team to build a Quarterly Valuation report for a Cluster of the Securitized Products and automated the process of report generation using SQL, VBA programming. Created Macros for the investigation process so that the repetitive process of data aggregation can be eliminated.

**Major Learning Outcomes :** Learnt the workings of an trading arm of Investment Banks.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Minor in Finance

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## **PS-II Station : Credit Suisse- Investment Banking and Capital Markets , Mumbai**

### **Student**

**Name:** JAVVAJI SAI SREE SATYA(2015A4PS0427H)

### **Student Write-up**

**Short Summary of work done during PS-II :** Assisting in pitch books, memos, company profiles, identifying investors

**Tool used (Development tools - H/w, S/w) :** Excel, PPT

**Objectives of the project :** Industry agnostic work. No specific project

**Major Learning Outcomes** : Learned how the investment banking division functions and the various aspects of it

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Financial management, fundamentals of finance and accounting

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**Name:** ANKIT AHUJA(2015A2PS0794P)

**Student Write-up**

**Short Summary of work done during PS-II** : Working with the lead analyst of a particular sector, analyzing company results. Regularly putting out company and sector notes giving buy/sell recommendations on various stocks. Learnt a lot about practical use of different valuation methodologies.

**Tool used (Development tools - H/w, S/w)** : Bloomberg

**Objectives of the project** : To understand the IT industry, the stock covered in it and give buy/sell recommendations on them with proper justification.

**Major Learning Outcomes** : Working on deadlines, using of valuation multiples and data in an effective way. I also learnt how to put across an idea in an effective way ( e.g.- stock pitch)

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company :** The working environment was quite friendly with the head of research regularly interacting with us. So, met the general expectations.

**Academic courses relevant to the project :** Financial Accounting, Financial Management and BAV

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## **PS-II Station : Cypress Semiconductor India Pvt Ltd. , Bangalore**

### **Student**

**Name:** ASHUTOSH DIXIT(2017H1240102p)

### **Student Write-up**

#### **Short Summary of work done during PS-II :**

- The first task is to run the simulations for different MCS and channel environments and form a framework for the selection, that is the parameter should be such that is it works in nearly all channel and modulation scenarios.
- The next step is to define the parameter for cyclic prefix selection after observing the performance of all the guard intervals in all the simulations.
- Third step is to investigate where in the codebase all the processing on the channel is taking place and form a crude logic for selection.
- Last step is to test whether the proposed logic or parameter is giving the desired results.

**Tool used (Development tools - H/w, S/w) :** MATLAB,C++,C,TCL,PEARL,PYTHON

**Objectives of the project** : CYCLIC PREFIX SELECTION IN 802.11 AX WIRELESS STANDARD

**Major Learning Outcomes** : How to apply the OFDM concepts learnt in class to practical scenarios and use the software tools to meet the above objective

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Advanced Digital Communication, Mobile Personal Communication, Advanced Digital Signal processing

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**Name:** AKSHAY DIXIT .(2017H1030044G)

**Student Write-up**

**Short Summary of work done during PS-II** : The problem was to read, speculate and understand the already present codebase and then document the same. In addition to that fix the bugs and to find the new aspects in which the Utility can be implemented for Cross-Platform support. The Utility needs some amendments as some families along with the applications are to added, the task is to add these parameters. For this a new version 2.0 is needed and I was asked to do Proof of Concept for the same.

**Tool used (Development tools - H/w, S/w)** : • Microsoft Visual Studio 2015.

- CY4531 EZ-PD™ CCG3 Evaluation Kit.
- CY8CKIT-002 PSOC Minipro3 program & debug kit.
- Star UML(for documentation of memo).
- C (DLL)
- C#

**Objectives of the project :** To do Proof of Concept for the EZ-PD Configuration Utility 2.0

**Major Learning Outcomes :** Understood the OOPs and Event based programming concepts.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** N.A.

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**Name:** YOGENDRA PRATAP SINGH(2017H1230210P)

**Student Write-up**

**Short Summary of work done during PS-II :** Design of high speed receiver for eUSB

**Tool used (Development tools - H/w, S/w) :** H/w

**Objectives of the project :** Design of high speed receiver

**Major Learning Outcomes :** How to design pre amplifier and output stage

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Analog IC Design

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## PS-II Station : DAR Al-Handasah , Pune

### Student

Name: AMRUTHA NAIR V(2017H1300089P)

#### Student Write-up

**Short Summary of work done during PS-II :** I have been assigned highway design project and was mainly dealing with geometric design elements of the pavement. I was a part of the project work carried out in Saudi Arabia, Qatar.

**Tool used (Development tools - H/w, S/w) :** AutoCad Civil 3D, Autoturn, AutoCad

**Objectives of the project :** To design the pavement keeping in view the important aspects of design especially drainage and cost

**Major Learning Outcomes :** I have learnt software known AutoCad Civil 3 D which is very helpful in designing a road section

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Dar Al Handasah is a renowned organisation and to become a part of it is considered to be an auspicious step. Moreover all the staff members are very cooperative and helpful. My expectation from the company is to earn more experience as practical knowledge means a lot in any field of engineering.

**Academic courses relevant to the project :** Highway geometric design, traffic engineering

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**Name: BHARGAV NATH(2017H1300085P)**

**Student Write-up**

**Short Summary of work done during PS-II :** It basically involved design of industrial plots in different parts of the world which consisted of geometric design of the internal roads, signage and marking plan, vehicle simulation and preparation of bill of quantity. All the designs were performed keeping in mind safety and cost.

**Tool used (Development tools - H/w, S/w) :** Civil 3d 2019, Autoturn Pro

**Objectives of the project :** Geometric Design of road infrastructure and highways

**Major Learning Outcomes :** Detailed geometric design of road infrastructure and highways

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment is quite good and the enthusiasm of the people to share knowledge is appreciable.

**Academic courses relevant to the project :** Highway Geometric Design

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**PS-II Station : DataM Intelligene 4Market research , Hyderabad**

**Student**

**Name: BALUSU SUSRITHA .(2015A1PS0688G)**

## **Student Write-up**

**Short Summary of work done during PS-II :** Initially 2-3 months I was assigned to a group who are already working on a consult project related to electric light commercial vehicles. Later on I switched on to working on competitive analysis of the deliverable reports which includes profiling key players. The last 2 months I started working on Report descriptions and reports giving me an opportunity to gain in depth knowledge of company tools.

**Tool used (Development tools - H/w, S/w) :** Microsoft Excel, Microsoft Word

**Objectives of the project :** Karsan, A Turkish commercial Vehicles manufacturer wants to enter the EV commercial vehicles market in Europe. A report pertaining to the market research for all the factors that can influence usage of adaptable EV Chassis system to the extended light commercial vehicles. This includes prioritizing market, customer groups, market estimation for LCV segments (truck, van and bus) in 6 European countries including each country's regulations and initiatives.

**Major Learning Outcomes :** Data interpretation, Assessing market changes and future perspectives

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Engineering Chemistry, Material Science, TRW, POE, General Biology

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**Name: SNEHA REDDY CHILUMULA(2015AAPS0984H)**

**Student Write-up**

**Short Summary of work done during PS-II** : I did the complete analysis and wrote in-depth market reports for various markets in different domains.

**Tool used (Development tools - H/w, S/w)** : S/w

**Objectives of the project** : Market Report Writing of Various Markets

**Major Learning Outcomes** : I learned how to analyse market, what factors affect it, and how to write it in reports according to a client's needs.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : -

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**Name:** K RAKSHITH REDDY(2015A2PS0452H)

### **Student Write-up**

**Short Summary of work done during PS-II** : In the initial phase of joining DataM Intelligence on January 7th, 2019, I was incorporated into business development team. In business development, I must generate leads and identify prospects for conducting a sale. There are various processes in business development. I mostly work on generating leads, verifying and validating the authenticity of those leads, and converting those leads into prospects for sale.

This went on until February 12th, 2019 and then I was taken into a consulting project that we were doing for KARSAN, a Turkish vehicle manufacturing company, who want to produce electric delivery vehicles in European region. They want to learn which market is important for New Generation Delivery Electric Vehicle and prioritize market in accordance with findings. In this consulting project, there are many people involved and each had their own task to complete by the end of project. I was in charge of finding the Key trends and developments, Market

drivers and restraints, Market entry barriers in France, UK, Germany, Norway, Sweden and Netherlands in first half of the project. Then in the second half, I had to do the supply chain analysis in the above mentioned countries and also compile all the government regulations and incentives in those countries. My internship ended on June 17th, 2019.

**Tool used (Development tools - H/w, S/w) :** Different tools we use for lead generation are-

Sales navigator – LinkedIn

Hunter

Emallistverify

Zero bounce

Tempmail

Mail tester

Dot vpn

Express vpn

Browsec

Microsoft Excel

**Objectives of the project :** For setting a new business or even improving the existing one, the company needs to know their customers. They need to know to whom they are going to sell their product. Here comes the need for market research reports. No matter what the industry is all about, but to compete and to get endless benefits, the market research reports are important to know about our competitors, about various cracks occurred previously and many more factors after which it becomes very easy to analyse the market and to make the better decisions in the future.

**Major Learning Outcomes :** Business development with Lead Generation from the Outbound Marketing, E-mail Marketing and Karsan New Generation Delivery Electric Vehicle

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Company atmosphere is really great Scope of learning in the company is good We can Explore Various

Domains after joining the company Added if you get an year experience we can expect great pay.Company Takes time to explain to the interns from the scratch.They expect on time delivery of the work considering capability of the individual.

**Academic courses relevant to the project** : POE

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## **PS-II Station : DBOI - Credit Risk , Mumbai**

### **Student**

**Name:** ESHAN MANDLOI .(2014B3A30558G)

### **Student Write-up**

**Short Summary of work done during PS-II** : I worked in the Global Credit and Ratings Team under the subdivision Leveraged & Structured Finance. As a part of the team I was responsible for various operations. I was allotted the construction industry along with the European and North American Economy for daily monitoring. Any event that could have an impact on the credit rating had to be reported daily to the manager. I was also responsible for spreading the financials for various counter parties (CPs), writing risk tracker entries, calculating adjusted EBITDA and making enterprise value capitalization table. I also worked on a complete credit rating case for a CP in the USA broadcasting industry, presented the case in the rating committee and got it approved.

**Tool used (Development tools - H/w, S/w)** : Excel and BARS

**Objectives of the project** : To arrive at the credit rating of the given CP.

**Major Learning Outcomes** : Credit rating and monitoring process.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment was very friendly and the colleagues were very supportive. Everyone was willing to help and I had a lot of work to learn from.

**Academic courses relevant to the project :** Fundamentals of Finance and Accounts, Business Valuation, Financial Management.

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## **PS-II Station : DBOI - MLRM, Risk Methodology & NFRM , Mumbai**

### **Student**

**Name:** KOLLI SRIKAR(2014B3A40680H)

### **Student Write-up**

**Short Summary of work done during PS-II :** Learnt basics of how Market Risk management works

**Tool used (Development tools - H/w, S/w) :** Python, SQL

**Objectives of the project :** Worked on several automation projects

**Major Learning Outcomes :** Market Risk Management

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company** : Friendly work environment, less pressure

**Academic courses relevant to the project** : DRM, FRAM, OOP

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## **PS-II Station : DBOI - Trading Risk & PL , Mumbai**

### **Student**

**Name:** Ashu Tayal(2014B3A30510G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Daily risk reporting and Profit and loss reporting, ensuring book completeness, adjustments and reattributions as part of daily processes. Month end activities to ensure ledger and front office number in line.

**Tool used (Development tools - H/w, S/w)** : Excel

**Objectives of the project** : Daily tasks, reporting risk and P&L and ensuring book completeness.

**Major Learning Outcomes** : Gained proficiency in system flows in an investment bank, importance of product control, and the necessity of bookrunning.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Great working environment, realistic expectations, supportive team and manager.

**Academic courses relevant to the project** : Financial management, FUFA

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## **PS-II Station : DBOI , Pune**

### **Student**

**Name:** PARUL SHARMA(2017H1120252P)

### **Student Write-up**

**Short Summary of work done during PS-II** : Work was based on Big Data Analytics for Trade surveillance. I was engaged in writing modules for data sourcing,testing (Behavioural Driven Development),data profiling, analysing Data through dummy machine learning models and visualisation through graphs. Worked on the presentation later and Rendered graphs with Highcharts (JavaScript) for business users .Further Work is also associated with UI development and technologies that integrates machine learning that could replace existing system and enhances decision making of business and financial analysts.

**Tool used (Development tools - H/w, S/w)** : Hadoop and spark, Python, JavaScript, AngularJS

**Objectives of the project** : Behavioural modeling of the Traders to detect fraudulent activities and enhancing decision making of business analysts

**Major Learning Outcomes** : 1.Using big data and spark for solving use cases in the finance industry. 2. How handling data can be a challenge 3. Including business perspective while designing solutions 4. Importance of testing 5. Importance of UI for business users 6. Handling changing business requirement and rework involved 7. Agile development

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Machine learning, Software testing , web technologies, Data warehousing



**Name:** SONALI SHARMA(2017H1120239P)

**Student Write-up**

**Short Summary of work done during PS-II :** Project was related to client life cycle management which had used technologies ES, logstash , KIBANA

**Tool used (Development tools - H/w, S/w) :** ELK stack

**Objectives of the project :** Manage client data

**Major Learning Outcomes :** ELK STACK

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** JAVA , NETWROKING



**Name: RIYA SHARAN(2017H1120237P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Kore.ai is a platform which provides tools, processes and methods to develop business-ready Chatbots. It also offers Bots SDK's as client libraries which can be used as an Angular service to integrate Chatbot on any environment. Later on this service is provided as a npm package to the end user so they can directly install the package to get the particular Chatbot integrated in their environment. Used NLP techniques to train the bots for their specific task.

**Tool used (Development tools - H/w, S/w) :** Software tools: Angular JS, Spring Boot.

**Objectives of the project :** To provide service as a npm package to integrate Chatbot on any platform.

**Major Learning Outcomes :** Angular JS, Spring Boot.

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Work environment is competitive and this helps us learn and always be updated with the latest technologies.

**Academic courses relevant to the project :** Advanced Java.

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**PS-II Station : Decision Resources Group , Gurgaon**

## Student

Name: ANKITA SEHGAL(2017H1080262P)

### Student Write-up

**Short Summary of work done during PS-II** : My work was based on advanced therapies of Cancer- based indications wherein I had to keep track of latest trials of these therapies and upload this data to the dashboard which is used by the clients of the company

**Tool used (Development tools - H/w, S/w)** : MS Office and company's online portal where data was to be uploaded

**Objectives of the project** : To monitor Clinical trials of Cancer- based indications

**Major Learning Outcomes** : How clinical trials are studied & what information one can get from clinical trials

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Company has healthy working environment and everyone is helpful

**Academic courses relevant to the project** : During my entire PS, different subjects were relevant (not all were directly related to project but were useful) which include CR (specifically), Advanced Pharmacology, IPR, PAM etc.

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Name: PRACHI MANCHANDA(2017H1080265P)

### Student Write-up

**Short Summary of work done during PS-II** : I am serving Context Matters under the HEOR team. I have to summarise the documents given by the agencies (NICE for England, HAS for France etc) while approving the drugs (both regulatory and reimbursement) on the Context Matters platform. At present, I am working on reimbursement approvals.

**Tool used (Development tools - H/w, S/w)** : Context Matters platform

**Objectives of the project** : To understand various clinical and economic rationale considered by the agencies while approving the drug.

**Major Learning Outcomes** : Understanding of different countries and their agencies, rationale behind economic and clinical basis of the drug (e.g. whether the drug is cost-effective and clinical-effective or not)

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : The environment there is silent, honest, co-operative. They believe in team working. They expect the same from the new-joiners. My manager is also cool.

**Academic courses relevant to the project** : Clinical Research, Intellectual Property Rights (only basics)

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**PS-II Station : Dell R & D , Chennai**

**Faculty**

**Name: Pradheep Kumar K**

**Comments: Expectations from industry :** Students should be equipped with skills on Artificial Intelligence, Deep Learning, Machine Learning and Data Analytics

## **Student**

**Name: SHASWATI PRADHAN(2017H1120234P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** To collect snapshot of a Live running System without hampering the running status of system

**Tool used (Development tools - H/w, S/w) :** ptrace, fork, Linux, gdb

**Objectives of the project :** collecting snapshot of live system without hampering production

**Major Learning Outcomes :** learned debugging with gdb, about coredumps, collecting coredumps, generating coredumps

**Details of Papers/patents :** [1] man7.org. (20th Feb 2019) retrieved from <http://man7.org/linux/man-pages/man2/ptrace.2.html>

[2] lkubuntu.wordpress.com (1st Feb 2019) retrieved from <https://lkubuntu.wordpress.com/2016/01/31/injecting-code-into-running-process-with-linux-inject/>

**Brief Description of working environment, expectations from the company :** work environment in Dell chennai is quite professional yet friendly and is open to learning opportunities for interns like me

**Academic courses relevant to the project :** Debugging and analysis

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**Name:** PRABHAKER SAXENA(2017H1030134P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Tried to develop a In house Software Network traffic simulator to replace real hardware software traffic simulator

**Tool used (Development tools - H/w, S/w) :** Scapy, In House Software,Python,OS 10.

**Objectives of the project :** In house Software Network traffic simulator to replace real hardware software traffic simulator

**Major Learning Outcomes :** Learned about Scapy,automata,python and robo scripts

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Company was expecting to develop a dhcpv4 In house traffic simulator

**Academic courses relevant to the project :** Computer Networks, Python, Theory Of Automata

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**PS-II Station : Dell R&D , Bangalore**

## Student

Name: VISHNU C.(2017H1030031G)

### Student Write-up

**Short Summary of work done during PS-II :** Creation of test framework for testing the compliance of Elastic Cloud Storage (ECS) with respect to AWS S3. Customers of ECS can use S3 protocol to do the required operations in ECS. For that to happen seamlessly, we need to certify that every new version of ECS is satisfying the required criterias. This testing framework completely automates this picking up new SDKs in regular intervals and testing it with ECS on a daily basis.

**Tool used (Development tools - H/w, S/w) :** IDEA intellij, Visual studio

**Objectives of the project :** To create a test framework to certify the compatibility of ECS with AWS S3 protocol

**Major Learning Outcomes :** Learned more about AWS S3, got to understand junit and testing framework, became more familiarized with Java, understood the working of an object storage and how it works

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Work environment is actually good in Dell EMC. The whole team is so helping. They appreciate and recognize each other. Company expects you to finish the work given to you in perfect way before the deadline and they will encourage us to do it also. Even when there was no need for director to talk us, who is in another country, he found time to just get to know us. The work life balance is also great there. Noone expects you to stay late in the office or log these many hours. What matters is whether you are completing the work. For whatever concerns you can always talk to your manager also. So totally I can say that it is a pretty good company to work for.

**Academic courses relevant to the project** : DSTN, Cloud computing, OS

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**Name:** JASMINE G CHANDRAN(2017H1030041G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Project assigned was to develop a complete compliance suite for AWS S3 in ECS (Elastic Cloud Storage), a product developed by Dell EMC for Object storage. Along with the certification suite, a detailed research of the differences of features implemented in ECS and AWS S3 has to be carried out to further improve the product and add more features.

**Tool used (Development tools - H/w, S/w)** : IntelliJ

**Objectives of the project** : To enhance the product ECS by adding more features and certifying it against the AWS S3 storage.

**Major Learning Outcomes** : Java, AWS S3, ECS

**Details of Papers/patents** : nil

**Brief Description of working environment, expectations from the company** : Working environment provided was highly employee friendly, flexible, pleasant. Expectations are getting more competitive work which provides a steep learning curve and keeps you excited and challenged.

**Academic courses relevant to the project** : Cloud Computing, Data Storage Technology and Networks

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**Name: INCIA ANAND .(2017H1030046G)**

### **Student Write-up**

**Short Summary of work done during PS-II :** I worked on Pravega which is a software defined stream storage platform by Dell emc.my job was to create unit tests and resolve issues and add features to spark connectors which is used for stream analytics in pravega

**Tool used (Development tools - H/w, S/w) :** Software- Intelli J IDE, apache spark, JDK, Gradle hardware- latitude 7390 2 in 1 laptop

**Objectives of the project :** The objective of the project is to unit test the spark connector for Pravega(open source stream storage platform by dell) code and then add features and solve issues in the same.

**Major Learning Outcomes :** Java, Scala, junit,

**Details of Papers/patents : -**

**Brief Description of working environment, expectations from the company :** Work environment is flexible. It is conducive and people are helpful and take out time to help you in case of any problem.

**Academic courses relevant to the project :** Distributed systems, cloud computing, java

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**Name: MAYANK SIKERWAR .(2017H1400093G)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Creating Infrastructure for Automation of Unit Testing by writing Script in Python for iDRAC (Integrated Dell Remote access controller).

**Tool used (Development tools - H/w, S/w) :** iDRAC (Server monitoring controller) , advance python , c, Linux.

**Objectives of the project :** UNIT TEST VALIDATION BY AUTOMATION

**Major Learning Outcomes :** Advance python , knowledge about idrac and servers and its monitoring .

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** device drivers

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**PS-II Station : Divgi TorqTransfer Systems Pvt. Ltd. , Sirsi**

**Student**

**Name:** VANAM AAHLAD VAIBHAV(2015A4PS0389H)

**Student Write-up**

**Short Summary of work done during PS-II :** Using lean principles and lean tools to improve the plant efficiency

**Tool used (Development tools - H/w, S/w) :** Excel, Python, Edraw,

**Objectives of the project :** To improve the lean score and reduce the wastes in U375 UOPS

**Major Learning Outcomes :**

1) There are many industrial techniques applied on shopfloor for standards, quality etc. , learning them would help students a lot.

- Use of CMM to generate Lead & Profile Graphs to understand the tolerances and state of the job.
- Statistical Process Control (SPC) helps to track the jobs, those that are within the limits are considered but the rest are rejected/reworked.
- There are many techniques applied in Line Audit including visual inspection.
- MPL, SOS, JES, Control Chart are used to provide the standards for operators and ensure the uniformity of jobs throughout the shift.
- Testing cell conducts endurance tests on Gear Boxes, the design flaws can be clearly seen here.

2) Value Stream Mapping: This tool helps in identification of wastes and bottlenecks in processes, it facilitates the application of Kaizen, thereby optimizing the future state. VSM can be mapped in excel or softwares like edraw

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Lean Manufacturing, Machine Design and Drawing (Gears part)

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**PS-II Station : Dorsch Consult (India) Pvt. Ltd., , Mumbai**

## **Student**

**Name:** ADITYA KHAKOLIA(2017H1440054P)

### **Student Write-up**

**Short Summary of work done during PS-II :** The company is a PMC. The work is related to planning, scheduling, tendering, cost estimation, BOQ preparation etc. The block cost estimate was prepared and pre-tender schedule was also prepared.

**Tool used (Development tools - H/w, S/w) :** MS Excel, AutoCAD

**Objectives of the project :** Construction of new PTB at Dehradun Airport

**Major Learning Outcomes :** Scheduling, Block Cost Estimate, Rate Analysis, Manpower Calculation

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Construction Planning and Management

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**PS-II Station : EA Games India Pvt. Ltd. , Hyderabad**

## **Student**

**Name:** SWATI KUMARI.(2017H1030079H)

## **Student Write-up**

**Short Summary of work done during PS-II :** Build a service named Test Analysis and /summary Generation which is used to analysis the performance of the online servers before launching a game.

**Tool used (Development tools - H/w, S/w) :** Pycharm

**Objectives of the project :** Analysis of the test reports generated to find the performance of online server as good or bad.

**Major Learning Outcomes :** How to build a project from scratch

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Working environment is good here. Company expects you to complete your task on time rest you take care.

**Academic courses relevant to the project :** Machine Learning, MySql.

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## **PS-II Station : Egnify Technologies , Hyderabad**

### **Student**

**Name:** ALLURI SURYA VARMA(2015A7PS0110H)

## **Student Write-up**

**Short Summary of work done during PS-II :** Egnify is an analytics company in the field of education. I was assigned the task of digitizing question papers and creating online tests that students can take. The question papers could be given in multiple formats (such as pdf or docx) and I was required to extract data from each of these papers. This meant separating textual and non-textual elements (such as equations and diagrams) and handling these elements appropriately. My task, primarily, was to separate textual and non-textual elements using CNNs and tag elements in a question paper in a structured format to create online tests.

**Tool used (Development tools - H/w, S/w) :** MongoDB, Keras, Tensorflow, Tesseract

**Objectives of the project :** My project involved converting the given document into images, building a CNN to recognize non-textual elements, extracting textual elements using OCR, breaking down the extracted data into questions (and options) and storing them in a structured manner to create online tests.

**Major Learning Outcomes :** In a technical sense, I learnt how different machine learning models are built and how to tune these models to accommodate specific use cases. Apart from that, I learnt how a start up works from a business perspective, how projects are modelled and how technical and business outcomes of a project correlate.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** There are times when the work load is high and there are a lot of deliverables. The timings are strict and you may have to work over time depending on how much work you have left. But the environment is very friendly and the employees are very supportive.

**Academic courses relevant to the project :** DSA, OOP, ML, AI, Image Processing, Computational Geometry

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## PS-II Station : eGovernments Foundation , Bangalore

### Student

Name: PARTH MADAN .(2014B1A40787G)

#### Student Write-up

**Short Summary of work done during PS-II :** Devised fundraising strategy for the organisation  
Performed landscape mapping for civic tech organisations in India  
Designed a marketing and outreach campaign for organisation partners, funders etc.

**Tool used (Development tools - H/w, S/w) :** Excel, Tableau

**Objectives of the project :** To support the Strategy, Partnerships and Marketing functions of the organisation

**Major Learning Outcomes :** Broad level understanding of the civic tech space and government initiatives  
Deep understanding of fund raising research and alignment of proposals to the given value proposition  
Some basic marketing (e-mail marketing) tools and outreach

#### Details of Papers/patents :

**Brief Description of working environment, expectations from the company :** The work is okay and the people here are good. Relatively flexible work timings and the focus is on outcomes.

**Academic courses relevant to the project :** Principles of Management, Dynamics of Social Change

## PS-II Station : Ernst & Young Global Delivery Services , Bangalore

### Student

Name: MANDADI THARUN KUMAR REDDY(2014B4A20668H)

### Student Write-up

**Short Summary of work done during PS-II :** As a fresher to finance, I started with studying about Derivatives and how they are valued in excel, I studied Black Scholes formula and its applications. I wrote python library for valuation of Swaptions and Caps&Floors. Later I studied on Interest rate models. Applications of stochastic volatility interest rate models, I built a library for SABR model, which is used in valuation of derivatives.

I also worked with Derivatives Valuation team, Here I got to work with different derivatives. I had to value these derivatives using EY methodology and other third party sources. I was the direct point of contact with the international clients.

**Tool used (Development tools - H/w, S/w) :** MATLAB, Python, VBA, Excel, @Risk, Bloomberg Terminal, Super Derivatives, Reuters, Fincad, Numerix

**Objectives of the project :** Valuation of derivatives: Value the derivatives and generate a report on client methodology.

**Major Learning Outcomes :** Finance knowledge, Stochastic Calculus, Programming, Application of pure maths, Derivatives Valuation, Soft skills Improvisation

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** The colleagues here are very welcoming, being one of Big 4 companies, the working atmosphere is

very professional. The learning opportunities are vast. EY is a very good place for a fresher to grow professionally. My mentors were very supportive and have given me quality projects. They expect interns to deliver for the company, what ever interns do here it should be a value addition for the company.

**Academic courses relevant to the project :** All Maths courses and especially knowledge in Calculus and Statistics is important, C, Data Structures and Algorithms, Finance courses. The work here is a combination of Maths, Finance, Computing, Softskills.

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## **PS-II Station : Ernst & Young Technology , Bangalore**

### **Student**

**Name:** RAJAS PANDEY(2014B3A70582P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Natural language processing based machine intelligence tasks pertaining to some core verticals of the organisation

**Tool used (Development tools - H/w, S/w) :** Azure services, python

**Objectives of the project :** Natural language processing based machine intelligence tasks

**Major Learning Outcomes :** Industry level software development standards

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company** : Very easy to go work environment. Good work life balance. Company could provide initial relocation support like flights and initial hotel stay.

**Academic courses relevant to the project** : Machine learning, Neural networks

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## PS-II Station : Espressif Systems , Pune

### Student

**Name:** CHAVAN AJITA ANANTRAO SUMITRA(2017H1400087G)

### Student Write-up

**Short Summary of work done during PS-II** : ESP-Jumpstart verification of documents and testing of examples. On ESP32

Azure IoT Kit , sensor Mag3110 driver support has been added. NPI (New product Information)application for production line testing of different audio boards. Also customer specific use case and HAL level support added.

**Tool used (Development tools - H/w, S/w)** : ESP32 Dev Kit, ESP32 Lyrat, ESP32 LyratD msc, ESP32 Azure IoT Kit, ESP-IDF, GitLab.

**Objectives of the project** : To provide support and feature addition for various ESP products

**Major Learning Outcomes** : Learned about peripheral drivers of ESP32, Different Audio Boards, ESP-IDF.

**Details of Papers/patents : NA**

**Brief Description of working environment, expectations from the company :** The work culture at Espressif is very supportive, helpful. It has open door policy. People at Espressif are very approachable. No strictness regarding the work hours. Completing the work only matters.

**Academic courses relevant to the project :** Embedded Systems, Real Time Systems, Software for Embedded Systems

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**Name: RAMJIYANI ANIKET RAMESHBHAI .(2017H1230075G)**

### **Student Write-up**

**Short Summary of work done during PS-II :** RISC-V is a free and open ISA enabling a new era of processor innovation through open standard collaboration. Born in academia and research, RISC-V ISA delivers a new level of free, extensible software and hardware freedom on architecture, paving the way for the next 50 years of computing design and innovation. I was assigned the task to understand the RISC-V ISA and evaluate an internal RISC-V processor core. Evaluation task mainly comprised of checking that RISC-V core matches the implementation of RISC-V base Integer(I) ISA along with other supported RISC-V extensions like Multiplication(M), Compressed(C), Floating point(F) and custom instruction sets.

**Tool used (Development tools - H/w, S/w) :** Verilator Simulator, GTK waveformviewer

**Objectives of the project :** Evaluation of RISC-V CPU core

**Major Learning Outcomes :** RISC-V Instruction Set architecture

**Details of Papers/patents : NA**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** VLSI Architecture

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## **PS-II Station : Flipkart Analytics , Bangalore**

### **Student**

**Name:** KOCHIGANTI VENKATA SAI PRAVEEN(2015A4PS0296H)

### **Student Write-up**

**Short Summary of work done during PS-II :** Worked on customers' change in perception on NPS(survey), percentage of customers who changed their perception, studying their order experiences in various categories, finding out reasons for their change in response and magnitude of those reasons.

**Tool used (Development tools - H/w, S/w) :** SQL, R Studio, MS Office

**Objectives of the project :** Figuring out speed sensitive customers among those who filled the survey.

**Major Learning Outcomes :** Analyzing data and getting inferences from data

### **Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Excellent and flexible working culture, very friendly and helpful people around. The company expects you to have strong command and ownership on your project, confident about the work that you're doing and should have good communication skills.

**Academic courses relevant to the project :** No courses are relevant to this project

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**Name:** Kushal Agrawal(2015A3PS0289H)

### **Student Write-up**

**Short Summary of work done during PS-II :**

**Tool used (Development tools - H/w, S/w) :** Hardware - Macbook Pro, Software - Java, Spring Boot, Gradle, Maven, Redis, Mysql, Jenkins, IntelliJ Idea IDE

**Objectives of the project :** Creating a simulation program to allow for testing of the impact of various optimization algorithms on planning of shipment logistics.

**Major Learning Outcomes :** Full stack programming, microservice architecture, project management

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Object Oriented Programming, Data Structures and Algorithms

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**Name:** PRIYANSHI P GUPTA(2015A2PS0817P)

## **Student Write-up**

**Short Summary of work done during PS-II :** Developing Pricing Framework for life-cycle based pricing for unhealthy inventory

**Tool used (Development tools - H/w, S/w) :** SQL, R Studio, excel

**Objectives of the project :** Flushing out old inventory

**Major Learning Outcomes :** Proficiency in data analysis tools, development of business understanding

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** Cooperative, friendly, flexible, good work life balance

**Academic courses relevant to the project :** None

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## **PS-II Station : Flipkart Internet Services Pvt. Ltd , Bangalore**

### **Student**

**Name:** SHUBHAM MAURYA(2014B3A70282P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Worked on 2 projects:

1. Built an Entity Reconciliation Tool to catch systemic drops of data in ekart's ecosystem.

2. Implemented Map Matching following a reference paper, and applied it on Flipkart's last mile delivery data

**Tool used (Development tools - H/w, S/w) :** Java, Python

**Objectives of the project :** Allow systemic reconciliation of entities in ekart, and build up the map matching logic to be used by different teams

**Major Learning Outcomes :** 1. Professional Software Development, from writing the code, deployment, maintenance and onboarding customers.  
2. HMMs, and how to structure a Data Science project

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Great working environment, with a focus on delivery over mere presence in office. You're expected to be a self starter, though you will receive plenty of guidance technically, especially if you've never coded as a developer before. The expectations are set in consultation, and were never overwhelming. Overall a great place to work, with lots of other activities!

**Academic courses relevant to the project :** OOP, ML

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**Name:** PANKAJ KUMAR .(2015A7PS0004G)

**Student Write-up**

**Short Summary of work done during PS-II :** Implemented a model health monitoring system which takes in monthly data and computes stability indexes (PSI & CSI) to flag features unsafe for the model.

**Tool used (Development tools - H/w, S/w) :** Spark, Hive, Python, Scala

**Objectives of the project** : To create an automatic end-to-end model monitoring system.

**Major Learning Outcomes** : Corporate exposure. Significance of effective planning, execution and testing. Working on various tools and technologies.

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : Friendly work environment. Very good platform for learning, specially for fresher

**Academic courses relevant to the project** : None

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**Name:** AMAN GUPTA(2014B2A70201P)

### **Student Write-up**

**Short Summary of work done during PS-II** : Developed an end to end flow for "Product Migration" as part of the Catalog Core (MDM) Team of Flipkart.

There are currently over 4000 categories which are shown to the seller while enlisting a product on Flipkart. One of the major errors caused today is attributed to choosing an incorrect category at the time of creation due to various reasons which leads to rejection of the product. Migration is also required in case of changes in category definitions over time. Migrating a Product from one category to another is currently done manually through excel sheets and uploading the product after changing the category in the Legacy Console which takes lot of time.

**Tool used (Development tools - H/w, S/w)** : Java, Maven, Dropwizard, Guice, Mockito, OrientDB

**Objectives of the project** : Create a tool to help users migrate products from one category to another by mapping the common attributes and enriching the incomplete information

**Major Learning Outcomes** : Backend Web Development

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Object Oriented Programming, Data Structures & Algorithms

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## **PS-II Station : Futures First - Financial Market & Research (Quant) , Kolkata**

### **Student**

**Name:** SAMANGADKAR TAPAN VYANKATESH .(2014B4A70513G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Development of Automated Trading System using multiple alphas

**Data Collection:** extracting data at the micro-structure level of the market and qualitatively assign states to the data.

**Execution:** Once we had the states of the data for each of the individual strategies, each of the alphas was independently implemented, and tested over multiple contracts on in sample data.

**Feedback:** The results of the individual alphas were put into context with each other and combined with human insight, designed a higher order logic to integrate the individual alphas, as well as designed/extracted new data parameters to make up for logic gaps, fallacies of the system, or new ideas to be implemented, gained from the feedback process.

Efficiency: Code had to be integrated with every new strategy to have the best efficiency possible in terms of amount of computations carried out and the delay from signal to execution was minimized.

Monitoring: The alphas and logic has to be constantly monitored for decay, fallacies in logic as they come to light with new market conditions that system hasn't been tested over. This would again lead to changes in the logic and/or execution

**Tool used (Development tools - H/w, S/w) :** Software: Sierra Charts

**Objectives of the project :** Automated Trading Sytem

**Major Learning Outcomes :** Application of statistics to establish context in real-life situations, in this case, the situation of price movements in financial markets

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment is great in the sense of independence, responsibilities assigned and opportunities provided if self-started. The work hours may be hectic for some, 11 hours. Unique fast-paced environment of World Markets, that cannot be matched anywhere.

**Academic courses relevant to the project :** Applied Stochastic Processes, Probability and Statistics, Statistical Inference and Techniques, Theory of Computation, Mathematics 2

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**Name:** AMAN RAJ(2015A7PS0103P)

**Student Write-up**

**Short Summary of work done during PS-II :** Development of a JAVA based algorithm to decipher the longest chain of outright, spreads and butterflies allocated by the Intercontinental

Exchange during trading in Euribor Futures Market. Development of a Live User Interface for the conversion of Brazilian News to English using Python, Jupyter Notebooks, Thomson Reuters Eikon API and Google Translate API.

**Tool used (Development tools - H/w, S/w)** : JAVA, Python, Advanced MS-Excel, Thomson Reuters Eikon API, Google Translate API

**Objectives of the project** : The project aimed to decipher the longest path followed by the Exchange in order to maximize profits during trades.

**Major Learning Outcomes** : Economic factors affecting Euribor, USA and Canadian Markets. Hands on experience on working with costly software's like Trading Technology and Thomson Reuters. Lectures on Data Analytics and Financial Markets were very useful.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Working environment was good. Work hours were fixed from 12 pm to 10 pm. Work load was heavy. Immense financial learning opportunities.

**Academic courses relevant to the project** : Principles of Economics

Data Structures and Algorithms

Development Theories

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**PS-II Station : Futures First- Financial Market & Research (Quant) ,  
Gurgaon**

## Student

Name: SUKRUT ANOOP NIGWEKAR(2015A7PS0029P)

### Student Write-up

**Short Summary of work done during PS-II :** During my internship at Futures First, I had the opportunity to work on multiple projects. As Futures First trades futures of energy, commodities and fixed income they need tools to analyze the markets and make quick decisions. To improve their decision making process by adding the layer of data analysis, they were eager to develop models based on market data like open interest and net positioning and machine learning. Of all the completed projects, I would like to describe two projects - Rollover analysis for commodities and energy and Back-testing of candlestick patterns.

**Tool used (Development tools - H/w, S/w) :** Python, scikit, pandas, Excel, VBA

**Objectives of the project :** Objective of Rollover analysis for commodities and energy was to use modelling techniques to help estimate next month's spread features like mean value, range and direction of move of spread prices. Objective for Back-testing of candlestick patterns was to test how effective reversal patterns (hammer, shooting star, engulfing and morning/evening star) are by quantifying the amount of retracement.

**Major Learning Outcomes :** The main learning outcome was to understand the market dynamics for commodities and energy. Interaction with the energy researcher helped in understanding the supply and demand dynamics of the energy markets. Interaction with commodities researcher helped me realize the role of market positioning to predict future moves. Also I learnt about sources for obtaining information about the commodities market like Commodities Futures Trading Commission's CIT report and the US Dept of Agriculture website.

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** The company structure was very flat and the management interacted with the traders and researchers

regularly. There were around 100 traders at all times on the trading floor. The constant interaction between researchers and traders helped them clarify and formulate the trading signals. There were two types of interns - traders and researchers. The trading interns were given the opportunity to trade live with \$2000 and the research interns used to sit beside senior researchers and learn from them. The work environment offered by the company is conducive to learning for the student, enabling them to achieve their potential. The company should continue to provide such an environment.

**Academic courses relevant to the project :** Object Oriented Programming, Data Structures and Algorithms, Derivatives and Risk Management, Security Analysis and Portfolio Management, Machine Learning

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## **PS-II Station : Genpact , Bangalore**

### **Student**

**Name: DEEPAK CHAUHAN(2017H1490302P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Objective of the project was to do customer segmentation based on the payment term, location, frequency of purchase and other features of the customer. Algorithms used for clustering of the customers were K-Means, K-Modes and K-Medoids.

**Tool used (Development tools - H/w, S/w) :** Python was used to implement the algorithms

**Objectives of the project :** To do customer segmentation

**Major Learning Outcomes** : Define customer based on their payment, monetary values, frequency and other features to know whether the customer is going to churn or is going to be loyal to the client.

**Details of Papers/patents** : Nil

**Brief Description of working environment, expectations from the company** : Working environment of Genpact is very employee friendly and senior Management is really helpful in terms of guidance and mentorship.

**Academic courses relevant to the project** : Quantitative Method, Consumer Behavior and Project Management

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**Name:** [SAKSHI DAS\(2017H1490338P\)](#)

### **Student Write-up**

**Short Summary of work done during PS-II** : Performed various analysis using different algorithms which helped in formulating strategies and increasing business profitability plus efficiency.

**Tool used (Development tools - H/w, S/w)** : Python, neo4j, sql, cql

**Objectives of the project** : Uncover new sources of insights which helps client in winning the race. Analyze the paradise papers data to find the potential links between officers and entities.

**Major Learning Outcomes** : Learned proper approach to analysis and also lewrned how various algorithms can be used in real time projects.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : It's very good for Data Science interested students.

**Academic courses relevant to the project** : Data science, Analysis

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## **PS-II Station : GMR Infrastructure Ltd , Hyderabad**

### **Student**

**Name:** Kiran Krishnan(2017H1300082P)

### **Student Write-up**

**Short Summary of work done during PS-II** : Mainly engaged with design and construction techniques of taxiway and apron. Done with some design methods, design software and could watch the construction techniques adopted in site

**Tool used (Development tools - H/w, S/w)** : FAARFIELD

**Objectives of the project** : Learn about design and construction of taxiway and apron

**Major Learning Outcomes** : Design methods and construction procedure of airport elements

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Working environment was fine and colleagues were helpful

**Academic courses relevant to the project** : Airport planning and design

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**Name: S ROOPAK(2017H1430068P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Very much helpful for a structural engineer  
Can learn basics of execution of construction  
Lot of opportunities to study

**Tool used (Development tools - H/w, S/w) :** Etabs, Primavera

**Objectives of the project :** Learn to handle construction sites

**Major Learning Outcomes :** Good Knowledge in structural design and construction activities

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** very nice

**Academic courses relevant to the project :** DRCS, ASA

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**PS-II Station : Goodera (Next Gen PMS) (Non IT) , New Delhi**

**Student**

**Name: PIYOOSH SRIVASTAVA(2015A2PS0743P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Key Account management of CSR for different clients. Work mainly involved going through MoUs between NGOs and Corporate, identifying KPIs for CSR projects, data cleaning and dashboard designing.

**Tool used (Development tools - H/w, S/w) :** Excel, Word, Powerpoint

**Objectives of the project :** Data management for CSR

**Major Learning Outcomes :** Knowledge about CSR industry. Working on large scale data

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** NA

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**PS-II Station : Goodera (NextGen PMS Pvt. Ltd)- Non IT , Bangalore**

**Student**

**Name: ANIRUDDHA SINGHAL(2014B2A20900H)**

**Student Write-up**

**Short Summary of work done during PS-II :** I was assigned to Product Team at Goodera, and have been working in the Product Analyst profile. Daily work included writing documentation and user guides for already existing products, competitor research, writing product requirement documents and user stories, or doing platform configurations on company's internal software. Major responsibilities included Product research, based on client needs and market fit. As a part of Product research, a lot of market research was done into current competitors and Corporate Social Responsibility laws around the world. For deep insight into working of CSR, possible company structures were predicted with the help of information available in the public domain such as LinkedIn profiles, company websites and annual reports. Apart from this I was also assigned a lot of ad-hoc analytics and research into possible features which could be included on the platform. Another major part of work was ESG Reporting, I was assigned to write executive summaries on current ESG Reporting frameworks such as GRI, SASB, CDP, etc. These are utilized by companies to disclose their environmental impact to investors and general public. I was assigned to define a mapping which could connect various frameworks together and reporting could be made easier. All these were also supplemented by frequent cross team functions and insights into product development pipelines. All in all, learnt a lot about product management and hope to continue in the field. Must know skills include Excel and SQL.

**Tool used (Development tools - H/w, S/w) :** Microsoft Excel, Microsoft Powerpoint, Metabase

**Objectives of the project :** New Product Development and Competitor Research

**Major Learning Outcomes :** In dept knowledge of ESG and CSR lawas around the world. Good introduction to Product Management as career.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment was great and timings were flexible. Work was only on weekdays and didn't bleed into weekends. A few late nights were done, but nothing major in terms of going off balance. Great work life balance with social team mates and great working environment. People were always ready to help and learnt a lot. Although activities around the office were something that were left much to be desired for. Office was pretty much plain with quiet and comfortable

environment with desks and meeting rooms. Apart from a few beanbags lying around, there wasn't much for employees to hang around the office or have fun. But apart from that, all in all a great experience and introduction to corporate working environment.

**Academic courses relevant to the project** : Technical Report Writing

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**Name:** VENKAT MOHIT SORNAPUDI (2017h1490346p)

### **Student Write-up**

**Short Summary of work done during PS-II** : I had the opportunity to work with the marketing and sales team of Goodera.

My internship started with basic tasks involving industry and marketing research. Within a month I was assigned with the task of end to end implementation of Salesforce for the whole business unit and learning how to use it. From second month of my internship I started with the sales function of the team for one of their volunteering offerings. This involved end to end management of the client which included sales and customer success management. I was also assigned with the responsibility to set up the machine for pre-sales and inside sales in the unit. On the marketing side I was also involved in marketing vendor management and other mediums for lead generation and brand building.

**Tool used (Development tools - H/w, S/w)** : Salesforec, Mailchimp, HubSpot

**Objectives of the project** : Sales and Marketing

**Major Learning Outcomes** : Sales techniques. Marketing Lead generation and branding methods.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Interns are not treated as just interns here, instead assigned with more serious responsibilities like a full time employees. It was a huge learning experience for me. Right from the senior directors to CEO everyone is friendly and easily accessible. They guide you with all the help you need. They keep doing activities for employee engagement like volunteering programs, indoor sports, etc.

**Academic courses relevant to the project** : Marketing and Sales

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## **PS-II Station : Goodera (NextGen PMS) - IT , Bangalore**

### **Student**

**Name:** ROHAN SENGUPTA .(2015A7PS0092G)

### **Student Write-up**

**Short Summary of work done during PS-II** : The main objective of the project was to provide real-time data to enterprises about their CSR projects. To provide Monitoring of Projects on a regular basis and Evaluation and Impact Analysis, and to provide NGOs with a platform to collect data in a feasible manner and improve transparency between NGO and corporations. I mainly worked on making custom dashboards for clients to view their csr activities . The project required full stack web development

**Tool used (Development tools - H/w, S/w)** : Git , Nodejs , react , html, css

**Objectives of the project** : Building Custom Dashboards for Clients so that they can monitor their CSR activities.

**Major Learning Outcomes** : Learned about Git, React and nodejs

**Details of Papers/patents** : Not applicable

**Brief Description of working environment, expectations from the company** : Colleague are very friendly and helpful. Daily working hours is 9 .It is not a very big company . The company provides solution for the entire lifecycle of CSR activities.

**Academic courses relevant to the project** : Database ,Data Structure and Algorithm , OOP

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## **PS-II Station : HDFC Life , Mumbai**

### **Student**

**Name:** ADVAIT JAYANT KHOBRADE .(2015A7PS0087G)

### **Student Write-up**

**Short Summary of work done during PS-II** : • Actuarial Project: I replaced the existing sum assured evaluation Spark Job with my own evaluation time job and reduced the running time from 48 hours to 2 hours for 6.5 million records using AWS EC2 nodes to deploy the job.

- Kafka Cloud Manager Tool: Implemented a cloud manager tool to track data going in and out of Kafka
- Documented all the existing big data jobs and changed the aurora deletion times in Apache NiFi to make sure that redundant data doesn't stay in the database for more than one hour.
- Wrote several spark jobs to retrieve data from kafka
- Implemented a 3-node kafka cluster using AWS EC2 instances and used Kafka connect to send data from JSONs stored in server to a Postgres SQL server (PGAdmin4) by sending through kafka.

**Tool used (Development tools - H/w, S/w) :** Apache Kafka, Apache NiFi, Apache Spark, Scala, Python

**Objectives of the project :** Reducing the runtime of the existing jobs

**Major Learning Outcomes :** Learned how to create end-to-end ETL pipelines using Spark, NiFi, and Scala

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** • Relaxed working environment.

- Great colleagues who always are ready to help out when you get stuck.

**Academic courses relevant to the project :** Data Mining (will cover only the conceptual basics)

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## **PS-II Station : Healthcare Technology Innovation Centre (HTIC) , Chennai**

### **Student**

**Name:** SAMAN SAJJAD(2017H1290011P)

### **Student Write-up**

**Short Summary of work done during PS-II :** The present study was done in order to develop a molecular based assay for on field identification of Aedes aegypti, as it is a vector for dengue virus. There is no proper vaccination against the virus and the only effective strategy against the

disease is the control and estimation of the vector population. The conventional methods of vector surveillance are time consuming and requires lots of expertise and proper lab set up making it difficult for rapid identification and in places where there is shortage of resources, therefore the molecular method was developed by designing loop mediated isothermal amplification primers for CO1 gene of the mosquito . the primers showed positive results and with further optimisation can be used in feild settings and also the assay can be used even by poor economies as the cost is very less.

**Tool used (Development tools - H/w, S/w) :** Mini PCR, Nano Drop, centrifuge.

**Objectives of the project :** To develop an assay for on feild identification of Aedes aegypti for vector surveillance

**Major Learning Outcomes :** Primer designing and optimization of LAMP assay to over come the common problem of primer sekf amplification

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** The working environment was good with enthusiastic people, working on intersting projects in the feild of biomedical, the wet Lab is small with small setup

**Academic courses relevant to the project :** Molecual biology, genetic engineering, immunology

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**Name:** S GAYATHRI(2017H1290020P)

**Student Write-up**

**Short Summary of work done during PS-II :** Worked on LAMP Primer design for identification of Culex quinquefasciatus.

DNA extraction from mosquitoes using Rapid DNA extraction kits like the ones from Arcis, Punch kits and Boiling Method.

Troubleshooting using small molecule additives like Betaine, DMSO and Glycerol

End point detection using SyBr green.

**Tool used (Development tools - H/w, S/w) :** LAMP primer design tool - PrimerExplorer, Thermofisher Multiple Primer Analyzer

**Objectives of the project :** 1. Designing LAMP primers to detect *Culex quinquefasciatus* 2. Optimize reaction conditions to reduce the assay time.

**Major Learning Outcomes :** Setting up a LAMP reaction, About Isothermal amplification techniques, Designing primers, Troubleshooting strategies to prevent non-specific amplification

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Basic knowledge in molecular biology techniques and using basic bioinformatics tools like BLAST, ClustalW etc.,

**Academic courses relevant to the project :** Genetic Engg Techniques, Experimental Techniques and Advanced Recombinant DNA Technology

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**PS-II Station : Here Maps - Distributed Data , Mumbai**

**Student**

**Name: SHOUNAK NIPUN RANGWALA .(2015A3PS0244G)**

## **Student Write-up**

**Short Summary of work done during PS-II :** Web-Graphics design using Node.JS, Three.JS and Ubers experimental graphics library- Deck.gl . Worked on improving HD Live Maps which rendered 3D structures of roads, barriers and poles along the road. Worked on animation and streaming through the scene.

**Tool used (Development tools - H/w, S/w) :** JavaScript, Three.JS, Node.JS, Deck.GL, Socket.io

**Objectives of the project :** Provide POC's for improvement of HERE HD Live Map Viewer

**Major Learning Outcomes :** Learnt about web-programming, AGILE technique about software dev, computer graphics (OpenGL, WebGL)

## **Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Very friendly working environment, people are very approachable. Being an electronics student the IT environment was overwhelming at first, but you have to put in some effort to learn new languages, new software. The company does not provide any training but the mentors help with minor doubts. Always keep in mind, you cannot learn everything in your undergraduate and there will be always something or the else you will have to learn in the process to get your work done. A comforting thought is that all the employees around you (CS grad mostly) are learning new stuff too from MOOCS, GFG etc. So consider this the first taste of software development that awaits you after you leave the cocoon of BITS.

**Academic courses relevant to the project :** OOP i guess (never took it , but basic coding syntax and vision of what you want to achieve is needed)

**Name: DHRUVAL RANA(2014B1A30222P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Completed training and Inference for Street Level Imagery parking sign model to integrate it with DV pipeline. Worked on post processing and correcting faulty output from in house text recognition service and making a rudimentary auto corrector for the same.

**Tool used (Development tools - H/w, S/w) :** Tensorflow, Linux basics, Python basics, AWS functionality, Computer Networks, Transfer learning

**Objectives of the project :** Integration into Deep Vision Pipeline, fine-tuned detection model for Street Parking signs, text recognition and autocorrection to add rich attribution

**Major Learning Outcomes :** - Learned about amalgamting various sources of data for multiple degrees of verification and data enrichment from diverse sources.

- Gradually improving upon the quality metrics of DL model over several iterations using fine tuning of hyperparameters and essentially, more data.

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** The working environment at Here is highly academic which makes is surprisingly relaxed. I was given the freedom to explore new techniques and solutions for the problem at hand and develop a solution at my own place. The code goes through extreme scrutiny before it is merged and you might have to engage with several components of the data pipeline before you can mark your project complete. You can choose to work on familiar problems or explore new ones as per your flexibility.

**Academic courses relevant to the project :** Neural Networks and Fuzzy Logic, Machine Learning, Digital Image Processing, OOP, Computer networks

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## PS-II Station : Hindustan Unilever Research Centre , Bangalore

### Student

Name: DEVAVARAPU LAKSHMI SAHITHI(2014B2A10816H)

### Student Write-up

**Short Summary of work done during PS-II :** I am continuing my internship here since last semester. Majority of my work revolved around synthesis of functional siloxanes for various applications feasible for home care category products. The synthesis of these compounds was carried out after testing out various reaction mechanisms and conditions. Then, different characterisation techniques were carried out to confirm the presence of the final compound. The biggest challenge was to separate the pure product from the reaction mixtures. So, after carrying out several experiments, we could separate the product through vacuum distillation. So, pure compounds with different ratios of amine content were submitted for performance verification.

Alongside, modelling was continued from the last semester to understand the effect of head group and chain length of a surfactant molecule on the surface tension of water. This could lead to better in vitro modelling of surfactant systems to understand their effect on cleaning and stain repellence.

**Tool used (Development tools - H/w, S/w) :** IR spectroscopy, Chromatographic techniques, TGA, MATLAB software

**Objectives of the project :** Synthesis of novel functional siloxanes

**Major Learning Outcomes :** Chemical synthesis, Characterisation techniques, Modelling on MATLAB

## Details of Papers/patents : -

**Brief Description of working environment, expectations from the company** : A 9-5 job. The pressure on understanding a phenomenon was very high, more than the results themselves. I was given freedom to work on my own ideas, if they had relevant literature backing it.

**Academic courses relevant to the project** : Organic Chemistry - I, II, III, IV; Instrumental Methods of Analysis; Physical Chemistry - I.

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**Name:** HARSH KANODIA(2014A1B10525P)

## Student Write-up

**Short Summary of work done during PS-II** : Frictional properties of the surfactant solutions play crucial role in the designing of Home and Personal Care products. The objective of the current study was twofold (1) to establish a reliable and robust protocol to measure the friction coefficient between finger and glass substrate using the strain gauge-based sensor. The role of different parameters such as stroke frequency, Uni vs bi-directional stroke, static friction was studied. Protocol parameters were recommended to better differentiate the systems with smaller difference in COF. (2) the second part of the work focuses on the impact of different factors such as surfactant types, pH, alkalinity, viscosity, ionic strengths and skin hydration on the friction coefficient. Ionic and nonionic surfactants were chosen for the study, namely: (a) Anionic: NaLAS, SDS, SLES, MES, SLI, (b) Cationic: CPC, CTAB, (c) Zwitterionic: CAPB and (d) Non-ionic: EO7 and Lutensol XL 60. Non-ionic surfactant showed higher frictional coefficient. Among the anionic surfactants, the COF trends were  $SDS < Na-LAS < MES = SLES < SLI$ . The trend was explained using the CMC and packing parameter of surfactants at the air/water interface. Cationic and anionic surfactants of comparable CMC showed similar COF. pH experiments showed COF was primarily governed by the reserved alkalinity of the system and not the pH. E.g., for same pH, sodium carbonate gave lower COF than sodium hydroxide. Skin hydration shows a maximum in COF. Viscosity decreased the COF which was in line with the

learning from Stribeck curve that the viscosity increase shifts the lubrication regime from boundary to hydrodynamic regime.

**Tool used (Development tools - H/w, S/w)** : Strain gauge load cell based sensors, fluorescence spectrometer, dynamic surface tensiometer, python and Matlab codes for analysis

**Objectives of the project** : (1) to establish a reliable and robust protocol to measure the friction coefficient between finger and glass substrate using the strain gauge-based sensor. (2) the second part of the work focuses on the impact of different factors such as surfactant types, pH, alkalinity, viscosity, ionic strengths and skin hydration on the friction coefficient.

**Major Learning Outcomes** : Physical basis of friction between skin and counter surface, methods of analysis of data sets, complexity of skin in physical phenomenon of friction, chemical modification of skin in presence of surfactant, role of surfactants in lubrication, regimes of lubrication

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Number of driven individuals working in a variety of distinct but overall limited field. Learning opportunity from experts in different areas of research. Typical industrial research setting. Company expects minimum level of results to be presented on a regular basis.

**Academic courses relevant to the project** : Engineering chemistry, Instrumental Methods of analysis, general chemistry, kinetics, Computer science, transport phenomenon

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**Name:** [DEBOLINA CHAKRABARTY\(2015A1PS0592P\)](#)

**Student Write-up**

**Short Summary of work done during PS-II** : Modelling and simulation of a spray dryer

**Tool used (Development tools - H/w, S/w) :** MATLAB, Python

**Objectives of the project :** Modelling and simulation of a spray dryer

**Major Learning Outcomes :** Understanding of spray drying process

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** Relaxed work environment (in the digital team) . Can work at own pace. Employees are helpful.

**Academic courses relevant to the project :** Modelling and simulation, machine learning, heat and mass transfer

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## **PS-II Station : Hourglass Research , Mumbai**

### **Student**

**Name:** VANGALA NAGA PRANAV(2015A8PS0484H)

### **Student Write-up**

**Short Summary of work done during PS-II :** Conducted patent searches to assess patentability of inventions, study technology landscapes, other patent analytics projects.

**Tool used (Development tools - H/w, S/w) :** Ms Word, Ms Excel, VB

**Objectives of the project** : Conduct patent searches to assess patentability of inventions, study technology landscapes, other patent analytics projects.

**Major Learning Outcomes** :

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Open office where all the employees are ready to help you in your project. The company expects you to understand complex technologies quickly and the ability to think independently and in a team to understand problems and suggest solutions.

**Academic courses relevant to the project** : Basic understanding of concepts from various courses

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## **PS-II Station : IBM Security - Fiberlink , Pune**

### **Student**

**Name:** AMRUTHAVANI R P(2016H3130073H)

### **Student Write-up**

**Short Summary of work done during PS-II** : I work with the Analytics team at the ISL IBM India, on the development and Data analysis part of the Identity Analyser called CIA. CIA uses data from applications such as IGI (IBM product) and others to detect risky users entitled to the application, making the manager's job easy.

**Tool used (Development tools - H/w, S/w)** : Liberty, Docker, Zookeeper, Rest API, IGI, ISAM

**Objectives of the project** : Build a PoC for the IBM product called CIA

**Major Learning Outcomes** : Learnt to code in a professional way and learnt the legacy tools used in IBM

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : The environment was employee friendly. Expectation from company is chances for PPO

**Academic courses relevant to the project** : Java

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**Name: WAGLE SHRISHA SHAM(2016H3130074H)**

**Student Write-up**

**Short Summary of work done during PS-II** : As this project was a new product design and development, the first stage into this project was to research about the technologies and the use cases. Next, was to have a feasibility check. To accomplish this, a proof of concept was developed. It mainly deals with designing, automating and attaching the identity and access management. The main goal of the project is to create multiple templates of workflows so that the tenant can choose from. The templates will define the systematic process definitions of various processes like, application creation, user on boarding and many more. This product would be made available as a service over the cloud. The end user of this product will be an IBM product by the name, Cloud Identity. In the future, it would be hooked to other IBM products.

**Tool used (Development tools - H/w, S/w)** : Camunda BPMN Platform, DB2 database, Eclipse IDE

**Objectives of the project** : The objective of the project is to provide, design, automate and attach identity and access management workflows over a cloud infrastructure for multiple tenants.

**Major Learning Outcomes** : Interning at IBM improved my technical as well as soft skills. It improved my observation skills and boosted my confidence levels. The active interaction with the company employees, helped me learn more about other project fields and about the various cycles of development and delivery of a software product.

While developing the project, we got an opportunity to learn about how identity and access management softwares work.

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** : IBM Security, Pune deals with identity and access management (cloud). There's a flat hierarchy which makes it easier to approach employees of all job roles. As an intern, the working environment was excellent. Projects are allotted to you based on your preference and your skill set.

**Academic courses relevant to the project** : Object Oriented Programming, Database, Network Security

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## **PS-II Station : IFB Industries , Goa**

### **Student**

**Name: ABHISHEK GORLE .(2017H1410102H)**

### **Student Write-up**

**Short Summary of work done during PS-II :** I have worked on developing a Method for Estimation of Unbalanced Mass and Torque Calculations of a Front Loader Washing Machine.

**Tool used (Development tools - H/w, S/w) :** Matlab, CRO.

**Objectives of the project :** 1) Estimate the Unbalanced Mass in Front Loader Washing Machine. 2) Calculate Torque on Drum Shaft. 3) Measure the Dynamic Torque on the Drum.

**Major Learning Outcomes :** 1) Rotary Dynamics. 2) Working of Washing Machine. 3) Product Design of parts of Washing Machine.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** IFB focuses more on Quality of its products. It has extensive communication between various teams to achieve the Quality in terms of Meetings, tracking of work. It's a flat management here and everyone report to their Managers and directly to HOD. More emphasis on Experiments can be observed.

**Academic courses relevant to the project :** Dynamics and Vibrations, Engineering Mechanics, CAD/CAM, MATLAB.

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**PS-II Station : IMI Mobile R&D , Hyderabad**

**Student**

**Name: ANGAD LAMBA(2014B3A70689P)**

## **Student Write-up**

**Short Summary of work done during PS-II :** Digital Humans: Idea is to build a video version of chatbot that customer can interact with and is more engaging. This will give chatbot a personality and the ability to show emotions at a visual level. This will be made in unity and requires making complex graph of animations with transitions.

**Tool used (Development tools - H/w, S/w) :** Unity, Blender, Oculus Rift, Oculus Go, IMIbot.api

**Objectives of the project :** Digital Humans: Idea is to build a video version of chatbot that customer can interact with and is more engaging. This will give chatbot a personality and the ability to show emotions at a visual level. This will be made in unity and requires making complex graph of animations with transitions.

**Major Learning Outcomes :** I learned Unity, C#, as well as learned in great depth about Virtual Reality and how make applications in different VR devices like Oculus Rift. I learned about State Machines and Animations and product development.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working Environment is very good. People are nice and helping. Office timings are very flexible.

**Academic courses relevant to the project :** College doesn't offer any courses related to this project.

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**PS-II Station : IMS Health , Bangalore**

## **Student**

**Name: BOJJA JAVALI SUMAGATHRI .(2017H1460161H)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Dissertation-development, optimization and characterization of erlotinib hydrochloride nanoparticles using QBD approach

**Tool used (Development tools - H/w, S/w) :** Zeta sizer, HPLC, DSC, Homoginizer, Ultrasonicator, centrifuge

**Objectives of the project :** To perform the design of experiments and to proceed with the statistical approach for the understanding of the factors which played a major role in the preparation of the right formulation

**Major Learning Outcomes :** Factors effecting the formulation

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** None

**Academic courses relevant to the project :** None

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**Name: M.SADASIVAVIDYAKANT .(2017H1460151H)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Work basically included collection of data from different sources, usually called secondary market research.

**Tool used (Development tools - H/w, S/w)** : Google search engine, company websites, university websites, linkedin, etc.

**Objectives of the project** : To collect data for the given task

**Major Learning Outcomes** : -

**Details of Papers/patents** : -

**Brief Description of working environment, expectations from the company** : Good working environment and expectations include -Efficiently collecting data, filling the details in the given sheets,etc.

**Academic courses relevant to the project** : Clinical research, Biostatistics and computer applications.

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**Name:** JOMON AUGUSTINE(2017H1460291P)

### **Student Write-up**

**Short Summary of work done during PS-II** : The primary responsibility was secondary desk research in areas like KOL identification, Market Access, Disease Burden and Competitive Intelligence. Tasks include obtaining information, compiling and formatting of the data obtained into a proper format.

**Tool used (Development tools - H/w, S/w)** : MS Excel, MS Power Point

**Objectives of the project** : The main objective of the work was secondary desk research. It involved obtaining the required information from a myriad of online sources. This process was followed by collating the data thus obtained, formatting and presenting them in required format.

What we did in the PS center was only the data collection part of all the projects handled. It is only one of the many steps involved in the duties of a business analyst.

**Major Learning Outcomes** : MS Excel

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Good work environment and flexible timing.

**Academic courses relevant to the project** : Pharmacology, Advanced Physical Pharmacy

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## **PS-II Station : IMS Health , Gurgaon**

### **Student**

**Name:** ILA TAKU(2017H1470268P)

### **Student Write-up**

**Short Summary of work done during PS-II** : I was under the team of Primary Intelligence Delivery Center. Learnt about the differences between Customized Market Research and Syndicated Market Research. My main focus was upon Syndicated Market Research. It was overall a very good working experience for me. Learnt a lot :) On the other hand, I also attempted to help my manager to make a design template (a training catalog) for the corporation, like what they have to offer to the aspiring interns, for learning about the needs of the company (specifically for the PIDC).

**Tool used (Development tools - H/w, S/w)** : Company had provided us with Laptops and very good access to the internet connectivity.

**Objectives of the project** : To learn about the various syndicated offerings of US-based as well as India-based market research companies under IQVIA space.

**Major Learning Outcomes** : Learnt how to identify white spaces and gaps, i.e. where a company misses out on, which offerings are they lacking, that other companies (competitors) are serving their customers (clients) with. Basically to identify strengths and weaknesses.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Overall the experience that I had was good. Met a bunch of great people. :) Although I struggled to learn about the needs of the company in the beginning of the training, I have learnt quite a good amount :) by constantly doing research.

**Academic courses relevant to the project** : To be honest, there were not any Academic Courses that I took in my early semesters that actually matched the project that I did. A totally different research and learning (outside my academic curriculum)

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**Name: NEHA HANS(2017H1080267P)**

**Student Write-up**

**Short Summary of work done during PS-II** : I have done feasibility studies, secondary research, prepared syndicated reports on different therapy areas, KOL profiling twitter networking map), extracted data from the crimson hexagon for different projects

**Tool used (Development tools - H/w, S/w)** : Crimson hexagon, buzzsumo, similarweb

**Objectives of the project** : Qualitative and quantitative analysis of unsubstantiated health related articles on social media

**Major Learning Outcomes** : Learnt MS Ppt and excel and other tools

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** : Working environment is good and all the employees are very helpful. Learnt so much about how to generate social media insights for various pharmaceutical companies.

**Academic courses relevant to the project** : None

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**Name:** [ILA TAKU\(2017H1470268P\)](#)

**Student Write-up**

**Short Summary of work done during PS-II** : Competitor Analysis of IQVIA, in the Syndicated Primary Market Research in US/Healthcare Market Space

**Tool used (Development tools - H/w, S/w)** : Office provided Laptops

**Objectives of the project** : To identify white spaces (gaps) within the syndicated offerings of IQVIA and its competitors

**Major Learning Outcomes** : This project helped us in analyzing the market space of the competitors and identify new opportunities for IQVIA to gain advantage over the competitors.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Not Applicable, as the project was entirely for the business purpose of the host organization

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**Name:** MRITYUNJAY SHRIVASTAVA(2015A5PS0859H)

**Student Write-up**

**Short Summary of work done during PS-II** : Quantification of the information by using open-ended coding

**Tool used (Development tools - H/w, S/w)** : MS-Powerpoint, MS-Excel, MS-Word

**Objectives of the project** : To provide clients with the healthcare related statistical data

**Major Learning Outcomes** : Analysis of the Healthcare market

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** : Working environment is healthy and my expectation is just a pre-placement offer by the company as i worked for the company by putting my heart and soul together and hence, I think that I deserve it.

**Academic courses relevant to the project** : Pharmacology, General Mathematics 3

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## PS-II Station : Infinera , Bangalore

### Student

Name: HARSHITHA P K(2017H1400171P)

#### Student Write-up

**Short Summary of work done during PS-II :** ASIC design-Designing of a generic alarm hierarchy IP

**Tool used (Development tools - H/w, S/w) :** Synopsys tools

**Objectives of the project :** Designing a generic alarm hierarchy block that supports TDMised and Non-TDMised flow of data

**Major Learning Outcomes :** RTL design using Verilog, LINT,PIF configurations and API calls

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment is good. Mentors teach from basics. Entire team is very helpful. Knowledge of digital design is essential. Student should be flexible to work on any projects.

**Academic courses relevant to the project :** Digital design,VLSI design,Advanced VLSI design

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## PS-II Station : Ingersoll Rand India Ltd , Bangalore

## Student

Name: K SRAVYA VARMA .(2017H1480138H)

### Student Write-up

**Short Summary of work done during PS-II :** The products considered for study are 14 SEER, 2-5 tonne packaged heat pump models. These models are used for both heating and cooling applications. Micro-channel Heat Exchanger(MCHX) is used in the indoor side of these units. MCHX is either used as an evaporator or a condenser depending whether the heat pump system is in cooling or heating mode respectively. The aim of the project is to increase the capacity of MCHX. It is achieved by increasing the air side Heat transfer Coefficient. Air side heat transfer coefficient can be increased by adding fins or creating rough surfaces. In this Project air side heat transfer is enhanced by adding surface roughness (in the form of grooves). A small part of MCHX is modelled in creo, to analyze the present heat transfer and pressure drop in ANSYS Fluent. This modelled MCHX is imported into ANSYS Workbench and simulated in ANSYS Fluent to calculate the present heat transfer and pressure drop. From the solution reports it can be observed that because of grooves there is improvement in heat transfer coefficient by 5% due to increase in effective surface area. The increase in pressure drop from plain-tube to grooved-1-tube was found to be 2.9% because of increased turbulence. But from plain-tube-surface to grooved-2-tube-surface the pressure drop increase was only 1.19% because grooved-2 profile was little rougher and had more surface area than grooved-1 profile. Therefore Grooved-2-tube-surface can be selected for optimum heat transfer and pressure drop.

**Tool used (Development tools - H/w, S/w) :** Creo, ANSYS Fluent

**Objectives of the project :** Improvement in Performance of Micro-channel Heat Exchanger

**Major Learning Outcomes :** Learnt about heat exchangers, Gained practical knowledge on heat pump systems

**Details of Papers/patents :** -Nil

**Brief Description of working environment, expectations from the company :** Very Friendly management, flexible working hours

**Academic courses relevant to the project :** Heat Transfer, Refrigeration and air-conditioning

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## **PS-II Station : InMobi- Business Development , Bangalore**

### **Student**

**Name:** PATEL HARSH RAJESHKUMAR .(2014B4A40643G)

### **Student Write-up**

**Short Summary of work done during PS-II :** Worked with the market research platform of Inmobi. Direct clients were given to handle

**Tool used (Development tools - H/w, S/w) :** Excel, PowerBi

**Objectives of the project :** Market Research

**Major Learning Outcomes :** Learned about the working of research industry and sales industry

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Market Research

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**Name: TANISHQ SHARMA .(2015A1PS0735G)**

**Student Write-up**

**Short Summary of work done during PS-II :** Was a part of demand team in Affiliate Business of InMobi which required me to handle a lot of money, interact with clients & scale up business.

**Tool used (Development tools - H/w, S/w) :** MS-Excel

**Objectives of the project :** To Scale up Business by taking Strategic Decisions

**Major Learning Outcomes :** Learned about professional ethics, MS-Excel & developed communication skills

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Work environment is great ! Everyone is very good & approachable. Office is very delightful & it is a very good option for anyone who wants to build their career in Advertising industry

**Academic courses relevant to the project :** NA

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**Name: ROHAN KHURANA(2015A1PS0695G)**

**Student Write-up**

**Short Summary of work done during PS-II :** Handled various supply side affiliate accounts for Wadogo, third party supply channel of InMobi from around the globe and worked towards increasing revenue.

**Tool used (Development tools - H/w, S/w) :** MS Excel

**Objectives of the project :** To understand various fraud defence techniques and increment of daily revenues.

**Major Learning Outcomes :** Client Handling and negotiation skills. Improvement in MS Excel skills.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Principles of Economics

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**Name:** AVINASH LADDHA .(2014B2A10715G)

**Student Write-up**

**Short Summary of work done during PS-II :** Carrying out data analysis for optimization of revenue and margin on affiliate market. Along with this liaise with engg and business team in product development.

**Tool used (Development tools - H/w, S/w) :** R, Python , SQL

**Objectives of the project :** Optimizing revenue on affiliate market.

**Major Learning Outcomes :** Data Analysis , business development

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** none

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**Name:** ABHAY KHANDELWAL .(2015A1PS0601G)

### **Student Write-up**

**Short Summary of work done during PS-II :** Coordination with Business and Operations side to align better goal and tactics. Worked on data crunching project to increase user acquisition sales and increase campaign deliver rate. Worked on central market intelligence for understanding advertising and marketing ecosystem.

**Tool used (Development tools - H/w, S/w) :** Excel, R studio, Python, Google Data Studio

**Objectives of the project :** To give insights after a complex data crunch of user acquisition. Market intelligence project was to study competitive analysis of company's competitors.

**Major Learning Outcomes :** Able to completely track user journey for a particular campaign and hence able to attract many clients.

**Details of Papers/patents :** Confidential data cannot be presented.

**Brief Description of working environment, expectations from the company :** Nice work life balance along with awesome facilities. Working with talented professionals from IIM and IIT is an added advantage.

No PPO offered because of hiring freeze

**Academic courses relevant to the project :** Principle of Management, Technical Report Writing.

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**Name:** APURVA KUMAR MISHRA .(2015A1PS0563G)

### **Student Write-up**

**Short Summary of work done during PS-II :** My role in the company was that of an Analyst. My work included preparation of daily reports to be sent out to publishers and assist Partner Managers in analyzing trends of various clients at regular intervals. My work also included the migration of supply inventory.

**Tool used (Development tools - H/w, S/w) :** MS-Excel, Python, Tableau, Various In-House Tools

**Objectives of the project :** Upscaling of Revenue and Optimization of various Accounts

**Major Learning Outcomes :**

1. Learned about the functioning of Ad network as an industry
2. Insight into how a product is conceived and brought into reality
3. Understood the company ethics, presence of and adherence to hierarchy
4. Formal mailing etiquettes, data handling & data analysis in MS-Excel and coding in Python

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** InMobi has an amazing work culture and people are very approachable.

**Academic courses relevant to the project :** Probability and Statistics

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**Name: PRASHANT(2017H1490305P)**

## **Student Write-up**

**Short Summary of work done during PS-II :** I was working in the Affiliate Partnerships team of Performance Campaigns - Wadogo. I handled two verticals of Wadogo viz. Strategy & Operations as well as Direct Demand. The former one refers to the analysis of overall performance data to make business and strategic recommendation in a fast paced and dynamic environment. This was done through computation of data and monitoring performance of wadogo through various trackers and decks. The latter one was about management of on-network campaigns running on Wadogo from Middle East, Australia, Japan & Korea Regions. Since, I was part of Direct Demand side, my work involved taking campaigns live, daily optimization of campaigns, margin management, operations for fraud check-ups and performing corrective actions for the campaigns.

**Tool used (Development tools - H/w, S/w) :** Excel & Powerpoint, SQL, DB Visualizer, Google Sheets & Slides

**Objectives of the project :** Monitoring & Strategising overall performance of inmobi affiliate platform (wadogo) as well as management of campaigns for multiple regions (meta, au, jp& kr)

**Major Learning Outcomes :** Sound understanding of Affiliate Marketing.

Gained knowledge about various optimizations in performance campaigns and fraud detection techniques.

Sharpened communication and client management and decision making skills.

Improved skills on Excel, DB Visualizer and other tools.

Got understanding of digital advertising market in general.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Amazing working environment with friendly teams. People here are really good and helpful. A very collaborative approach is followed in the team to get optimal results. Seniors are quite eager to

help and mentor the newbies. One great thing is that you are given ownerships for the work you handle and you are free to experiment things. No strict work timings and you also have food and beverages for free. There's a play area too where you can have a match of TT, foosball or FIFA with PS4. Overall, inmobi gives you a chilled environment which one can utilise and produce some tangible results and develop.

**Academic courses relevant to the project** : Quantitative Methods, MIS, Business Policy & Strategy Making, Marketing

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**Name:** SARTHAK SINGH .(2014B2A80710G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Data driven analysis to explore untapped avenues for mobile advertising.

**Tool used (Development tools - H/w, S/w)** : R, SQL and Python

**Objectives of the project** : Research for Advertising Business

**Major Learning Outcomes** : New coding languages, advanced excel and market research.

**Details of Papers/patents** : In progress

**Brief Description of working environment, expectations from the company** : Great company to work for with one of the best culture across the globe.

**Academic courses relevant to the project** : None

**Name: MEGHA SAINI(2015B2PS0969P)**

## **Student Write-up**

**Short Summary of work done during PS-II :** InMobi is one of the biggest Ad-Network. I was working in Wadogo team, which is a third party supply channel. I worked on performance based advertising, which is the other name of Affiliate Marketing. Here my role as an Account Manager calls for continuous communication and collaboration with our demand partners i.e Advertisers, who have campaigns from various verticals and geos and pass these campaigns to our affiliate partners to publish ads. My role is to take these campaigns live and perform daily optimisations in order to meet desired ROI.

**Tool used (Development tools - H/w, S/w) :** IAP - InMobi Click hosting platform, Salesforce, Clarity - InMobi's reporting tool, MS-Excel.

**Objectives of the project :** Understanding mobile advertising and affiliate marketing business strategies.

**Major Learning Outcomes :** Learnt about DSP, affiliate marketing, mobile advertising, RTB.

**Details of Papers/patents :** Nil

**Brief Description of working environment, expectations from the company :** InMobi has a great learning environment, with mostly bitians all around. People are cool and fun loving.

**Academic courses relevant to the project :** I took a SOP based on Advertising. It was based on studying how communication is affective in advertising. So I think that inclined me more towards understanding how advertising monetization happens.

## PS-II Station : Intel India Technology , Bangalore

### Faculty

Name: Swapna Kulkarni

**Comments: Expectations from industry :** Intel India works in various areas like Motherboard chipsets, Network interface controllers and integrated circuits, Flash memory, Embedded processors, Software development, Biomedical Signal processing, Verification and Validation, Testing and Digital Image Processing and many more. The students are working in various projects like Discrete Graphics Integration and Validation, Performance validation of GPUs, Full chip timing analysis, RLS autowrapper scripts to generate recipes for faster partition execution, Automation of Design For Testability structures using floorplan database, Dynamic Verification of power aware RTL design, Performance Formal Verification, Transformer Model Implementation, Different Floorplanning Methodologies, Test platforms integration, RTL Quality improvements based on static checks, Constraints cleanup with GCA, Full Chip Integration/ Clock Tree Synthesis, Power Estimation and optimization, DFT RTL Design and Integration, AI media processor SoC, Connectivity in SoC, Validation of P4 Tools using Test Framework, VM Orchestration Framework, Terragraph, Design and verification of CDC FIFO MUX, Structural design and implementation of physical block, ATS SoC, FIVR SD, Test Platforms Integration, Design For Graphics Debug.

According to mentors feedback and observations, students need to be trained in scripting languages Perl, Tcl, etc, AMBA protocol, VLSI architecture and mobile Communications. Intel has recently started new technologies and innovations in machine learning and embedded system. Student need to be prepared with new challenges and have interest in research as well.

### Student

Name: ABHISHEK SHARMA(2017H1230209P)

**Student Write-up**

**Short Summary of work done during PS-II :** I worked on backend (Physical Design) flows. I understood how it is done at the full chip and partition level. I learned scripting in TCL and wrote some scripts to automate tasks in Clock tree synthesis (CTS) stage of the flow.

**Tool used (Development tools - H/w, S/w) :** TCL, Synopsys

**Objectives of the project :** Physical Design

**Major Learning Outcomes :** Scripting and automation, CAD for IC Design

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** CAD for IC Design

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**Name:** [TAHILIANI VINITA YOGENDRA\(2017H1120236P\)](#)

**Student Write-up**

**Short Summary of work done during PS-II :** Network testing , throughput testing and automation of testing scripts.

**Tool used (Development tools - H/w, S/w) :** IXIA, Iperf, Python, Server linux

**Objectives of the project :** To enhance the speed of connectivity (throughput/bandwidth test) using WiGig technology

**Major Learning Outcomes :** Learning on the testing procedure in network, debug and automation of tests real time.

**Details of Papers/patents** : Terragraph

**Brief Description of working environment, expectations from the company** : Work time flexibility and ease to new technologies and variety of technology phases in meetings.

**Academic courses relevant to the project** : Computer Network, Software testing methodologies, Object oriented programming, Object oriented analysis and design.

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**Name:** ABHIMANYU KAKKAR(2017H1230218P)

**Student Write-up**

**Short Summary of work done during PS-II** : Worked on synthesis and apr flows for a project. Also worked on power optimization via various clock gating techniques

**Tool used (Development tools - H/w, S/w)** : DC, ICC2

**Objectives of the project** : Optimize power for a chip using various clock gating techniques

**Major Learning Outcomes** : Physical design flow, Clock gating techniques

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : CAD for IC design, VLSI design

Name: **MONIKA VIJAY(2017H1400159P)**

### **Student Write-up**

**Short Summary of work done during PS-II :**

**Tool used (Development tools - H/w, S/w) :** synopsys tool

**Objectives of the project :** Quality checks for RTL before delivering it to backend team for smooth tapeout with minimum delay of time

**Major Learning Outcomes :** learnt what are all quality checks and their importance where they do come in picture of asic flow, also learnt how to enable quality checks for RTL

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** at INTEL it is great to work and grow

**Academic courses relevant to the project :** VLSI design, VTT

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Name: **PATURKAR ANIRUDDHA ASHUTOSH(2017H1240115P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** I worked in physical design domain, where my job was to meet setup and hold timing for a given partition (block) and also to reduce the congestion and shorts in the same. In short I had to do Synthesis, Placement and Routing for a given block. Various techniques like register retiming, combinational logic optimization, etc. were put to use to meet the timing requirements. For reducing the congestion, reducing the pin and cell densities, replanning the logic placement, etc. were put to use.

**Tool used (Development tools - H/w, S/w) :** Synopsys DC, Synopsys ICC2, Perl, TCL.

**Objectives of the project :** To meet the timing and reduce congestion for the given block.

**Major Learning Outcomes :** Practical possibilities of meeting the setup and hold times, and how routing can be improved in a complex logic block.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment is good. Work life balance is well maintained.

**Academic courses relevant to the project :** VLSI Design

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**Name:** HUSAIN SHOAB SCENTWALA(2017H1030118P)

**Student Write-up**

**Short Summary of work done during PS-II :**

**Tool used (Development tools - H/w, S/w) :** P4 Language, Python, C++

**Objectives of the project :** Development and validation of P4 compiler tools for functional correctness, stability, and reliability of generated code, and improvement of Test Framework for P4 tools validation.

**Major Learning Outcomes :** Developing and debugging framework written in Python. and developing compiler backend.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** One of the most ethical companies with excellent working atmosphere and decent work-life balance.

**Academic courses relevant to the project :** Advanced Compiler Design, Object Oriented Analysis and Design, Cloud Computing.

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**Name:** HANU AGGARWAL(2017H1230227P)

### **Student Write-up**

**Short Summary of work done during PS-II :** I have learnt about the steps involved in physical design flow and there implementation using Synopsis tools like IC Compiler II, DC Compiler, etc. It is process of transforming netlist into layout which is manufacture-able GDS. Main steps which I learnt in physical design are placement of all logical cells, clock tree synthesis & routing. During this process of physical design timing, power, design & technology constraints have to be met. Further design might require being optimized w.r.t area, power and performance.

**Tool used (Development tools - H/w, S/w) :** IC Compiler II , Prime Time , DC Compiler, Redhawk

**Objectives of the project :** Objective of the project is to transform netlist into layout which is manufacturable GDS.

**Major Learning Outcomes :** TCL scripting, Physical Design Flow

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** CAD for IC Design , Digitsl VLSI Design

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**Name: Akshay Joshi(2017H1400157P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Worked as graphics software intern . Got automation task using python/sikuli. Integrated one ML API with automation test case suite.

**Tool used (Development tools - H/w, S/w) :** Python, SikuliX, various windows related APIs

**Objectives of the project :** Automate graphics based test cases that were being run manually.

**Major Learning Outcomes :** Gained good knowledge of python, E2E application workflow

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** Good work culture with flexible timings. Very supportive managers and colleagues.

One expectation is it'd be good if manager sometimes initiates one to one sessions regarding project expectations.

**Academic courses relevant to the project :** None

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**Name: AMIT BHATT(2017H1230216P)**

**Student Write-up**

**Short Summary of work done during PS-II** : Basically,worked on back-end physical design.The work included all of the steps included in physical design process like floorplanning, placement & routing to name a few.

**Tool used (Development tools - H/w, S/w)** : ICC II by synopsys, PrimeTime by synopsys

**Objectives of the project** : The main objective of the project was to deeply understand each and every step of the detailed physical design flow.

**Major Learning Outcomes** : Learned a lot about the detailed RTL to GDS-II flow,tools like ICC II etc.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Vlsi design,advanced vlsi design,CAD for IC design

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**Name:** SARDESHPANDE SHUBHANKAR MILIND(2017H1400081G)

**Student Write-up**

**Short Summary of work done during PS-II** : I worked on debugging and resolving issues encountered in the Graphics Drivers written for Intel's Graphics platforms by using various open source as well as proprietary tools provided by Intel.

**Tool used (Development tools - H/w, S/w)** : Windows software trace Preprocessor(WPP), Logman tool, Windows Performance Analyzer, WinDbg Tool, Git

**Objectives of the project** : Debugging of Intel's Graphics Drivers

**Major Learning Outcomes** : Batch Scripting, Python Scripting, Windows PowerShell Scripting

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : The working environment was very positive and encouraging and everyone around was very helpful. The environment was conducive to learning and I as an intern got to interact with the manager freely. The internship helped me expand my horizons in terms of technical as well as soft skills.

**Academic courses relevant to the project** : Device Drivers, Real Time Systems, Embedded System Design, Software for Embedded Systems

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**Name:** PRATEEK(2017H1400172P)

**Student Write-up**

**Short Summary of work done during PS-II** : In PS-II , i am in VLSI domain , so my work profile is as an SOC design Engg. In VLSI , mainly two broad category are there, first is pre silicon work and another one is post silicon work. I am working as a GLS Engg that is pre silicon work. GLS(Gate Level Simulation) is netlist verification after placement and routing of synthesized verilog code (Device Verilog code).

**Tool used (Development tools - H/w, S/w)** : Simulation Tool (Mentor Graphics- ModelSim, Synopsis - Verdi)

**Objectives of the project** : Netlist Verification

**Major Learning Outcomes** : Complete Pre Silicon work flow and GLS

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company :** Working Environment of Intel is Good, here we can learn a lot of thing. They provide all the access to Intern , like tool and VNC access so we can perform practical . After 2-3 months , they may include in live project also, there we get more exposure of current work going on.

**Academic courses relevant to the project :** verification Test & test ability (System Verilog), VLSI ARCH , VLSI Design

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**Name:** POULAMI PAL(2017H1400160P)

**Student Write-up**

**Short Summary of work done during PS-II :** Rtl design, rtl design tool development

**Tool used (Development tools - H/w, S/w) :** CoreBuilder, Unix environment

**Objectives of the project :** Tool development, RTL integration

**Major Learning Outcomes :** Perl tcl

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Vlsi arch, reconfigurable computing, vtt

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**Name: ABHISHEK SHARMA(2017H1230209P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Worked on CTS stage in the Automatic Placement and Routing flow on the full chip and partition level

**Tool used (Development tools - H/w, S/w) :** Synopsys ICC2, TCL

**Objectives of the project :** Full chip/Partition clock distribution

**Major Learning Outcomes :** TCL scripting, Flows and Methodologies in the backend of chip manufacturing.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Great work-life balance.

**Academic courses relevant to the project :** CAD for IC design.



**Name: ABHIMANYU KAKKAR(2017H1230218P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Worked on physical design flow and power optimization.

**Tool used (Development tools - H/w, S/w) :** DC, ICC2

**Objectives of the project** : Understand the synthesis and apr flow. Work on power optimization through clock gating

**Major Learning Outcomes** : Physical design flow.

Power optimization.

Clock gating

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : CAD for IC design

VLSI Design

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**Name: VANYA GUPTA(2017H1230225P)**

**Student Write-up**

**Short Summary of work done during PS-II** : I had worked in backend physical design particularly as STA engineer . My major work revolved around looking into timing of entire SOC , doing FCT triaging , checking for violations at partition , subsystem level etc.

**Tool used (Development tools - H/w, S/w)** : Primetime tool

**Objectives of the project** : To generate a refined IO constraint file in order to enhance the timing analysis

**Major Learning Outcomes** : Learnt primetime , STA

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** CAD

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**Name:** KOMAL(2017H1230207P)

**Student Write-up**

**Short Summary of work done during PS-II :** In the starting of the internship, a study project was given initially to understand the process of design and pre-Si validation of a block. The study project helped to understand all the design and validation steps which are followed in the industry along with the learning of System Verilog language and UVM methodology.

After the study project, a task on a live project based on an OVS (open virtual switch) was assigned. The post mid-semester work starts with the understanding of the OVS and its constituent blocks along with the networking concepts. The task was to optimize the existing end to end scoreboard of the current project to make it reusable and easy to understand. All the details of the current scoreboard and the optimization plan have been attached in the report.

**Tool used (Development tools - H/w, S/w) :** gvim editor, VCS synopsys

**Objectives of the project :** To understand the necessary industry steps followed in design and Pre-Si validation of any project.

**Major Learning Outcomes :** SystemVerilog, UVM methodology, debugging

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** VLSI test and testability

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**Name: TAHILIANI VINITA YOGENDRA(2017H1120236P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Worked in the domain of Network-wireless connectivity, testing of the packet processing, throughput testing, automation of the test cases, debugging routing of packets and understanding the dpdk concepts and related application development.

**Tool used (Development tools - H/w, S/w) :** IXIA, Iperf, python, dpdk, mobaXterm, jenkins, git.

**Objectives of the project :** To enhance the Internet connectivity in the sub-urban area by using millimeter and WiGig technology. Increasing the bandwidth and throughput.

**Major Learning Outcomes :** Learn about how to automate the framework, test on the real time processing of the packets, debugging the bug issues in the routing path, additional features like GRE and development flow of dpdk applications.

**Details of Papers/patents :** Terragraph whitepaper

**Brief Description of working environment, expectations from the company :** Quite flexible learning environment, various different tools docs available for base understanding, regular sync up and discussions to get ahead in flow of the project modules with merged work upon the codebase.

**Academic courses relevant to the project :** Computer Networks, Operating System, OOPs, Object analysis and design, Software engineering, software architecture, software testing methodologies.

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**Name: AKSHAY KUMAR K(2014B1A30699H)**

### **Student Write-up**

**Short Summary of work done during PS-II :** I have worked in Power Management team for the major part of this semester. I was involved in running dynamic tests, analyze the results, getting the waveforms and debugging the hardware issues. It was the type of work you would normally expect in a hardware company. There is lot of scope for automation and improving the present condition of running tests and verifying the design.

**Tool used (Development tools - H/w, S/w) :** VCS, VC LP, Verdi, Tcl

**Objectives of the project :** To verify the RTL design using dynamic simulations

**Major Learning Outcomes :** The learning outcomes include:

1. How to work with different test environments and changing the approach to adapt to something new
2. Analyzing the design in a logical manner to quickly spot the issue and suggest changes to get a workaround or fix it.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Work place in Intel is extremely good. It depends on the student whether or not they want to take the pressure, one can always demand for more work. All the employees are equally approachable. There is no difference between intern and regular employee, everyone is equally encouraged to pursue a task and support is provided to complete it successfully.

**Academic courses relevant to the project :** Computer architecture, Digital design

**Name: KUNAL HARBHAJANKA(2017H1230223P)**

**Student Write-up**

**Short Summary of work done during PS-II :** My work is related to timing convergence and development of the STA Environment

**Tool used (Development tools - H/w, S/w) :** Primetime

**Objectives of the project :** Convergence of timing

**Major Learning Outcomes :** STA analysis , scripting language

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment of the project is good

**Academic courses relevant to the project :** Physical design

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**Name: MADHURESH BHATTACHARYA(2017H1030139P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Worked on developing and setting up a cloud stack. Involved creation of vms, containers and container management softwares.

**Tool used (Development tools - H/w, S/w) :** Ovirt, Foreman, Docker, Kubernetes etc.

**Objectives of the project** : Creation of a cloud stack that has high availability and fault tolerance.

**Major Learning Outcomes** : Ansible, python, docker, kubernetes, foreman, ovirt etc.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Cloud computing, computer network, operating system.

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**Name:** ARUSH SHRIVASTAVA(2017H1230228P)

### **Student Write-up**

**Short Summary of work done during PS-II** : Mostly the work was concentrated around Physical Design. Right from the netlist design planning to the sign off, the entire flow was carried for some of the partitions. Also, some reliability verification tests were done for some of the partitions. And, some scripts were also written for automation of some of the repeated manual tasks.

**Tool used (Development tools - H/w, S/w)** : Hardware: ICC2, Redhawk | Software: Perl, Tcl, Python.

**Objectives of the project** : Learn the Physical Design Flow.

**Major Learning Outcomes** : In understanding how the back end aspect of the SoC design works and the steps involved.

**Details of Papers/patents** : None.

**Brief Description of working environment, expectations from the company :** The working environment was healthy, the team mates were very helpful and pretty much helped along the college to corporate transition phase.

**Academic courses relevant to the project :** CAD for IC Design, VLSI Test and Testability, VLSI Design, Advanced VLSI Design

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## **PS-II Station : Intel India Technology , Hyderabad**

### **Faculty**

**Name: Swapna Kulkarni**

**Comments: Expectations from industry :** Intel India works in various areas like Motherboard chipsets, Network interface controllers and integrated circuits, Flash memory, Embedded processors, Software development, Biomedical Signal processing, Verification and Validation, Testing and Digital Image Processing and many more. The students are working in various projects like Discrete Graphics Integration and Validation, Performance validation of GPUs, Full chip timing analysis, RLS autowrapper scripts to generate recipes for faster partition execution, Automation of Design For Testability structures using floorplan database, Dynamic Verification of power aware RTL design, Performance Formal Verification, Transformer Model Implementation, Different Floorplanning Methodologies, Test platforms integration, RTL Quality improvements based on static checks, Constraints cleanup with GCA, Full Chip Integration/ Clock Tree Synthesis, Power Estimation and optimization, DFT RTL Design and Integration, AI media processor SoC, Connectivity in SoC, Validation of P4 Tools using Test Framework, VM Orchestration Framework, Terragraph, Design and verification

of CDC FIFO MUX, Structural design and implementation of physical block, ATS SoC, FIVR SD, Test Platforms Integration, Design For Graphics Debug.

According to mentors feedback and observations, students need to be trained in scripting languages Perl, Tcl, etc, AMBA protocol, VLSI architecture and mobile Communications. Intel has recently started new technologies and innovations in machine learning and embedded system. Student need to be prepared with new challenges and have interest in research as well.

## **Student**

**Name:** HARSHA BAJPAI(2015A3PS0337H)

### **Student Write-up**

**Short Summary of work done during PS-II :** The FEBE Fishtail team is responsible for RTL constraint and Timing

Exception Analysis. Setup, SDC, Clock Definition, Clock Propagation, Generated Clock, Clock Crossing and Case Analysis issues are generated using Fishtail software and are analyzed. First Setup and SDC issues are cleaned and then other issues as mentioned are cleaned. The issues analyzed are reported to respective partition owners who are responsible for resolving the issues.

**Tool used (Development tools - H/w, S/w) :** Fishtail

**Objectives of the project :** To do formal verification and to analyze the constraints and timing exceptions of the clock

**Major Learning Outcomes :** work in actual project of the company exposes to the actual errors faced and helps in debugging issues

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project** : Embedded Systems,FPGA, Computer Architecture,ADVD

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**Name:** RITIKA RAMCHANDANI(2015A3PS0186H)

### **Student Write-up**

**Short Summary of work done during PS-II** : My work was based on validation of the security engine, using System Verilog and OVM. This required an in-depth understanding of data paths and internal structure of the engine. After gaining a deeper understanding into the functionality of the engine, I wrote test cases for it and analyzed waveforms to debug in case of any errors.

**Tool used (Development tools - H/w, S/w)** : ACE, DVE

**Objectives of the project** : Validation of System Security Module

**Major Learning Outcomes** : The internal working of the system security engine, System Verilog, OVM

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : There is a lot to learn at Intel although it requires motivation and dedication. The people are friendly but don't talk much unless spoken to. Mentors and managers are easily approachable and are always ready to help and explain things.

**Academic courses relevant to the project** : Digital Design, Computer Architecture, FPGA, Embedded System Design

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**Name: ALURU KRISHNA SHYAM .(2017H1230121H)**

### **Student Write-up**

**Short Summary of work done during PS-II :** The whole VLSI Physical Design flow is executed on SoC partitions. It started with synthesis , then Floor plan , Placement and Routing. Design Compiler by Synopsys is used for synthesis, ICC - II by Synopsys for rest of the flow.

**Tool used (Development tools - H/w, S/w) :** Design Compiler by Synopsys, IC Compiler - II by Synopsys, Prime Time by Synopsys.

**Objectives of the project :** To generate clean GDS -II from RTL for an SoC partition.

**Major Learning Outcomes :** Using different industry standard tools, Different aspects of VLSI Physical Design.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** CAD for IC, VLSI Design

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**Name: TANMAY CHAUDHARY(2017H1230127H)**

### **Student Write-up**

**Short Summary of work done during PS-II :** The role i am involved in deals with power analysis and the implementation of the low power techniques to make the chip power efficient. The tool used takes various collateral files as inputs and generates the power summary reports

for the respective partitions of the chip/SOC. Further analysis involved in the project deals with electromigration and IR drop checks in the power delivery network.

**Tool used (Development tools - H/w, S/w) :** Prime Time PX tool

**Objectives of the project :** To analyze the power consumption involved at the chip level and implementation of low power techniques to achieve the required target. Extraction of the final data using TCL/Perl Scripts

**Major Learning Outcomes :** Acquaintance with the backend design power methodology flow. Useful hands on experience on the industrial level tool for power analysis. Understanding how the work of various other teams are connected and related my team.

**Details of Papers/patents :** ....

**Brief Description of working environment, expectations from the company :** The working environment at Intel Hyderabad was totally apt for working collaboratively to achieve the goals. People from the team i was associated with as well as other teams had the spirit of working together in a team and helping each other when needed. Lots of new and unknown things were learnt as a result of mutual interaction between the various people working for the company.

**Academic courses relevant to the project :** CAD for IC Design, VLSI Design, Solid State Devices and Circuits.

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**Name:** HARSHA BAJPAI(2015A3PS0337H)

### **Student Write-up**

**Short Summary of work done during PS-II :** We analyzed RTL constraint and Timing Exception Analysis. Setup, SDC, Clock Definition, Clock Propagation, Generated Clock, Clock Crossing and Case Analysis issues are generated using Fishtail

software and are analyzed. First Setup and SDC issues are cleaned and then other issues as mentioned are cleaned. The issues analyzed are reported to respective partition owners who are responsible for resolving the issues.

**Tool used (Development tools - H/w, S/w) :** fishtail

**Objectives of the project :** The different kind of setup , SDC , timing issues are observed and informed.

**Major Learning Outcomes :** Learned to debug issues in RTL design both setup and timing related, learnt to use perl, fishtail software and verdi, learnt to communicate with partition owners regarding issues and learned many linux based skills.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Embedded systems, FPGA, VLSI, computer architecture

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**Name:** SREENIDHI REDDY BOMMU(2015AAPS0279H)

**Student Write-up**

**Short Summary of work done during PS-II :**

IC has millions and billions of transistors and thus the process of designing it is a complex task. So in order to simplify this process, smaller components or subsystems of the chip are designed first and then integrated together to form the SoC. The aim of the project was to design a subsystem such that it can be properly integrated into the SoC along with its verification (quality checks) and debugging.

**Tool used (Development tools - H/w, S/w) :** Intel tools , Verdi(Synopsys)

**Objectives of the project :** To design and integrate DFX subsystem into the SoC

**Major Learning Outcomes :** Front End SoC Design

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment is great. Got a lot of support from the team members whenever i approached them on some issue.

**Academic courses relevant to the project :** Digital Design , Analog and Digital VLSI Design

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## **PS-II Station : J P Morgan Services - GKN Markets , Mumbai**

### **Student**

**Name:** RAJAT GUPTA(2015A1PS0465H)

### **Student Write-up**

**Short Summary of work done during PS-II :** My major tasks include the reconciliation of indices along with escalating and resolving in case of any mismatch between the primary and secondary index levels, preparing reports for clients that include both daily and a monthly overview of index performance and marketing material for Sales team along with developing strategies. My projects included automation of rebalancing indices, development of news based and equity risk premia strategy.

**Tool used (Development tools - H/w, S/w)** : Bloomberg, Python, Visual Studio, HTML, Microsoft Excel, Microsoft Word,

**Objectives of the project** : Development and maintenance of indices

**Major Learning Outcomes** : A better understanding of financial markets and products (index) along with improved proficiency of Python, Microsoft Excel, and Bloomberg.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Fundamental of Finance and Accounting, Derivatives and Risk Management, Financial Analysis, Security Analysis and Portfolio Management

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## **PS-II Station : J P Morgan Services Ltd - Finance , Mumbai**

### **Student**

**Name:** SIDDHARTH GUPTA(2015A4PS0406H)

#### **Student Write-up**

**Short Summary of work done during PS-II** : Automating Regulatory Reporting processes using an Artificial Intelligence based tool known as Xceptor.

**Tool used (Development tools - H/w, S/w)** : Xceptor, Microsoft Outlook, Microsoft Excel

**Objectives of the project :** Automation of Regulatory Reporting processes

**Major Learning Outcomes :** Banking processes, regulations, Automation tools, Corporate ethics

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** FOFA, DRM, FRAM, Basics of Computer Programming

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**Name:** [SIDDHARTH GUPTA\(2015A4PS0406H\)](#)

**Student Write-up**

**Short Summary of work done during PS-II :** Automating Regulatory Reporting processes using an Artificial Intelligence based tool known as Xceptor.

**Tool used (Development tools - H/w, S/w) :** Xceptor, Microsoft Outlook, Microsoft Excel

**Objectives of the project :**

**Major Learning Outcomes :** Banking processes, regulations, Automation tools, Corporate ethics

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project** : FOFA, DRM, FRAM, Basics of Computer Programming

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## **PS-II Station : J P Morgan Services Ltd - GMG & Quant , Mumbai**

### **Student**

**Name:** DESHMUKH ARJUN DEEPAK(2014B3A70517H)

### **Student Write-up**

**Short Summary of work done during PS-II** : Primarily my work was to analyse the performance of e-trading strategies used in the firm.

So e-trading consists of effectively executing orders(think of it as if you are a broker).

A part of my job was also to make alpha strategies to help the business.

The learning was very steep since I was totally new to the concepts in e-trading/ alpha making.

**Tool used (Development tools - H/w, S/w)** : Python, Linear algebra, Probability Theory , Econometrics

**Objectives of the project** : To analyse performance of e-trading strategies.

**Major Learning Outcomes** : I have learned a lot about the e-trading business and the various algorithms used in the business

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : The working environment is great.

You are expected to work around 9-11 hours a day.

The teams are supportive and helpful.

In QR they expect that you know Mathematics very well. Especially Prob Stats, Linear algebra, Calculus. Above average programming knowledge is also necessary (especially python).

Machine learning/ good puzzle solving ability can be a plus point .

Rest you can learn on the go.

**Academic courses relevant to the project :** Econometrics

SAPM

ML

DRM

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## **PS-II Station : JDA Software Solutions , Bangalore**

### **Student**

**Name:** ANINDITA SINGHAI .(2014B1A40620P)

### **Student Write-up**

**Short Summary of work done during PS-II :** JDA software Pvt Ltd is a supply chain solutions company. It has a very relaxed work-life. The teams are result oriented and my project majorly encompassed web development and shell automating.

**Tool used (Development tools - H/w, S/w) :** Powershell, Web development, database management

**Objectives of the project :** 3 different Automation projects

**Major Learning Outcomes** : .net, web development, dbms

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : Flexible timing, result oriented projects, supportive seniors

**Academic courses relevant to the project** : Enough time provide to develop skill hands on

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## **PS-II Station : John F Welch Technology Center (GE) , Bangalore**

### **Student**

**Name:** YASH DINESHBHAI PARIKH(2017H1410154P)

### **Student Write-up**

**Short Summary of work done during PS-II** : The literature survey on Jet Engine Mechanical Component Labyrinth Seal is done to get the understanding of present state of development in this topic.

In other part, An ANSYS APDL macro is developed to ease and expedite the Analysis Procedure.

**Tool used (Development tools - H/w, S/w)** : Ansys Mechanical APDL

**Objectives of the project** : Literature survey on labyrinth seal and Creation of Ansys APDL macro to expedite the analysis process.

**Major Learning Outcomes** : Learned the APDL coding.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Fracture Mechanics, CFD, Vibration

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## **PS-II Station : Juniper Networks , Bangalore**

### **Student**

**Name:** Rutvik Fadnavis(2015A8PS0510G)

### **Student Write-up**

**Short Summary of work done during PS-II :** 1. Understand the specifications for fabric reorder block.

2. Development of fabric reorder model.
3. Porting of existing test cases for the new model
4. Regression testing of new model
5. Characterization of simulation speed with new model

**Tool used (Development tools - H/w, S/w) :** System Verilog  
UVM

**Objectives of the project :** Good quality model that can be used in future silicon validation

**Major Learning Outcomes :** Learning how silicon verification works, understanding the flow of router chips.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Computer Architecture

Digital Design

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## **PS-II Station : Lavelle Networks , Bangalore**

### **Student**

**Name:** GAUTHAM SUBRAMANI(2017H1490292P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Managed and enhanced social media presence of company's profiles through various tactics and growth strategies optimizing content, design and distribution.

**Tool used (Development tools - H/w, S/w) :** LinkedIn AD-Manager, Facebook AD-Manager, Hootsuite, Canva, Twitter Analytics

**Objectives of the project :** Managing and Enhancing Social Media Growth of Lavelle Networks

**Major Learning Outcomes :** Social Media Marketing, Digital Media Marketing, Copy-writing, Designing, Analytics & Data Visualization.

### **Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** An growth stage start-up with a wonderful work environment and peers. An environment which encourages creative thinking and rewards out of box ideas. Mentors are encouraging and help in getting accustomed to work related challenges through constant feedback.

**Academic courses relevant to the project :** Consumer Behavior, Marketing, E-business and Internet Marketing, Market Research, Creating and Leading Entrepreneurial Organization.

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## **PS-II Station : Law Pundits , Trivandrum**

### **Student**

**Name:** ROHAN BABU PAUL .(2015A1PS0682G)

### **Student Write-up**

**Short Summary of work done during PS-II :** The work included mainly event management, planning and marketing. Data mining techniques were mainly used to extract data and reach out to people over email.

**Tool used (Development tools - H/w, S/w) :** Microsoft Excel

**Objectives of the project :** To market and organise the event.

**Major Learning Outcomes :** Event mananement, event marketing, data mining

### **Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** N.A

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## **PS-II Station : LEA Associates , New Delhi**

### **Student**

**Name:** AKASH KAUL KASID(2017H1430067P)

### **Student Write-up**

**Short Summary of work done during PS-II :** During my PS II tenure, I was assigned work related to my core structural engineering branch only with emphasis laid on design of minor bridges and culverts, Design of Abutments and Piers.

Also as Highways have toll plaza buildings, I have assigned to design one such project, though the firm is mainly based on bridge design.

**Tool used (Development tools - H/w, S/w) :** Staad Pro, MS-Office

**Objectives of the project :** Design of Structure According to Client Satisfaction.

**Major Learning Outcomes :** 1. In Depth design of Minor Box type Bridges.  
2. Complete design of Administration building of toll plaza

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment of the firm is very great with very cooperative seniors along with various opportunities to learn new concepts in structural engineering.

**Academic courses relevant to the project :** Design of Bridges

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## **PS-II Station : Lightplane Technologies India Pvt. Ltd , Bangalore**

### **Student**

**Name:** TUSHAR JOEL CORNELIUS .(2014B1A30858G)

### **Student Write-up**

**Short Summary of work done during PS-II :** The project provided a good ground to get introduced to the fields of Machine Learning and Neural Networks. The data for the same was prepared from scratch too. Text processing of the log messages was done and useful features were extracted. Next, the RNN model architecture was decided upon (no of layers,no of nodes etc). Finally, the predictions could be made on the test data with the help of the trained model. The programming of the same was mainly done in Python. The project enabled an introduction to various important Neural Network algorithms and their workings, especially the Recurrent Neural Network (RNN) which was used in our model. The project also introduced to developing a simple Graphical User Interface (GUI) in Python and a thorough working experience with the tkinter module.

**Tool used (Development tools - H/w, S/w) :** Python, Visual Studio Code

**Objectives of the project :** The project focused on predicting future occurrences of errors in a system on the basis of the history of similar such events in order to give enough time to the

administrator to take the necessary steps to counter the problem. Most of the existing technologies are post attack technologies and try to identify the fault after it has occurred. However, prediction of error events in advance is critical to any IT system and is the ultimate objective of this project.

**Major Learning Outcomes** : 1. Git framework 2. Coding standards as per the industry 3. Taking care of memory leaks

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : The working environment in the company was excellent. The managers and mentors were very helpful. Out of their busy schedule they never hesitate to spend time for clearing our doubts and day to day work issues. It's one of the few companies which actually ensures that you gain ample amount of knowledge through this internship and makes all possible efforts from their side to make us achieve the same.

**Academic courses relevant to the project** : Machine Learning, Neural Network

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**PS-II Station : Market Data Forecast (Research Associate) , Hyderabad**

**Student**

**Name: DEEPANSHU TIWARI(2014A2PS0512H)**

**Student Write-up**

**Short Summary of work done during PS-II** : I was in research team and my job was to do secondary research on market and prepare report description for the same with table of content and list of tables.

**Tool used (Development tools - H/w, S/w)** : none

**Objectives of the project** : Report Description

**Major Learning Outcomes** : none

**Details of Papers/patents** : none

**Brief Description of working environment, expectations from the company** : none

**Academic courses relevant to the project** : TRW

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## **PS-II Station : MathWorks India Private Limited , Bangalore**

### **Faculty**

**Name:** Pradheep Kumar K

**Comments: Expectations from industry** : Students should be equipped with skills on Artificial Intelligence, Deep Learning, Machine Learning and Data Analytics

### **Student**

**Name: PRANJAL PRIYADARSHI(2017H1120242P)**

## **Student Write-up**

**Short Summary of work done during PS-II :** The goal of the project is to build a tool to perform the conformance testing of Simulink model and Code generated for the model or hand written code using simulink design verifier (SLDV) generated test cases. Use simulink design verifiers modified condition and decision coverage (MCDC) workflow to automatically generate test cases. Apart from logging the output we will be adding many observation points in the model. Identification of pain points can be achieved by logging each signal of the model and generating the simulink design verifier test case for each logged signal. After having logged the signals from the simulink model we can generate the test case for the simulink model, which returns the test cases in form of a .mat file. After having achieved the .mat file we export the test cases into the simulink test manager, which will help in executing the test case into two available modes Normal mode of simulation and SIL(software in loop) mode of simulation. Normal mode of simulation running all the generated test cases on the models as it is and software in loop mode helps to run the test cases on the C code generated by the Embedded Coder library of matlab. In SIL mode simulation, the test cases are simulated on the source code developed/auto generated for the design Simulink model and output values are recorded at the equivalent inspection points. If there is any difference between the results for both the modes of simulation then we can be sure there exists some pain points in the generated code which we need to overcome. The failed test cases can help us identify the same. The entire process is a bit lengthy process and is time consuming.

**Tool used (Development tools - H/w, S/w) :** Matlab, Simulink, perl,

**Objectives of the project :** The goal of the project is to build a tool to perform the conformance testing of Simulink model and Code generated for the model or hand written code using simulink design verifier (SLDV) generated test cases.

**Major Learning Outcomes :** Software Testing, Distributed Computing

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company** : Awesome work environment, hoping to work on more interesting projects there.

**Academic courses relevant to the project** : Software Testing Methodologies.

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## **PS-II Station : MathWorks India Pvt. Ltd. , Hyderabad**

### **Student**

**Name:** DEVINENI ASLESHA .(2017H1240054H)

### **Student Write-up**

**Short Summary of work done during PS-II** : Project Work: My internship project is "BLE Mesh Friend feature" which is implemented in MATLAB using OOPS concepts. During the start of my project, I learned about Classic Bluetooth, Bluetooth Low Energy and Bluetooth Mesh. In order to maintain the low power consumption of BLE, Bluetooth mesh introduced friend feature. Then, I read about friend feature at transport layer in "Mesh Profile" Bluetooth Specification v1.0.1. For low power nodes like temperature, humidity sensor nodes which receive data less frequently, the amount of time that they need to listen is limited by establishing friendship between low power nodes and friend nodes. Did literature survey on how to compute the energy consumption and lifetime of low power nodes in Bluetooth mesh network. The functionality of nodes with low power feature and friend feature is developed at the transport layer. The timer functionality is developed to maintain the timers for low power node and friend node. The timer functionality is integrated with the low power feature and friend feature functionality. Normal Bluetooth mesh node functionality is implemented in the transport layer in addition to low power and friend feature functionalities. In this project, the average current consumption and lifetime of Bluetooth mesh low power node is computed. Also, the average time statistics of different Bluetooth mesh nodes are compared, and it is observed that, low power node is in sleep state for most of the time which results in more lifetime of the low power node.

Other Activities: Improved coding skills in MATLAB by doing Cody. Improved company needed skills by frequent interactions with the manager and mentor.

**Tool used (Development tools - H/w, S/w) :** S/w: MATLAB

**Objectives of the project :** Develop friend functionality to conserve the energy of Bluetooth mesh low power node like temperature, humidity sensor nodes which receive data less frequently. The energy is conserved by limiting the amount of time that the low power nodes need to listen. This can be achieved by establishing friendship between low power nodes and friend nodes. Once friendship is established, friend node stores messages that are addressed to the low power node and are delivered to the low power node when it explicitly requests the friend node. Also, friend node relays messages on behalf of low power node.

**Major Learning Outcomes :** Learned new concept called Bluetooth mesh introduced in Bluetooth 5.0. Learned how to design friend functionality and its timers using OOPS in MATLAB. Learned about unit testing by testing the friend functionality at the transport layer and integration testing by testing the friend functionality after integration with other layers of mesh system architecture. Learned about how devices are simulated in real-time.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment is peaceful and enthusiastic. As an EDG (Engineering Development Group)er, we have chance to explore projects in various domains.

**Academic courses relevant to the project :** Mobile and Personal Communication and Computer Networks.

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**Name:** NARRA PUJITHA(2016H3130075H)

**Student Write-up**

**Short Summary of work done during PS-II :** Developed a module which uses LiDAR scans to build the map of an environment and also identify the position of the UAV collecting the scans

**Tool used (Development tools - H/w, S/w) :** Matlab

**Objectives of the project :** To develop a LiDAR SLAM example

**Major Learning Outcomes :** Matlab coding, exposure to Robotics system toolbox

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Very healthy work environment and supportive managers

**Academic courses relevant to the project :** None

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**PS-II Station : Maybank Labs Pvt. Ltd. , Bangalore**

**Student**

**Name: UPADHYE KALYANI SHASHANK(2017H1490310P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Working closely with the product owner to understand and help in sprint planning for the agile environment, take inputs from the end users after the business review and delegate it to the development team, prepare sprint end documents like

functional overview, functional case study and user guide, hands on testing tools like Apache Jmeter, HP Load Runner to produce the performance testing results to the product owner, liase with the QA team for test cases, test execution.

**Tool used (Development tools - H/w, S/w)** : HP Load Runner, Apache Jmeter, Oracle SQL developer, JIRA

**Objectives of the project** : Provide business solutions to the Maybank end users.

**Major Learning Outcomes** : Majorly learnt about the work culture in Agile work environment. Also had quite hands on on testing tools.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : NA

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**Name:** [SANYA KHANNA\(2017H1490348P\)](#)

### **Student Write-up**

**Short Summary of work done during PS-II** : I am doing project on Qualitatively Analyzing Reports of Malaysian Companies to Guage Management Stability. In this project, i applied several machine learning algorithms such as Naive's Bayes, RNN etc. I started my work from Creation of training and test data which involves data gathering, selection and labelling. Secondly, data pre-processing in which outliers and missing value treatment. Thirdly, work with feature engineering algorithms and lastly implemented model on different Machine Learning algorithms.

**Tool used (Development tools - H/w, S/w) :** R, PYTHON

**Objectives of the project :** To analyse the financial and companies internal reports and press releases of Malaysian companies to gauge its Management stability

- Major Learning Outcomes :**
1. Identified NLP learning
  2. How to process and extract features from languages
  3. Mining from pdf file
  4. Trying out various traditional machine learning algorithms such as linear and logistic regression etc
  5. Understanding of the business viewpoint and what all will benefit Maybank with this project
  6. How this project can go live with MBB labs
  7. Python as analytics Language with much more advanced packages and script writing.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** It was a great learning experience for non-IT background students. They provide them a platform to know and explore IT world in short period of time. For CS-IT background students, it is the platform to implement their logic's of different developing languages into practical world. They equipped you with new corporate world techniques and developments. Work culture is good. Senior management is easily approachable and patiently resolve your doubts. Employee engagement activities are planned on frequent basis.

**Academic courses relevant to the project :** Marketing Research, Product and Brand Management

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**PS-II Station : MediaTek Bangalore Pvt. Ltd. , Bangalore**

## Faculty

Name: Rekha A

**Comments: Expectations from industry :** The students are working in various VLSI and communication projects like peak detection and power estimation on I/Q data, receiver impairments estimation in MIMO systems, Fuel Gauge Algorithm Development in Li-Ion Batteries, Analysis on 2G logs, convert RTL design into netlist, design verification etc. Students are using Labview, verilog, VHDL and scripting languages like tcl, python , PLA tool, in their projects. The students can refresh their basics and learn basics of scripting languages before they come for PS 2

## Student

Name: SUDHANSHU SHEKHAR(2017H1230130H)

### Student Write-up

**Short Summary of work done during PS-II :** During PS-II the synthesis flow of VLSI design flow has been explored and logic synthesis has been performed on a module. The purpose of doing synthesis is to convert the RTL code of module to technology dependent optimized netlist, it minimizes the slack to meet the timing performance and also, it minimizes area and leakage power. In this project, synthesis of a module has been performed using Synopsys Design Compiler. After applying appropriate constraints on a module, slack has been minimized to 0ns from 1.586ns and leakage power has been minimized to 1.652 $\mu$ W.

Also, the other part of work includes clock domain crossing (CDC) check which has been performed on chip top level using Questa CDC tool. The intention of performing CDC check on chip top level is to make sure that the data exchange between different clock domains is smooth and functionally correct. After applying appropriate synchronizers the infer clock violations has been reduced to zero from 2k and CDC violation has been reduced to 5k from 75 million.

**Tool used (Development tools - H/w, S/w) :** For Synthesis- Design Compiler of Synopsys,

For CDC Check- Questa of Mentor graphics

**Objectives of the project :** To perform synthesis to convert RTL design (Synthesizable HDL code) into optimized technology dependent netlist and to check clock domain crossing (CDC) on chip to make sure different clock domains are synchronized for proper functioning of chip.

**Major Learning Outcomes :** Synthesis is an important step of ASIC design flow as it convert the RTL code to technology mapped netlist and also optimize the design using the optimization variables. Synthesis has been performed for a module and results has been observed and analyzed.

Also, it has been observed that slack can be minimized to zero by using appropriate combination of optimization variables.

CDC is an important check for any design which makes sure that data exchange between different asynchronous modules is smooth and correct.

CDC convergence depends on understanding of the violations and what type of synchronization technique should be used for particular violations.

It is observed that CDC violations and infer clock violations can be minimized to zero if proper design waivers (synchronization techniques) used to solve the violations.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment was upto the level of industry. i expected to work on live project and company help me to provide live project.

**Academic courses relevant to the project :** VLSI Design and Advance VLSI Design

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**Name:** TENDOLKAR ABHISHEK HEMANT .(2017H1230065G)

**Student Write-up**

**Short Summary of work done during PS-II** : Vcf checks, coverage and regression for test chip

**Tool used (Development tools - H/w, S/w)** : Synopsis Verdi

**Objectives of the project** : To verify the test chip

**Major Learning Outcomes** : Verification flow for a test chip

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Mel g626

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## **PS-II Station : Mercedes Benz , Bangalore**

### **Student**

**Name:** KUMAR VATSA .(2017H1410052G)

### **Student Write-up**

**Short Summary of work done during PS-II** : + Generation of reduced- flex body and its use in Multi-Body Dynamic Simulation.

- + Created a GUI to automate the process of initial settings for parking load-case, using Matlab.
- + Created scripts to replace frequently used MATLAB function like 'butter', 'filtfilt', 'tfestimate', used for signal processing and system identification, which require system Identification Toolbox and System Identification Toolbox as an additional plugin.

**Tool used (Development tools - H/w, S/w) :** Hypermesh, NX- Nastran, LMS-Virtual.Lab & MATLAB

**Objectives of the project :** To get the understanding of the software along with the mathematics behind the software.

**Major Learning Outcomes :** Technical Hand- on on Hypermesh, NX- Nastran, LMS Virtual.Lab, & MATLAB.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Great place to learn, explore, and grow in technical and personal trait.

**Academic courses relevant to the project :** FEM, Dynamics and Vibration.

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**Name:** SALUNKE OMKAR SHIVLING .(2017H1410098H)

**Student Write-up**

**Short Summary of work done during PS-II :** 1. Implemented Machine Learning Algorithms to predict Belt Drive dynamics, such as pulley Hub-load variation with speed, Tensioner arm movement, slip-stick behavior of belt and belt tensions.

2. Modelled advanced hydraulic tensioner using Machine Learning algorithm to identify input parameters of tensioner using test bench lever acceleration data.

**Tool used (Development tools - H/w, S/w) :** Matlab, Msc Adams, Motion-solve

**Objectives of the project :** Machine learning approach for parametric optimization of hydraulic tensioner model for enhanced correlation with test data.

**Major Learning Outcomes** : Machine Learning

**Details of Papers/patents** : 1. A machine learning approach for parameter optimisation in dynamic belt drive applications.( Under Review, SAE)

2. Mathematical Modelling Park lock Mechanism.( Under Review, SAE)

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Finite element Analysis

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**Name:** RANIT DATTA(2017H1480137H)

**Student Write-up**

**Short Summary of work done during PS-II** : A vehicle cabin with a panoramic roof was simulated in STAR-CCM+, to understand the flow behaviour inside the cabin, and to understand the dependency of the flow on the opening motion of the roof.

**Tool used (Development tools - H/w, S/w)** : STAR-CCM+

**Objectives of the project** : Studying flow infiltration in a vehicle cabin through sliding roof.

**Major Learning Outcomes** : Aerodynamics, Computational Fluid Dynamics

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : CFD, Fluid Dynamics

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**Name: THAKER SAGAR BIPINBHAI(2017H1060203P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Numerical simulation of nucleate subcooled flow boiling using two correlations along with validation and application to engine cooling jacket

**Tool used (Development tools - H/w, S/w) :** Star-CCM+

**Objectives of the project :** The main aim is to accurately predict the presence of boiling in engine cooling jacket

**Major Learning Outcomes :** Application of CFD in automobile industry

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Everyone in the company is quite supportive and helpful from the very beginning

**Academic courses relevant to the project :** Computational Fluid Dynamics

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**PS-II Station : MiQ Digital India Pvt. Ltd. , Bangalore**

**Student**

**Name: AMIT SONI(2015A2PS0763P)**

**Student Write-up**

**Short Summary of work done during PS-II :** MIQ is a Digital Advertising and Marketing company. I am working as a data analyst. Analyzing Data of various clients and generating proactive insights out of it is a part of my regular work.

**Tool used (Development tools - H/w, S/w) :** Hive , R/Python , Tableau, Excel and Powerpoint

**Objectives of the project :** Majorly you will deal with day to day clients requests. Automation projects in R and Tableau Dashboard will also be a part of your work

**Major Learning Outcomes :** Analyzing and Managing big data for various clients and getting proficient in tools like Hive , R , Excel and Tableau

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment is so nice. People here are really good and helpful. Company knows how to take care of your client really well

**Academic courses relevant to the project :** C programming, Probability and Statistics and DBMS

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**Name: TANMAY JAIN(2015A1PS0669P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Helped 50+ US clients in managing and optimizing their marketing strategies to improve customer conversions via data analysis.

Used R programming language to onboard two new data sources in the company's possession in order to gather better insights for later targeting strategies.

Learnt about business strategies and how to implement them in a real environment.

**Tool used (Development tools - H/w, S/w) :** Softwares for analysis like SQL, R, Tableau, HIVE, Redshift, MS Excel.

**Objectives of the project :** Consulting various clients using data analysis for potential business strategies to optimize their marketing and increase conversions. Also, developing new data resources for the company to enhance the analysis abilities.

**Major Learning Outcomes :** Learnt a lot of softwares - general and company specific.

Helped in onboarding two data resources on the company's platform.

Learnt a great deal on corporate culture and hierarchy in the office.

Understood the importance of accountability and many other soft skills.

**Details of Papers/patents :** Onboarded Twitter and Zillow data on the MiQ's analytics platform.

**Brief Description of working environment, expectations from the company :** Great place to work. Colleagues are of the same age group, hence easier to communicate and do understand you well. Happy work environment and flexible timings. Meals were also served 3 times a day. A lot of learning opportunities in terms of analytics and gained a good understanding of business strategies.

**Academic courses relevant to the project :** Database Systems

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**PS-II Station : Morgan Stanley Advantage Services , Bangalore**

## Student

**Name: Deepak Guneja(2015A7PS0083P)**

### Student Write-up

**Short Summary of work done during PS-II :** Re-engineered the existing banking platform by - parallelizing many things such as various business tasks, stored procedures; removing inter-dependencies between different things; rewriting a few parts of the code.

**Tool used (Development tools - H/w, S/w) :** Java 8, Spring, DB2, Testing tools - JUnit, Concordions

**Objectives of the project :** Reengineering the existing banking platform to achieve efficiency.

**Major Learning Outcomes :** Understood the business-part of the work, ~80% code-coverage, learned the above-mentioned tools.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Good working environment, my Manager was very helpful and supportive, cafeteria food is okay, no hard-timings (depends upon your team).

**Academic courses relevant to the project :** Object-Oriented Programming, Database Management Systems, Data Structures and Algorithms

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**Name: ANANYASHREE GARG(2015A7PS0117P)**

### Student Write-up

**Short Summary of work done during PS-II :** • Understand the existing system and concept of email bounces.

- Understand the existing design of email bounce tracking.
- Came up with new plan on how to integrate the Akka actors to achieve similar functionality.
- The new component follows a parallel approach of processing bounced mail rather than existing sequential approach.
- Developing the component using the Scala/ Akka tech stack.

**Tool used (Development tools - H/w, S/w) :** Scala/Akka, C#, Spring

**Objectives of the project :** • Consolidating application tech stack into Scala/ Akka platform which is both more current as well as core stack used by my team and move away from DotNet.  
• Migration of application to Scala/ Akka tech stack helps mitigate the risk due to minimum available support for DotNet application within the team.

**Major Learning Outcomes :**

I have designed the basic skeleton structure of my project, completed various classes and continue to work on small components one-by-one. My time here so far has given me valuable experience as a programmer and I am excited to see what else is in store for me down the line. I have enjoyed being immersed in a professional software development and plan to use the remainder of my time to learn and take away many valuable lessons that will serve me in my future career.

Regular scrum calls to keep track of the updates help me complete my project in a time bounded and sequential manner. Task completed on each day were accounted in the JIRAS.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Principles of Programming Language, Data Structures and Algorithms, Object Oriented Programming, Database Systems

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## PS-II Station : Morningstar - Index Technology , Mumbai

### Student

Name: SIDDHARTH SOMANI .(2014B4A80911G)

### Student Write-up

**Short Summary of work done during PS-II :** Worked within the Indexes technology team - worked in SQL to improving the performance of the codes , Analyzed the hardcoded password to improve the security of the system, worked in the maintenance of corporate website.

**Tool used (Development tools - H/w, S/w) :** SQL , R , C#

**Objectives of the project :** To provide technological support to the required teams

**Major Learning Outcomes :** Learnt working with the AGILE methodology , writing and optimizing sql queries , GIT control

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The Company has a very friendly environment . The work timings are flexibe.

**Academic courses relevant to the project :**

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## PS-II Station : MSCI (NPD - Index Research) , Mumbai

### Student

Name: PIYUSH LALWANI(2015A4PS0272H)

#### Student Write-up

**Short Summary of work done during PS-II** : Developed assemblies to re-balance MSCI ESG, Climate Change, Consumer

Alpha Indexes with an aggregate of over \$150 billion asset allocation globally.

- Automated the process of Sustainable impact creation, Turnover profile generation and screening parameter creation for index rebalancers.
- Designed and tested customized RACs for Thematic Indexes

**Tool used (Development tools - H/w, S/w)** : Matlab, Python, Excel.

**Objectives of the project** : Gain experience in the index space, learn Python. Part of several new index launches.

**Major Learning Outcomes** : Index Calculation and Rebalancing. Creating New Indexes and understanding Benchmark applications. Automation using MATLAB.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : You will get a lot to learn if you are pro active. Team is highly experienced and helpful.

**Academic courses relevant to the project** : Security Analysis and Portfolio Management (just 10% is relevant)

## PS-II Station : MSCI Technology & Development , Mumbai

### Student

Name: Kapil Sachar(2015A1PS0526P)

#### Student Write-up

**Short Summary of work done during PS-II :** The work involved evaluation of client sentiments using NLP packages to derive correlations between the real life results of positive and negative sentiment communications.

**Tool used (Development tools - H/w, S/w) :** Python

**Objectives of the project :**

**Major Learning Outcomes :** Machine Learning, NLP

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The expectations of the company are very realistic. The work environment is really good. All the peers are more than willing to help. The teams are very welcoming and take put time and effort for the interns.

**Academic courses relevant to the project :** Have not pursued any courses relevant to the topic

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## PS-II Station : National Aerospace Laboratories , Bangalore

### Student

Name: SHETH KAVAN SAMIR(2014B2AB0314P)

#### Student Write-up

**Short Summary of work done during PS-II :** Development of hard coatings with improved mechanical properties using HfZr composite alloys.

**Tool used (Development tools - H/w, S/w) :** Magnetron Sputtering, XRD, XPS, FESEM, UV-Vis-NIR Spectroscopy, Nanohardness

**Objectives of the project :** Achieve high hardness and toughness to replace existing Ti/TiN coatings.

**Major Learning Outcomes :** Research experience in the field of PVD based coatings/thin films

**Details of Papers/patents :** Two papers under review, one to be submitted before end

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Nanochemistry, Material Science

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## PS-II Station : National Centre for Biological Sciences , Bangalore

## Student

Name: NIMISHA NATH .(2017H1290003H)

### Student Write-up

#### Short Summary of work done during PS-II :

**Tool used (Development tools - H/w, S/w) :** Cell culture techniques, transfection, immunostaining, western blot, imaging, cell profiler analysis

**Objectives of the project :** Genetic manipulation and chemical perturbation of the host lysosomal system and determine the rate of survival of Mycobacteria

**Major Learning Outcomes :** Host pathogen interactions, siRNA knock down

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Microbiology, immunology, animal cell technology, advanced cell and molecular biology

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Name: NEHA RAVINDRA ASHTIKAR .(2017H1290009H)

### Student Write-up

**Short Summary of work done during PS-II :** The project was related to the characterizing the pancreatic cancer mouse models and also to design the control experiments for the detection of the acetaldehyde adducts. For characterizing, genotyping PCR was used for six common

pathogenic mutation of pancreatic cancer. The mouse models ear or tail biopsies were processed for DNA isolation and the PCR was performed with the respective gene's mutation designed primers. The results were analysed using imaging and the breeding was set by breeding strategy for desired genotype to be maintained. For the acetaldehyde adduct literature survey was done to design the protocol, initially detection using HPLC was considered but after several discussions LC-MS/MS was found to be reliable therefore protocol was designed for the same. The control sample was given for LC-MS/MS analysis and the results were awaited.

**Tool used (Development tools - H/w, S/w) :** C1000 Touch™ Thermal Cycler, Thermo Scientific™ NanoDrop™ 2000/2000c Spectrophotometer, ™ CL1000 Imaging System from Thermo Fisher Scientific, gel electrophoresis

**Objectives of the project :** 1. Characterization of the genotypes involved in pancreatic cancer in mouse pancreatic cancer model; 2. Detection of Aldehyde-induced DNA and Protein Adducts using LC/MS

**Major Learning Outcomes :** Genotyping of the mouse models using PCR

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The work culture is friendly, relaxed and productive. Seniors are open and honest for the communication and also are supportive, cooperative and emphasis on health, family and environment.

**Academic courses relevant to the project :** Human Genetics, Genetic engineering, advanced cell and molecular biology

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**Name:** SARANYA S.(2017H1290007G)

**Student Write-up**

**Short Summary of work done during PS-II :** Glycans are branched sugar oligomers covalently attached to proteins on the surfaces of all living cells. Glycans are found on the outer surface of cellular and secreted macromolecules, which are in a position to modulate or mediate a variety of events in cell–cell, cell–matrix, and cell–molecule interactions which plays a role in the development and function of a complex multicellular organism and also in host pathogen interactions. Angiopoietin like-2 (Angptl2) is a 57-kDa protein which gets secreted into the circulation.

The classical method to study Golgi fragmentation in small scale level is basic immunofluorescence, in which the cells are fixed and stained for particular Golgi marker. Working concentration of nocodazole was about 10 $\mu$ M to 33 $\mu$ M, paclitaxel of 10 $\mu$ g/ml and the titration of ilimaquinone (IQ) which ranged from 30 $\mu$ M to 100 $\mu$ M was treated on CHO cell line to disorganize Golgi. From the results obtained by immunofluorescence studies, it showed Golgi disruption at 33 $\mu$ M nocodazole on wild type CHO cell line.

Western blot and SDS-PAGE analysis confirmed the presence of Angiopoietin (Ang-CHO) and other non-specific proteins (CHO). Conditioned media obtained at 48hours from CHO cells has optimum protein intensity to extract glycan. From the conditioned medium obtained from recombinant anptl2 CHO cell line purification is being performed to obtain the anptl2 protein. qPCR is in progress to determine gene expression upon Angptl2 induction on endothelial cells. Sample is being processed to extract glycans for mass spectrometry analysis in the future.

**Tool used (Development tools - H/w, S/w) :** Cell culture, molecular biology techniques

**Objectives of the project :** Find correlation between altered Golgi microstructure and corresponding glycan profile.

**Major Learning Outcomes :** Molecular biology techniques, mass spectrometry

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project** : Animal Cell technology, Genetic Engineering, Experimental Techniques, Protein Engineering, Molecular Mechanism of Gene Expression, Immunology

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**Name:** R.SHREENIDHI(2017H1290005P)

**Student Write-up**

**Short Summary of work done during PS-II** : My project consisted of crystallising a fusion protein, for which I was trained in protein expression procedure and automated purification tools like AKTA, using pre-packed columns

**Tool used (Development tools - H/w, S/w)** : AKTA Avant and Pure

**Objectives of the project** : To crystallise a viral protein

**Major Learning Outcomes** : Protein expression and purification techniques

**Details of Papers/patents** : NIL

**Brief Description of working environment, expectations from the company** : State of the art facilities were provided

**Academic courses relevant to the project** : Genetic Engg, ACMB, Computer and Statistics

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## PS-II Station : National Chemical Laboratory , Pune

### Student

Name: NISCHAL HARISH GUTTIKAR(2017H1010039P)

### Student Write-up

**Short Summary of work done during PS-II :** Study of Biomass Gasification as Biomass gasification is a useful method to produce producer gas from Biomass, a renewable and everlasting source of fuel found easily in nature. CFD model is necessitated to understand the complexities of the design in a biomass gasifier. CFD modelling is carried out by a multiphase simulation setup. Kinetic modelling is incorporated so as to find the distribution of temperature, volume fractions by species transport model. CFD modelling is used to find the effect of varying air/biomass flow rate and air temperature on temperature profile, rate of reactions and mass fraction of different species

**Tool used (Development tools - H/w, S/w) :** ANSYS FLUENT

**Objectives of the project :** 1. To study about Biomass Gasification. 2 To model a CFD setup of Biomass Gasifier. 3. To study the effect of varying Air/Biomass Flow rate, air Temperature on Temperature profile, Rate of Reaction and Mass Fraction

**Major Learning Outcomes :** 1. Study of biomass Gasifier 2.use of Ansys Fluent software

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** 1. Helpful people 2. Knowledgeable guides in the field of modelling and simulation, and data analytics. 3. No stipend from company 4. No official software available

**Academic courses relevant to the project :** CHE G554 Computational Fluid Dynamics

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## PS-II Station : National Instruments India Sales , Bangalore

### Faculty

Name: Rekha A

**Comments: Expectations from industry :** The students are working in various VLSI and communication projects like peak detection and power estimation on I/Q data, receiver impairments estimation in MIMO systems, Fuel Gauge Algorithm Development in Li-Ion Batteries, Analysis on 2G logs, convert RTL design into netlist, design verification etc. Students are using Labview, verilog, VHDL and scripting languages like tcl, python , PLA tool, in their projects. The students can refresh their basics and learn basics of scripting languages before they come for PS 2

### Student

Name: SHASHWAT SHARMA(2015A3PS0155P)

#### Student Write-up

**Short Summary of work done during PS-II :** Projects on basic NI hardware and software, Systemlink and a capacitive proximity sensor.

**Tool used (Development tools - H/w, S/w) :** LabVIEW, LabVIEW NXG, SystemLink, DAQ devices, PXI systems and cRIO systems

**Objectives of the project :** SystemLink: Mounting an IIoT demo for the marketing team

**Major Learning Outcomes** : Controllers, IIoT, Electronics

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Great office environment. Expected a PPO and have been offered one.

**Academic courses relevant to the project** : Comp. Prog., Signals and Systems, Control Systems, Power Electronics, Analog Electronics

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**PS-II Station : National Instruments Systems (India) Pvt. Ltd. , Bangalore**

**Mentor**

**Name : Mr. Manoj**

Designation : Senior Group Manager, Rf department

**comments** : The students are doing excellent Job. The student Yavinder singh was offered PPO as well.

**Faculty**

**Name: Rekha A**

**Comments: Expectations from industry :** The students are working in various VLSI and communication projects like peak detection and power estimation on I/Q data, receiver impairments estimation in MIMO systems, Fuel Gauge Algorithm Development in Li-Ion Batteries, Analysis on 2G logs, convert RTL design into netlist, design verification etc. Students are using Labview, verilog, VHDL and scripting languages like tcl, python , PLA tool, in their projects. The students can refresh their basics and learn basics of scripting languages before they come for PS 2

## **Student**

**Name:** YADVINDER SINGH .(2017H1240059H)

### **Student Write-up**

**Short Summary of work done during PS-II :** Initially i have designed the peak detection algorithm using adaptive threshold approach. Using this algorithm solved peak search problems earlier faced by the my team such as Low frequency Image detection, peak detection in Wide band Signal and fixed tolerance value problem. After this started with design of Consolidated reporting for the existing test suite. This reporting structure is first of its kind in the company. This structure report about the Failed cases due to out of power and frequency tolerance, report no tone and multiple tone cases and finally worst power and frequency deviation cases followed by the existing report.

**Tool used (Development tools - H/w, S/w) :** LABVIEW, Perforce

**Objectives of the project :** This project is subdivided into 2 part. The first part deals with the design of robust algorithm for peak detection on I/Q data which try to mitigate the problem occurring in existing peak search algorithm. in second part of the project we have to build a new reporting structure which provides the summarized info of the complete test suite along side the existing report.

**Major Learning Outcomes :** Learned about various signal processing algorithms

**Details of Papers/patents : N/A**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project : Adaptive Digital Signal Processing**

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## **PS-II Station : NetApp , Bangalore**

### **Student**

**Name: MONISHA NAIR(2017H1120241P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** File Analytics for Ransomware Attack Detection  
Ransomware creators use encryption algorithms that prohibit you to decrypt files on your own. Traditional solutions available for this kind of attack can however not be used in NetApp Storage devices. Since traditional solutions use methods such as analysis of the application which does the ransomware attack, for a NetApp filer the application data is not available at the filer level, only requests from the user in terms of read, write and deletions are used. Hence a combination of three major techniques is used to detect the ransomware attack. Analysis of access patterns, randomness indicators and hash related information might be used to detect the ransomware attack has occurred. machine learning techniques are being tried and tested for detection of ransomware attack with better accuracy and less number of false positives. Currently SVM has been able to provide the best results. Techniques specific to WAFL are used to recover, restore and backup user data.

**Tool used (Development tools - H/w, S/w) : Python , C , C++**

**Objectives of the project** : Ransomware Attack Detection

**Major Learning Outcomes** : WAFL FileSystem , Analytics

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : The company has a good learning environment , I was allotted File System encryption team . My team members especially my mentor helped me understand the working of the file system . Apart from that they helped in understanding the problem statement well and I had enough time to do my own analysis regarding the project. There were a number of activities conducted for us like Volunteer Work , Outing and Presentation of our work . Overall experience was good.

**Academic courses relevant to the project** : Operating System , data mining

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**Name:** [GAIKWAD KOMAL SONBA .\(2017H1030032G\)](#)

**Student Write-up**

**Short Summary of work done during PS-II** : I worked on operating system of NetApp. Adding new feature to OS in order to protect data is main target. Studied how to replicate data and recovery of data after disaster. Studied about storage system.

**Tool used (Development tools - H/w, S/w)** : Vi editor

**Objectives of the project** : Data Protection

**Major Learning Outcomes** : Learned about workflow of data protection

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Data storage and networking technology

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## **PS-II Station : Netcore Solutions , Bangalore**

### **Student**

**Name:** R ANAND(2017H1490361P)

### **Student Write-up**

**Short Summary of work done during PS-II :** The domain that I'm assigned with at Netcore Solutions is Customer Success, mainly dealing with the enhancement of Customer Engagement and Customer Retention practices of the firm's associated brands.

I'm assigned to the Marketing Technologist & CSM team at Netcore's Bangalore Office. The team is expected to do anything and everything for making things happen for the customers and ensure quality standards of consulting & service to clients are maintained/improved.

As a part of the team, I'm required to closely work as a Marketing Technology Consultant with leading brands of the corporate across channels like:

- E-Mail
- SMS
- App Push Notification
- Web Push Notification
- In App Notification
- Voice Messaging
- Facebook Custom Audience

Assisting them on establishing the best practices and optimizing their efforts across these channels.

My day-to-day responsibilities include:

- Assuring that the above mentioned brands are being provided with the best Email Delivery Services by ensuring high delivery rate, open rate and click rate for their email campaigns through cross departmental coordination within the firm.
- Assuring that the weekly and monthly goals that are set for the above brands are met and the KPIs are achieved.
- Actively involved in ideation and execution of effective campaigns for brands to drive traffic and revenue.
- Exploring the best of analytics to help the associated brands better their user engagement and retention strategies.
- Maintaining relationships with Senior Level connects from the client side through continuous interaction with them.

**Tool used (Development tools - H/w, S/w) :** Smartech (Netcore's Growth Platform for Brands), Power BI, MS Excel, MS PowerPoint.

**Objectives of the project :**

**Major Learning Outcomes :** Email Marketing, Email Delivery, Innovative Campaign Ideation, Client Handling Skills

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** The work environment is dynamic but very nurturing. You are required to come up with quick solutions to the problems that are thrown at you. The work that you are associated with is very fast paced which will push you to perform to your maximum efficiency. The learning curve is steep for the role assigned. Even though its a managerial role, you are expected to be technically sound as well. The team is expected to be expendable and adaptable in their work.

**Academic courses relevant to the project :**

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## PS-II Station : NetSkope Software India Pvt. Ltd. , Bangalore

### Student

Name: RAJAT BISWAS(2015A7PS0107H)

### Student Write-up

**Short Summary of work done during PS-II :** PS-II provided me an opportunity to put my theoretical knowledge into practice. It gave an industrial exposure and an experience of the real world scenario suitable for my technical background. After having spent a duration of five and a half months at my PS - II station, Netskope Inc., can positively say that I have gained a lot of confidence and expertise to face the challenges in the industrial world.

The Work mostly comprised of improving the features/bugs in their major products which led me to gain the knowledge of how the code is written at the production level. I was also given work in the Dev-Ops field. I also had to write many flask applications which were wrappers for various other cloud applications. You get to learn about the cloud applications, networking a lot in this company. I was also involved in the creation of an Employee Recognition Portal which was for the HR team.

Apart from the project PS-II also gives us industrial exposure. I learnt how coding standards are in an industrial environment. Modulation of the code is of utmost importance. This is because a major concern of the institutions is scalability of the code. The code should remain usable even after a particular person is off the project. It should be understandable to everyone. Thus, variable names, packages, documentation etc. need to follow certain rules as specified by the company.

In an industrial environment, essional conduct is also of a lot of importance. PS-II gave me an exposure to this area as well. Addressing your colleagues and documenting all conversations via emails is very important in a work environment.

As it was my first exposure to IT culture and this programme helped me in every possible way to make transition from an all-academic environment to an industrial environment. Five and a half months is optimum time to get acquainted with these changes. PS-II broadened my knowledge and boosted a lot of confidence in me.

**Tool used (Development tools - H/w, S/w)** : Linux, Ansible, SSH, Flask, AWS-SAM, SignalFx, Bootstrap, Celery

**Objectives of the project** : 1) Automate the process of VM provisioning, 2) Add SignalFx metrics for SLO tracking, 3) Create an Employee Recognition Portal.

**Major Learning Outcomes** : Learning Flask, Ansible, SignalFx, Bootstrap, Celery, AWS-SAM

**Details of Papers/patents** : No Research Paper and patents were made or referred as it was software development work.

**Brief Description of working environment, expectations from the company** : The work environment of the company is amazing. The people are really helpful and sincere in their work. They listen to your doubts however silly they might be and try to solve them and all of them are approachable. There are regular knowledge transfer sessions which helps in listening to others' work and what problem they are facing and how they solved it this leads to recognising the problem if faced by you in the future and then you can solve it yourself only.

The company is a start-up and this is the main reason why the place is so amazing. The business is doing well and thus is attracting new talents from top institutions and have a healthy environment.

**Academic courses relevant to the project** : Cloud Computing, Computer Networking

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**PS-II Station : Nomura - Wholesale Strategy , Mumbai**

## Student

Name: SHAH URVAL DHAVAL .(2015A4PS0272G)

### Student Write-up

**Short Summary of work done during PS-II :** The projects are really interested. It is more or less consultancy project for higher management of Nonura. You will get to learn a lot of new things in finance. It is the combination of finance +consultancy. Very unique team and real good learning opportunities

**Tool used (Development tools - H/w, S/w) :** Bloomberg,Thomson,power point,Excel

**Objectives of the project :** Investment banking and Global Markets strategic performance improvement

**Major Learning Outcomes :** Excellent ppt and excel skill , learnt a lot of thing about investment banking

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** All the Finance course

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**PS-II Station : Nomura Global Finance , Mumbai**

**Student**

**Name: ARNAB PANDA(2015A4PS0343P)**

**Student Write-up**

**Short Summary of work done during PS-II :** I worked with the product control department supporting Investment Banking Division of Asia (excluding Japan) region. My job was to maintain their databases which reflects the IB work. We handled all the P/L statements and associated movements. I was also involved in the restructuring work and automation projects. I built certain reconciliation files for them.

**Tool used (Development tools - H/w, S/w) :** S/W : MS Excel

**Objectives of the project :** Daily BAU

**Major Learning Outcomes :** Total quality management, various concepts of accounting

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** The work environment was very professional and the company expects you to take responsibility towards your job. You need to take initiative and be at your professional best

**Academic courses relevant to the project :** Fundamentals of Finance and accounts

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**Name: ROMIL HIMATBHAI SORATHIA(2015A2PS0476P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Ensured the accuracy of trade bookings and the correct representation of trades in the risk booking systems. Have validated that, for all in-scope deals, all economic parameters captured in the trade booking are thoroughly reviewed,

documented and recorded. Addressed the risk of booking errors or misrepresentation in books & records for trades where there is no direct link between the trade ticket and the final trade confirmation, together with other non-standard and complex trade types.

**Tool used (Development tools - H/w, S/w) :** MS Excel

**Objectives of the project :** Reviewing the Fixed Income deals

**Major Learning Outcomes :** Learned a lot about the structured financial products, particularly the structure and the flow during the the life cycle of a trade.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The Structured Deal Review team is quite supportive and had a great time with them. Helped me at every stage of the process.

**Academic courses relevant to the project : -**

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**Name:** NIHAL GUPTA .(2015A4PS0247G)

**Student Write-up**

**Short Summary of work done during PS-II :** Profit and Loss reporting at Product Control Division, Nomura Services India Ltd is done for several regions which involves tallying of the trade values recorded in back office, front offices and with the estimates given by traders. It monitors Profit or Loss numbers are within specified limit and reports to the appropriate desk if they are huge. My primary responsibility was to produce P&L for the trading desk, substantiate the P&L numbers, explain the P&L to both the traders and onshore regional controllers and ensure that they maintain a 'control' environment.

**Tool used (Development tools - H/w, S/w) :** Excel, VBA, In-house softwares

**Objectives of the project :** Business as Usual

**Major Learning Outcomes :** Understanding markets, financial derivatives, & proficiency in Excel

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Very good corporate culture.

**Academic courses relevant to the project :** FOFA,DRM

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## **PS-II Station : Novartis , Hyderabad**

### **Student**

**Name:** SAJAL BANSAL(2014B1A10657H)

### **Student Write-up**

**Short Summary of work done during PS-II :** Created an in house Customer relations management tool based on excel to have a better and standardized form of engagement with our existing customers and potential customers. Tool was made on the basis of past data available.

**Tool used (Development tools - H/w, S/w) :** Ms Excel, MS POWERPOINT

**Objectives of the project :** Have a better engagement with customers

**Major Learning Outcomes :** How to draw insight from the large data

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Not applicable

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## **PS-II Station : Nreach Online Services Pvt. Ltd. , Bangalore**

### **Student**

**Name:** Priya Rana(2015D2PS0994P)

#### **Student Write-up**

**Short Summary of work done during PS-II :** Worked HR team in starting of my PS after that in Marketing , BTL marketing, Social Media and Digital marketing.

**Tool used (Development tools - H/w, S/w) :** google adwords

**Objectives of the project :** - B2B events to generate leads, social media and ad words, content distribution.

**Major Learning Outcomes :** Learned a lot about marketing.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Xoxoday Company has a good and a friendly environmental and its a good startup to learn and gain experience.

**Academic courses relevant to the project :** marketing research, international business etc

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## **PS-II Station : Nutanix Technologies India Pvt. Ltd. , Bangalore**

### **Student**

**Name:** KATHAN KASHIPAREKH .(2014B3A70792G)

### **Student Write-up**

**Short Summary of work done during PS-II :** My work revolved around improving the logging system used at Nutanix. The current system simply logged information as strings in a text files which made the log files large and less informative. My work revolved around dumping more information that is relevant for debugging and re-creating specific issues and saving them as binary files thus improving the memory efficiency. The information being dumped primarily consists data of Remote Procedure Calls, SSH connections and Libvirt calls made to the hypervisor via a Python handle to it known as pylibvirt.

**Tool used (Development tools - H/w, S/w) :** Python

**Objectives of the project :** Improving the logging system at Nutanix both in terms of the information stored and the efficiency with which the data is stored by saving the data as binary files to use less space.

**Major Learning Outcomes** : Ability to analyze large codebases, quickly prototype ideas in Python, writing unit tests to prove robustness of my code, more comfortable with Unix based systems.

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : Very healthy and cheerful environment. Helpful peers, mentors and managers. Everyone is eager to solve your doubts and help you settle in easily. Everyone takes interest in your work and provide constructive criticism to help you get better.

**Academic courses relevant to the project** : CS F372 Operating Systems

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**Name:** ABHISHEK NELAABH GHOSH(2014B2A70899H)

### **Student Write-up**

**Short Summary of work done during PS-II** : The first project was focused on development of the LCM Framework to enable LCM for dark sites (the sites which have no connection to internet). We implemented a basic DFS to traverse and populate the DB so that the upgrades are shown on the LCM UI page. The second project involved the closing and providing bug fixes during the Make Upgrades Great Again Bug Smash. The third project was involved in adding a support to genesis framework to enable and disable the various features directly from genesis.

**Tool used (Development tools - H/w, S/w)** : Python, API, RPCs, Nutest

**Objectives of the project** : learn about upgrade framework and provide functional support and features to it

**Major Learning Outcomes** : Learnt about how an upgrade framework should work. Also saw various real-life applications of curricular subjects like DSA, OOPS and TOC.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** DSA, OOPS, TOC

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**Name:** T DINESH RAM KUMAR(2014A3A70302P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Used Protobuf as Interface description language to define messages and services. Used gRPC to build client-server architecture applications. Used python to automate performance benchmark tests and measure system resource utilization. Build RPC client and server library in Go.

**Tool used (Development tools - H/w, S/w) :** gRPC, HTTP, Protocol buffers, python, psutil, Go(language), C++

**Objectives of the project :** Compare the performance of gRPC and Nutanix RPC frameworks. Build a high performance Golang RPC client compatible with the Nutanix RPC framework and integrate into existing ecosystem.

**Major Learning Outcomes :** Automation using Python. Using RPC to build micro-service architecture based applications. Performance testing of Servers. Monitoring System resource utilization.

**Details of Papers/patents :** None.

**Brief Description of working environment, expectations from the company :** Working environment is open, friendly and supportive.

**Academic courses relevant to the project** : Computer Networks, Operating System

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**Name:** BHAVSAR NEEL HITESHBHAI(2015A7PS0014H)

### **Student Write-up**

**Short Summary of work done during PS-II** : Automating hypervisor install on a virtual disk to improve productivity of the team. Creating a VM using qemu and passing appropriate disks to the hypervisor ISO to automate the install. Using post install scripts to finally configure the newly installed hypervisor.

Downtime is the last thing a data center customer wants. While doing an upgrade the processes has to be killed and in case of a kernel upgrade the hypervisor needs to be rebooted. This means VM migration of downtime is required. To avoid such downtime the processes need to be "live upgraded". My work was creating a POC by writing a kernel module that allows quick move-paste of memory by copying page table entries of a process to it's child process.

**Tool used (Development tools - H/w, S/w)** : Software used : qemu-system-x86\_64, gdb, kgdb, pdb

**Objectives of the project** : 1. Create AHV qcow2 images from AHV ISO images. 2.) Explore and research live upgrades scenario

**Major Learning Outcomes** : 1) Virtualization with QEMU  
2) Python debugging with pdb  
3) Writing kernel drivers and kernel modules  
4) Kernel debugging with kgdb and kdb  
5) RPM package management and yum repositories

**Details of Papers/patents** : 1 patent ticket filed, work in progress.

**Brief Description of working environment, expectations from the company** : Team : AHV, Acropolis.

Working environment: Very friendly people and flexible timing. Food is provided by the company. Quite interesting projects are given to the interns. Interns are encouraged to understand and file patents and propose new ideas for hackathons. Overall a great place to work.

Expectation from the company is to spend time in learning new and challenging technologies and tools. There are no hard deadlines for projects. I have got different type of work at nutanix during my time including writing helper tools for team, bug fixing and R&D work.

**Academic courses relevant to the project** : Operating systems.

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**Name:** DHANANJAY MANTRI(2015A7PS0139P)

### **Student Write-up**

**Short Summary of work done during PS-II** : Worked on development in the cloud networking team here. Had 3 projects - a datacenter monitoring application, a debugging CLI tool, and a customer-facing enhancement.

**Tool used (Development tools - H/w, S/w)** : Elasticsearch, Django, Proprietary.

**Objectives of the project** : The objective of the work was to build a datacenter monitoring tool that can give alerts based on the status of networking entities across all the datacenters. The second application had the objective of making debugging easier by providing a command line interface tool. The objective of the third one was to make enhancements in the way routing policies are configured by the tenants of Xi.

**Major Learning Outcomes** : Using Elasticsearch to perform search and aggregations. Learnt about writing clean, readable code and the design approach to adopt while facing a problem.

**Details of Papers/patents : NA**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project : None**

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**Name: BHAGWAT SWAROOP SANJAY .(2015A7PS0121G)**

### **Student Write-up**

**Short Summary of work done during PS-II :** The project work that I did at Nutanix mainly belongs to the area of big data and automation of computer science. In total, I did 3 projects. Invisible Release Management is a project where the aim is to automate the process of product release on the Nutanix portal. I added add/edit page functionality in the frontend as well as backend on the Nutanix portal. This also involves model generalization techniques. Streaming Kafka Infrastructure Framework and Fabric (SKIFF) is another project that I did which uses kafka streaming platform for real time usage processing/billing system. It involves building real time system with facility of retries. The product was tested using unit test cases, functional test cases as well as performance tests. It brought a revolutionary change in the existing billing architecture. Third project is about event handling using kafka. It basically involves building real time pub sub system. It also involves queueing system on the database implemented solely in node JS. It is a complete system with many types of components like rest API, kafka rest proxy, various types of authentication architectures etc.

**Tool used (Development tools - H/w, S/w) :** Node JS, Backbone JS, Java, Python, Docker, apache Kafka, confluent platform

**Objectives of the project :** Main objectives of the projects were automation and processing events/usages at real time using a message queues (kafka platform)

**Major Learning Outcomes** : I learnt many software development and programming principles. I also learnt about CI/CD deployment also code pipeline and review processes. I also learnt about Kafka and other messaging services for real time processing.

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** : Nutanix is a startup but a rapidly growing company working in the area of cloud and distributed computing. The working environment is very pleasant, and the people here are very helpful. Especially my mentor who is a staff engineer and my manager who is director of our team are very helpful and friendly in nature. The work here is demanding but there are people in other teams also who are willing to help. Food and other facilities provided are also awesome. Also, there are some events arranged like interns' hackathon which encourage new ideas and implementations of the same which lead to end to end product. The work atmosphere at Nutanix is quite free in a sense that we can reach to anybody and there is not discrimination of any kind. The work and efforts are appreciated, and even senior directors and VP look into this.

**Academic courses relevant to the project** : Object Oriented Programming, Computer Networks, Principles of Programming Languages, Machine Learning

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## **PS-II Station : Nvidia Graphics - Hardware , Bangalore**

### **Mentor**

**Name** : Sathya K

**Designation** : DFT Manager

**comments** : • Delivered Graded Faults for IOCell in a GPU Chip

- Initial coverage numbers were extracted, flow is verified so that we can add more tests to increase coverage in future.
- Analytical and Problem solving skills were good
  - o Ex : FSIM simulation mismatches , he solved with minimum guidance
- Able to work well and co-ordinate with the team.
  - o Ex: Task involved multiple interfaces and multiple projects..
- Motivated to work and contribute
  - o Ex: Critically analysed the problems in evcd generation and fsim wrapper flow and helping with down flow fixes too..
- Need to improve on communication skills, need to communicate firmly and clearly when issues arise.

**Name : Vimal Zalariya**

Designation : Vimal Zalariya

**comments** : Varanya has worked on Post Silicon Functional Validation of PCIE interface. The two key responsibilities in this role are performing PCIE bring up and stability validation. Bring up involves doing basic functional checkout for life, ensuring circuits are functioning reasonably well and there is no deal breaking issues. Stability validation would include stressing the entire PCIe subsystem in conjunction with the rest of the GPU across Process, Voltage and temperature variables of the productization limits.

Working on PCIE interface needs deep knowledge of SERDES architecture, protocol layer knowledge of PCIE.

Varanya was outstanding in this semester in terms of execution, debugs. He picked up things very fast and owned full gen4 PCIE platform qual by himself with little mentorship. His deep understanding of PCIE spec makes him very efficient in debugging problems.

What we look for in interns:

1. Solid understanding of concepts related to post silicon productization and validation. This is typically lacking in college courses as they are mainly focused on pre-si ASIC design and verification
2. Basis grasp on programming language like Perl, general linux usage
3. Basic understanding of system architecture at system level.

**Name : Suresh Kumar Meesala**

Designation : Senior ASIC Engineer, HW-MemSys ASIC

**comments** : Abhishek has worked on C based stimulus generator for Compressor and Decompressor IP in GPU ASIC for optimizing memory Bandwidth. He primarily worked on updating the existing stimulus generator as per requirements of the current chip related to interface data format and width changes as well as compression size/granularity and mixed compression changes for various flavors of the compressor and decompressor IP.

He also worked on various generic enhancements to the stimulus generator. He did the brainstorming and came up with list of enhancements specific to some algorithms and implemented them.

He worked on generalization of Functional Models (FMODs) corresponding to various flavors of the compressor to minimize the overhead for each flavour by defining common functions to be reused across flavors.

Highlights of major achievements and outstanding student characteristics:

In general, the progress is good. The assigned tasks are completed in time (described above) with required support.

Abhishek is very keen on getting the assigned tasks done at the earliest, so that he can get started with something else.

He ramped up pretty quickly on the Arch/algorithms and got fair understanding of the code to get started with execution.

He adopted seamlessly with the changing requirements and phasing.

Areas of Improvement:

Needs to be more process-oriented than being task-oriented.

Need to be more diligent and improve the ability to debug and fix issues more independently.

With required guidance, he is observed to be getting much better regarding the above "areas of improvement".

What do they look for in interns:

Self-driven and possess the ability and enthusiasm to learn and contribute.

**Name : Pavan Kumar Yakamuri**

Designation : Pavan Kumar Yakamuri

**comments** : Work Done:

- Ramp-up included understanding of IP features, APB and AXI protocols, basics of UVM and coverage
- Major work done
  - o Setup cron job to run coverage on regular basis and merge coverage across runs
  - o Analysis of coverage holes and updation of stimulus to improve coverage
  - o Write functional coverage for few new features

Students' Characteristics:

- Enthusiastic and fast learner
- Understands the features/ intent before executing
- Fast execution

We typically look for basic coding skills, right learning attitude, good communication skills.

**Name : Rimu Kaushal**

Designation : Principal Verification Engineer, CPU

**comments** : - Work done by the PS-II students, interactions with them,

Sankara worked as part of Team implementing Regression Scheduler. Regression Scheduler is algorithm-based Test and Test Parameter selection system for running regressions.

Sankara was involved in implementing the framework with different components and mechanisms for interfacing these components. This also involved exploring different implementation options that allow the framework to co-exist with existing infrastructure for running regressions.

- Highlights of major achievements,
  - o Implemented the system which could get prototyped on active regressions.

- Outstanding student characteristics,

Ability to transform solution design spec to implementation with minimal oversight

- What do they look for in interns (not exceeding 500 words)
  - o Ability to learn and pick-up new concepts (Programming skills/algo/automation setups etc)
  - o Ability to comprehend challenges and trade-offs for applicable solutions for given problem statement.

**Name : Vishwajit Reddy G**

Designation : Vishwajit Reddy G

**comments** : Intern was assigned the task of developing a methodology for evaluation CDC/NA violations for an IOBIST RTL unit and generate valid waivers.

BIST Stand-alone Environment: IOBIST RTL is generated in this stand-alone environment along with the associated modules like JTAG (IEEE 1149.1) modules, Data pattern generator and Verifier.

Unit (IP) Environment: IOBIST module is instantiated along with IP interfaces in a simulation testbench environment.

Initial task was to develop an automated waiver generation script which could read the CDC violations generated in the unit level env, it was achieved by developing a python script which generated waivers using standard rules like pseudo-static, false paths, status and so on. Completion of this task involved understanding CDC paths, violation types and the tool used to identify CDC paths – Meridian

Next task was to develop scripts in BIST stand-alone environment which can generate CDC/NA/Synthesis violations and waivers if needed, this is needed because It can help in identifying design issues early in the design flow with minimal turnaround time as compared to running CDC/NA/Synthesis in Unit (IP) level environment. Potential issues can be easily flagged in this environment by looking at the report. Intern was able to pull off this by reusing older trivial script which can be used to run synthesis, much more functionality was added to the script by the Intern which allowed for the flow to be clean. In order to do this Intern had to learn more about the design flow processes like NA/Synthesis and interact with host of people from different teams who owned or worked on these tools prior.

During his internship intern was asked to provide a weekly report which was used to identify the progress of the internship task, it was provided on a timely basis with detailed schedule. This in turn helped in identifying the blocking issues and provide any additional support to the intern in order to accomplish his task.

Characteristics Observed

1. Timely goals: Intern as able to achieve the goals in a timely fashion
2. Teamwork: Intern had very good teamwork skills which he had put to good use while discussing issues with other teammates.

3. Inquisitiveness: Intern had asked questions which are very important while developing a new flow instead of trying to work with whatever was provided initially.
4. Work Ethic: Intern had a good work ethic as observed from the rigorous work schedule followed by him to achieve the goals set as per requirement which varied from interface to interface.
5. Coding skills: Intern's coding skills were good as observed from the waiver script written by him without any help which had adequate debug hooks which are normally ignored but are very helpful in the development of the flow

#### Summary

Intern has performed well on his internship task of developing the methodology tool with impressive work ethic as expected from him.

#### **Name : Roshan Paul**

Designation : Senior Verification Engineer

**comments** : Lohith was able to finish all the tasks assigned to him by understanding the problem statement, underlying concepts and solving the same. He was able to help in making testbench autoscale for a feature that typically changes across projects. This is one of the activities which really adds value to testbench long term. He was also able to help with a lot of other activities like reducing the build time of testbench using partition compile feature of VCS, Re-enabling safety package in testbench, creating a clock modelling class for a specific clock modelling purpose, some of the compartmentalization activities etc...

Lohith got along with team very well and his knowledge in UVM/System Verilog helped in a quick ramp up. He is consistent and unblocks himself by asking the questions without hesitation. He spends time at his end to understand a concept and asks doubts which helps in speeding up overall grasping of concepts. He showed enthusiasm and asked for more tasks to work in parallel with his main task.

#### **Faculty**

**Name: Brajabandhu Mishra**

**Comments: Expectations from industry :** 1) NVIDIA Graphics Hardware, Bengaluru

The Hardware division of NVIDIA Graphics, Bengaluru deals with architecture, design, development and verification work related to GPUs and SoCs of NVIDIA. The work requires expertise in Digital Design, VLSI Design, Architecture Modelling of chips, Synthesis, Low Power Design, Circuit Design and Place and Route of complex VLSI chips. A large chunk of the work at each stage of the Chip involve Verification and Validation. Since the complexity is very large, entire design and verification process require a lot of automation. Hence such a work demands expertise in various scripting languages like Unix Shell Scripting, Perl, Python and Tcl/Tk. Programming languages like Verilog, System Verilog, System C and C++ are necessary for design and verification of such complex circuits. Knowledge of Computer Architecture is essential for working in NVIDIA chips. Of course it is known that the interns may not have expertise in all of the mentioned topics. But it is expected that the interns should be fairly good in on Digital Design, Computer Architecture, Microprocessors, Verilog, Unix Shell Scripting, C++ etc. Knowledge on Python, Perl, Tcl/Tk, System Verilog, System C, Low Power VLSI design will definitely reduce the ramp-up time. Moreover enthusiasm to learn, faster ramp-up. proactiveness, a positive attitude are must have qualities required for the industry.

2) NVIDIA Graphics Software, Bengaluru

The Software division of NVIDIA Graphics, Bengaluru deals with architecture, design, development and verification work related to the software solutions for Automotive based on NVIDIA chips. The work requires expertise in C & C++ programming, Operating System, Linux internals, Build systems, Computer Graphics and Multimedia, Machine Learning and Deep Learning. Since the complexity is very large, entire design and verification process require a lot of automation. Hence such a work demands expertise in various scripting languages like Unix Shell Scripting, Python etc. Knowledge of Computer Architecture is also essential. Knowledge of good coding practices, adherence to associated standards and software engineering processes are necessary for building large and complex software like the ones this team develops. Moreover enthusiasm to learn, faster ramp-up. proactiveness, a positive attitude are must have qualities required for the industry.

NVIDIA Authorities are quite helpful supportive in integrating the student interns into the mainstream activities. The interns work on live projects of NVIDIA and they often interact with

the teams located across globe. Indeed it is a great opportunity for an intern to work in NVIDIA Bengaluru (both Hardware and Software divisions).

**Name:** MANCHALI MANISH(2015AAPS0256H)

### **Student Write-up**

**Short Summary of work done during PS-II :** I was assigned to HW-Soc\_Verif Team. My work as an intern was to verify the connections of PADRING IP and Write functional coverage and modify tests for Logic Analyzer block. Lot of scripting was done to automate the formal connectivity flow required for PADRING IP verification. Understanding of LA architecture, UVM concepts to modify the test bench was also done. System Verilog's Cover groups was used to capture the functional coverage .

**Tool used (Development tools - H/w, S/w) :** Jasper,VCS, Linux, System Verilog

**Objectives of the project :** Verify connectivity of PADRING IP and functional coverage of LA

**Major Learning Outcomes :** UVM concepts. Understanding LA architecture

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** Work environment is not at all stressful but we have to show our deliverables every week and have one on ones with mentors almost daily. The teams and employees are very open and can be pinged anytime to help us out if we are struck.

**Academic courses relevant to the project :** FPGA lab, Digital design, Computer architecture

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Name: RUTWIK NARENDRA JAIN(2015A3PS0726P)

## Student Write-up

**Short Summary of work done during PS-II :** The debug process, as a part of the RTL design flow, goes through fixed steps of creating a wave dump, viewing the waveforms and identifying bugs in the transaction. Developed a tool for tracking transactions through memory management unit for automating the debug process. Developed an algorithm of tracking, and an implementation in Perl.

**Tool used (Development tools - H/w, S/w) :** System Verilog, Perl, Unix, some tools proprietary to the organization

**Objectives of the project :** To automate the debug process for a RTL design by parsing through waveform dumps, in particular, for the Memory Management Unit (MMU).

**Major Learning Outcomes :** Understanding of memory virtualization and MMUs, Perl, System Verilog, RTL Design Build Flows

**Details of Papers/patents :** N.A.

**Brief Description of working environment, expectations from the company :** Very flexible and open working environment. Not just my manager and mentor, the entire team was very approachable for any problems or doubts. One markedly positive aspect was that one is encouraged to think of the smallest of tasks they do in context of the bigger picture as to why it is required for the team or for the chip being designed. Every task gets done efficiently and in the best possible way when this is known.

**Academic courses relevant to the project :** Digital Design, Computer Architecture

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**Name: CHIVUKULA SAI ABHISHEK(2015AAPS0241H)**

## **Student Write-up**

**Short Summary of work done during PS-II :** My main work is basically verification of compression IP , using a C++ environment.The current chip already had the correct code ready, I had to modify the code for upcoming chip.

Before beginning with project , I had to read the theory about overall GPU and get some idea with tools like perforce etc.

First I had to understand the design specifications and differences between current and upcoming model.

Second I had to understand the existing code and identify the parts which will remain same and which has to change.

Third I had to implement the change in the code in phases ,and each phase I had to correct the compilation errors and then run tests and debug the faults in code.

Apart from these I had other general tasks like enhancing the data generating functions

**Tool used (Development tools - H/w, S/w) :** Perforce

**Objectives of the project :** Modification of verification code for upcoming chip

**Major Learning Outcomes :** Learnt to Debug code.

Got acquainted with the corporate work culture

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Nvidia's working environment is excellent , employees are friendly and helpful with the interns. The mentor is very patient in explaining the project related details and also other general doubts related to tools.

I got to learn new algorithms which are unique to organisation and cannot be found in the books.

The work also is challenging and as per the expectation, at times it gets monotonous but overall the work is good and enjoyable.

It is a good learning experience, especially for me handling large blocks of code distributed over multiple files and debugging the errors in them is really challenging and good learning experience.

Apart from this company's transport service and food are also very good.

**Academic courses relevant to the project :** C-Programming , Digital Electronics

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**Name:** Sreemanth Prathipati(2015AAPS0223H)

### **Student Write-up**

**Short Summary of work done during PS-II :** My project deals with working on a tool that generates NA/CDC waivers for IOBIST related waivers and to arrive at a list of standard waivers for the IOBIST that can be reused in future designs and to write tools that can be used to run CDC and NA on RTL generated if required

**Tool used (Development tools - H/w, S/w) :** Python, Meridian CDC, Perl, Design Compiler

**Objectives of the project :** To arrive at standard NA/CDC waivers for IOBIST and to produce tools to run CDC and NA on RTL generated

**Major Learning Outcomes :** Learnt about DFT, CDC and NA; working on methodology projects

**Details of Papers/patents :** -

**Brief Description of working environment, expectations from the company :** The working environment is pretty relaxed and helps you be productive. There are no fixed working hours, you are free to work whenever you want as long as you can finish your work. There are explicit expectations from the company except probably basic background knowledge on relevant subjects and willingness to pick up specific skills required for the project

**Academic courses relevant to the project :** ADVD

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**Name:** S SIDDHARTHA RAMAN(2015AAPS0572H)

**Student Write-up**

**Short Summary of work done during PS-II :** Worked in Physical design team. Have to analyse timing issues, fix DRC's.

**Tool used (Development tools - H/w, S/w) :** Synopsis -ICC2, Cadence - Innovus

**Objectives of the project :** Layout design from netlist to GDS for a GPU

**Major Learning Outcomes :** Understood the real time implications and difficulties faced by a chip designer

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment- friendly and everyone is willing to help

**Academic courses relevant to the project :** Analog and Digital VLSI Design, Digital Design

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**Name:** A LOHITH(2015A3PS0215H)

**Student Write-up**

**Short Summary of work done during PS-II :** The project is based on the Memory Sub Systems (MSS) Verification. The methodology followed in the project was firstly the basic ramp-up study based on Perl, System Verilog programming and understanding UVM (Universal Verification Methodology) primarily used in designing testbench. A basic understanding of Perforce and Unix was required to carry out day to day activities. A Perl script was developed which parses through the log files to get register addresses for some specific read and write operations and print them in a separate file. Another project deals with scaling the testbench. There is a lot of code reuse when the architecture changes from one generation to another, instead of copy pasting the code, it is advised to make the code autoflow across generations. A Cron Job was setup to build and launch tests on a specific testbench regularly and monitor its behavior with regular changes being made to the testbench. Partition Compile was implemented to bring down the compile time.

**Tool used (Development tools - H/w, S/w) :** Perforce, Unix, Synopsys VCS, Verdi, DVE

**Objectives of the project :** Tegra Memory Sub Systems Verification

**Major Learning Outcomes :** Added new technical skills like SystemVerilog, UVM, Perl/Shell Scripting, Memory Access, Constrained Random Verification.

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** The working environment was good. The work given was challenging at times, teammates were very helpful. Regular interactions and meetings with mentor and manager respectively helped me understand my role significantly and also improve upon the work assigned to me. The company expects us to learn things quickly and ready to take up tough tasks, also be creative with solutions one comes up with.

**Academic courses relevant to the project :** Computer Architecture, FPGA Based Design Lab

**Name: Sanjay Gupta(2015A3PS0270G)**

## **Student Write-up**

**Short Summary of work done during PS-II :** During the ramp-up certain tasks were given, like writing Verilog code for Round Robin arbiter, synchronous RAM and asynchronous RAM and then proceeding on the steps of verification, the various components of testbench like agents (sequencer, monitor and driver), scoreboard and virtual interface for ports for the same DUT were written using System Verilog with UVM methodology. A perl script was developed that checks the address range of slaves in two files given by two different teams, which will determine correctness of the address range. The file output of the script is an xls file which contains all the slave name which matched and mismatched. The main objective of this project was to do write, run and analyse functional coverage. Functional coverage for various sub blocks were also written as part of the project. In order to run coverage, various Synopsys Manual were referred for the arguments required to run coverage. The analysis done for running coverage was documented in a Confluence page. Compliance coverage of various cluster fabric were analysed. The Functional coverage analysis increases the verification efficiency enabling the verification engineer to isolate the areas of un-tested function. During the analysis of the coverage, certain untested functions were noted and for those cases extra test run were written. CRON jobs were scheduled to run regressions with coverage enabled, merge coverage databases and generate coverage report, which reduces the workload.

**Tool used (Development tools - H/w, S/w) :** Synopsys Verdi, Synopsys VCS, Synopsys URG

**Objectives of the project :** The major objective of this project was to write, run and analyse functional coverage.

**Major Learning Outcomes :** 1. Thorough Knowledge of Perl, System Verilog with UVM.  
2. Got to know about the thought process of an Verification Engineer in developing testplan of an SOC.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company** : My internship at Nvidia as part of Practice School II program was a great learning opportunity to me as an engineer. The skills I gained from the internship here at Nvidia will helped me throughout my career. Nvidia provides a lot of training at the start of the internship which help a lot during the ramp-up. Their working culture makes it easy to transition from academic to office environment. They have a good system that provide continuous feedback of the work we are working on. They have various fun activities planned during the internship. All the HRs are very friendly and are very eager to help during any problem.

**Academic courses relevant to the project** : Digital Design, Computer Architecture, Analog & Digital VLSI Design, Embedded Systems Design

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**Name:** RUTWIK NARENDRA JAIN(2015A3PS0726P)

### **Student Write-up**

**Short Summary of work done during PS-II** : Objective was to develop a tool that tracks a transaction as it moves through various interfaces within the Memory Management Unit (MMU) and track dynamically allocated resources in order to identify the timestamp and critical attributes that relay valuable information about the transaction.

**Tool used (Development tools - H/w, S/w)** : Perl, Verilog, Synopsys(Verdi), UNIX

**Objectives of the project** : To accelerate the debug process, in particular, for the Memory Management Unit (MMU)

**Major Learning Outcomes** : Software and Tools: Familiarity with UNIX work environment, Performce, Perl, Verilog, Nvidia specific wraps over Verilog, Verdi (Synopsys) and related utilities. Concepts: Understanding of memory management concepts, Memory Management Unit (MMU): architecture and function, RTL structures, flow of data, protocols and interfaces of the

MMU, architecture and functioning of the Memory Sub-System (MSS), Child and Parent processes, piping: basics of operating systems  
Miscellaneous: Proprietary/company specific tools and design flows.

**Details of Papers/patents** : N.A.

**Brief Description of working environment, expectations from the company** : Not only the mentor and manager, but the whole team was extremely approachable and helpful. Offers a lot of flexibility and still gets work done. Great working environment and support from a logistics and HR point of view as well.

**Academic courses relevant to the project** : Digital Design, Computer Architecture

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**Name:** [YASHWARDHAN SINGH\(2014B5AA0759H\)](#)

### **Student Write-up**

**Short Summary of work done during PS-II** : My work involves memory validation in the post silicon validation group. My project involved validation of GDDR6 memory. Memory Qualification being the penultimate step before productization the memory interface between the GPU and the DRAM needs to be tested across all PVT corners to meet the performance requirements. To ensure this the memory settings and the timing parameters between the memory controller and the frame buffer need to be synchronized. To test this some predefined tests are run and the results examined. The overall goal of the qual is to have the GPU ready for productization without any bugs unresolved

**Tool used (Development tools - H/w, S/w)** : Shell Scripting, Java Script, C programming , Verilog

**Objectives of the project** : Validation of memory interface of the GPU and DRAM

**Major Learning Outcomes** : Validation Procedure for validation of DRAM memory

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Analog and Digital VLSI Design, Computer Architecture

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**Name: DEVASTHALE DHRUVA DILIP(2015A3PS0172P)**

**Student Write-up**

**Short Summary of work done during PS-II** : The project "Functional safety tools for Automotive Systems" is a sub part of a larger project whose goal is to ensure automation of processes required for meeting automotive functional safety (ASIL-Automotive Safety Integrity Level) levels for the circuits of chips used in autonomous cars. The main challenge is maintaining the traceability, reproducibility, reliability and robustness of the functional safety mechanisms and tests used to do the diagnostic analysis of the circuits and back annotating the data as and when required to the vc-fsm server. The methodology being followed in the project is the basic ramp-up study based on Python, Perl, SQLite and understanding functional safety tools, fault injection, and FMEDA (Failure modes, effects and diagnostic analysis). This has been followed by involvement in programming tasks to accomplish traceability, maintenance and archival of simulation results, and testing and maintenance of the implemented workflow.

**Tool used (Development tools - H/w, S/w)** : JIRA, Perforce, Python, Perl

**Objectives of the project** : To develop, test and maintain a functional safety tool for back annotating simulation results of fault injection

**Major Learning Outcomes** : Professional - 1) Improved communication and presentation skills

2) Had an experience of working in an objective oriented team environment and deadline based work completion

Technical - 1) Learnt new languages - Python, Perl

2) Basics of fault injection and functional safety tools

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** : The working environment is very good and work-life balance is pretty satisfactory. The employees and managers are friendly, very approachable regarding any queries. Curiosity is encouraged. Overall I found Nvidia Bangalore to be one of the best places to work at.

**Academic courses relevant to the project** : C Programming, OOP, DSA

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**Name:** ADEESH BHARGAVA(2015A3PS0266P)

### **Student Write-up**

**Short Summary of work done during PS-II** : Python is required for the Power Estimation tool as backend code is written in Python and frontend in Excel. Input packets are generated and sent to the server and the output obtained is verified using alternate calculation.

First project was the input sanity check for leakage power, it involved sorting of acquired data, calculating parameters and plotting graphs for determining the leakage power for inter process scaling.

Second project focused on calculating the leakage power after power gating some of the inactive processing units. Power and energy consumption is an important aspect and has to be respected during the development process of chip. Trade-offs have to be made between the power consumption and the performance when designing the architectures.

**Tool used (Development tools - H/w, S/w)** : Python ,Excel, Unix

**Objectives of the project** : To develop optimization algorithms to improve Performance/Watt, get an understanding of the Power Estimation Tool features and improve verification infrastructure for the Power Architecture backend.

**Major Learning Outcomes** : Power estimation , mathematical modelling and optimization algorithms

**Details of Papers/patents** : -

**Brief Description of working environment, expectations from the company** : Excellent work culture, flexible hours, great place to work. Pioneering and cutting edge work, conducive learning environment.

**Academic courses relevant to the project** : Analog and Digital VLSI Design, computer architecture, DSA, Computer programming basics

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**Name:** CHIVUKULA SAI ABHISHEK(2015AAPS0241H)

### **Student Write-up**

**Short Summary of work done during PS-II** : The project is about C based stimulus generator for Compressor and Decompressor IP in GPU ASIC for optimizing memory Bandwidth. Primarily focusing on updating the existing stimulus generator as per requirements of the current chip related to interface data format and width changes as well as compression size/granularity and mixed compression changes for various flavors of the compressor and decompressor IP. Secondly added various generic enhancements to the stimulus generator and implemented them. Also generalized the Functional Models (FMODs) corresponding to various flavors of the compressor to minimize the overhead for each flavor by defining common functions to be reused across flavors.

**Tool used (Development tools - H/w, S/w) :** Perforce

**Objectives of the project :** The final aim of this project is to modify the code of Generator i.e. the code which is used for verification of compression IP, to fit the new upcoming chip.

**Major Learning Outcomes :** Handling large blocks of codes and debugging them

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The environment here at Nvidia is very good, every employee is very helping and approachable which is very essential for an intern. Apart from technical skills, one can learn many soft-skills , like one to one interaction , team work and etc.

The company has already provided the interns the best that a company should, like cab-facility, free lunch and first 15 days accommodation.

**Academic courses relevant to the project :** C programming , Digital Design

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**Name:** ANSHUL JAIN(2015A8PS0398P)

**Student Write-up**

**Short Summary of work done during PS-II :** -> Studied about the functionality of Nvidia's High Speed PHY (a component on an ASIC which contains high-speed communication protocols such as USB, PCIE, SATA, etc.) and its components.

-> Made the Nvidia's High Speed PHY compatible with FPGA by removing the non-synthesizable modules as well the analog components and at the same time, preserved the modules necessary for register configuration.

-> Understood Protocompiler's multi-FPGA Flow.

-> Verified the changes in Simulations

-> Verified the changes in Lab.

**Tool used (Development tools - H/w, S/w) :** Synopsys HAPS Protocompiler, Perforce, UNIX

**Objectives of the project :** To make Nvidia's High-Speed PHY synthesizable by removing non-synthesizable code and the code which is not needed for the register configuration, so that it can be made compatible with System FPGA and Emulation.

**Major Learning Outcomes :** -> FPGA Prototyping concepts.

-> System Verilog

-> Perl (Basic)

-> Understood System FPGA synthesis flow.

-> Perforce - For file handling and sharing.

-> UNIX commands.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment of the company is quite good. The team members are very supportive and they help you in every way possible. The Work-From-home facility is the one that impressed me a lot. Nvidia doesn't force its employees to stay in the office for a minimum number of hours. Rather, it only focuses on the work assigned to its employees. As long as your work is complete, you can work from home or from office.

During my tenure, the company has the hiring freeze and hence most of the students did not get PPO. So, my advice to the future batches would be to keep looking for off-campus opportunities and not depend entirely on the expectation of PPO.

**Academic courses relevant to the project :** Digital Design, Computer Architecture, Analog Electronic, C Programming

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**Name:** RAM KRISHNA(2015A3PS0280P)

## **Student Write-up**

**Short Summary of work done during PS-II :** This report discusses the various tasks CPU verification team works on. It starts with the basic understanding of CPU and its terminologies, then the motivation and methodology behind improving bootrom verification and then the various tasks worked upon including optimization in the duration of different tests using save restore technique, triaging failed regressions and writing Python scripts. It also delves into verification of the data transfer pathway from different I/O devices to SYSRAM/AOTZRAM. It discusses VCS save and restore feature for tests which decreases the test run times drastically.

**Tool used (Development tools - H/w, S/w) :** Perl, Python, C++, System Verilog

**Objectives of the project :** Improving the efficiency of BOOTROM verification

**Major Learning Outcomes :** Perl, Python, C++, System Verilog

**Details of Papers/patents :** None yet

**Brief Description of working environment, expectations from the company :** The working environment was great.

**Academic courses relevant to the project :** Digital Design

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**Name:** ANUVRAT SRIVASTAVA .(2015A8PS0504G)

## **Student Write-up**

**Short Summary of work done during PS-II :** The work that has been done delves specifically into CPU, Boot Architecture and the ways to optimize software and hardware verification. In general terms, booting is starting up a computer or a computer appliance until it can be used. It

can be initiated from hardware or software by a button press or by a command. The report then discusses about triaging regressions and how to go about it. VCS save and restore feature for tests which decreases the test run times drastically.

**Tool used (Development tools - H/w, S/w)** : Linux, Gverdi, PyCHram

**Objectives of the project** : Optimization of bootrom hardware and software verification, basically increasing the efficiency as well as adding verification tests for a SOC

**Major Learning Outcomes** : Python, shell scripting, waves debugging, UVM Phasing

**Details of Papers/patents** : none

**Brief Description of working environment, expectations from the company** : Work environment is one of the best in NVIDIA, horizontal structure is the best part. and almost everyone in the team is like a family.

**Academic courses relevant to the project** : Microprocessor, test and testability of VLSI. But there is a need to add a course specifically for verification part because it'll be helpful in the industry, and no existing compulsory course that comes close to it.

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**Name:** CHAMARTY SRI SAI SRINIVASA VISWABHARGAV(2015AAPS0158H)

### **Student Write-up**

**Short Summary of work done during PS-II** : My project work is on formal verification and functional coverage. In formal verification, the connectivity of pad and corresponding register is extracted from specification using perl scripting and is verified on design using jasper gold tool. In functional coverage, the coverage of a particular sub system is analysed and changes have been made according to test plan. the un-hit bins were analysed and suitable changes were made to tests for covering the bins.

**Tool used (Development tools - H/w, S/w)** : Jasper Gold (Cadence tool), Verdi (Synopsys tool)

**Objectives of the project** : Formal verification and Functional Coverage of design

**Major Learning Outcomes** : Perl, System verilog, Coverage, Formal verification

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Nvidia is one of the few companies where the intern is given equal importance as an employee. The work environment is fun reminding me of the phrase - play way working. (like play way learning) I enjoyed the work to the point that I felt bored during weekends. Regarding expectations from company, perl scripting is essential. They don't expect you to know all the skills beforehand but how fast you can learn new skills matters.

**Academic courses relevant to the project** : Digital Design, FPGA, Computer Architecture

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**Name:** DITTAKAVI VISHNU MOHAN(2015A8PS0464H)

### **Student Write-up**

**Short Summary of work done during PS-II** : I worked as a part of PCIe Design Verification team. I was involved with working on different components of UVM testbench which is used to verify PCIe Bus Protocol. The work involved sanitizing the PCIe Transaction Layer Checker by running regressions and debugging the failures encountered using verdi and fix the issues that I can or assign to someone in the team who can fix those. The next part of the project involved developing functional coverage for the PCIe Data Link Layer to make sure 100% coverage is reported. Then I worked on developed few Perl scripts to automate the verification workflow. In

the end, I cleaned up all the warnings of the testbench and made sure in the future nobody can check-in any code which can throw compile-time warnings.

**Tool used (Development tools - H/w, S/w) :** System Verilog, UVM, Perl and Verdi.

**Objectives of the project :** My main objective of the project was to sanitize the checker in testbench and developing functional coverage.

**Major Learning Outcomes :** Understanding of the UVM testbench structure, development of components in the testbench such as checkers, coverage collectors and Perl scripts to automate verification flow.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Nvidia has a very organized working environment. My mentor and team members were always approachable, helpful and always clarified any issues being faced. Office timings are flexible and Foosball and Table Tennis are available for recreation. There were team meetings once in a week which kept me updated about other team members' work and also helped in getting constructive feedback about my work progress. Overall, the internship at Nvidia was a enriching experience and adds weight to the resume.

**Academic courses relevant to the project :** None

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**Name:** RISHABH MISHRA(2015A8PS0466H)

**Student Write-up**

**Short Summary of work done during PS-II :** The project deals with familiarizing with the industry standard PCIe , its general understanding of transfer of different type of packets , familiarizing and understanding of different layers in PCIe, particularly physical layer. The initial

tasks involved understanding of verilog and perl concepts and spyglass clean of files by padding appropriate bits. The work involved conversion from two symbol mode to four symbol mode of transmit block of physical layer of PCIe. RTL

coding was done for transmit block , as defined by PCIe specifications, which consisted of data scrambler, 128b/130b encoder and 128b sequence generator.

**Tool used (Development tools - H/w, S/w) :** Synopsys VCS , Verdi , VIVA

**Objectives of the project :** To understand about PCIe specifications and be able to do RTL coding based on given specifications.

**Major Learning Outcomes :** An overall understanding of PCIe especially Physical layer and learning of Perl scripting , debugging and verilog coding skills.

**Details of Papers/patents :** Conversion from two symbol mode to four symbol mode in Transmit Block of Physical layer of PCIe.

**Brief Description of working environment, expectations from the company :** The work culture is the best that i experienced. I had to give more than 10 team presentations during my tenure of internship along with regular syncup with Mentor and Manager. My team was very supportive and helping and they took their time out of their busy schedule to help me having my critical thinking skills being developed. I personally acquired some of the important qualities like patience, discipline, and being responsible for your work.

**Academic courses relevant to the project :** FPGA, Digital Electronics , Analog and Digital Design , Computer Architectiure

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**Name:** [DESHMUKH DEEPANKAR YESHWANT\(2015A8PS0587P\)](#)

**Student Write-up**

**Short Summary of work done during PS-II :** Fault simulation of IO-Pads for GPU chip

**Tool used (Development tools - H/w, S/w) :** VCS, ZOIX. (HW)

**Objectives of the project :** To deliver fault and test coverage for different interfaces of IO-pad

**Major Learning Outcomes :** Structure of the tests and IO-pad, Got to know about fault simulation tool ZOIX.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Digital Design

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**Name:** RISHABH MISHRA(2015A8PS0466H)

**Student Write-up**

**Short Summary of work done during PS-II :** Worked on conversion from 2 symbol mode to 4 symbol mode in Transmit lane block of Physical layer of PCIe

**Tool used (Development tools - H/w, S/w) :** Perl, Verilog

**Objectives of the project :** To learn about PCIe specifications and to do RTL coding based on it.

**Major Learning Outcomes :** RTL Coding, PCIe specifications

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company** : Work culture is awesome. Team members are very helpful and helped in developing critical thinking skills.

**Academic courses relevant to the project** : FPGA

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## **PS-II Station : Nvidia Graphics - Software Systems , Pune**

### **Mentor**

**Name : Ranjith Babu Kannikara**

Designation : Senior Software Engineer, System Software

**comments** : Shreeda was a good self-learner and self-starter during the period of internship. She was always able understand the concepts and follow what is needed from her, in the first explanation itself. Also, Shreeda could quickly adjust herself to the Team/organisation work culture and flow. She has shown exceptional commitment and interest in the work.

**Name : Jimit Raja**

Designation : Senior Software Engineer, SW-TEGRA

**comments** : Nikhil worked on Classification and Qualification of Multimedia tools as required for functional safety of road vehicles of electronic systems as described in ISO26262 standard. As part of this task, he understood the use cases, design of certain Multimedia applications related to Camera capture, NVIDIA™ Deep Learning Accelerator. He also wrote test cases for these applications and developed a test automation framework to generate reports and logs without manual intervention.

Nikhil interacted well with his peers and managers and was able to communicate his problems and solutions well. He is a quick learner, thorough and consistent in timely execution of tasks. By the end of the internship, he acquired knowledge on Multimedia frameworks & was able to proceed write classification and qualification reports with minimal guidance.

Right now he is working on Object Detection Trajectory calculation algorithm which will be useful in skew calculation / validation of objects detected in simulated camera capture video.

Skill Rating:

|                              |                     |
|------------------------------|---------------------|
| Understanding of the problem | : Excellent         |
| Coding/Scripting             | : Excellent         |
| Debugging                    | : Good              |
| Communication                | : Good              |
| Presentation                 | : Needs Improvement |

**Name : Harshraj Rao**

Designation : Sr. Engineering Manager, Automotive Software

**comments** : Over the course of two PS-II semesters, Shubham took up work on development projects supporting Nvidia's Linux-Yocto and QNX Automotive SDKs. Shubham developed a good understanding of diverse opensource and proprietary OS frameworks, tools and processes. He also gained a good understanding of Functional Safety concepts and verification methods for safety software. He is a diligent learner, and demonstrated the essential quality expected of an engineer, a systematic approach to problem-solving. Shubham's contributions helped the team meet important deadlines in ongoing project, and are valued by his mentor/senior engineer and all team members.

**Name : Pooja Krishnamurthy**

Designation : Engineer, Automotive Platform Engineering (SW-TEGRA)

**comments** : Snigdha has worked on the Automation of Unit testing for AUTOSAR Software Components compliant to automotive ISO26262 standards using VectorCAST/C++ and Jenkins

tool. The major objective of this course work was to simplify the Unit testing activity for the developer and integrate continuous testing of the software components on a nightly build.

Snigdha has successfully demonstrated the workflow of VectorCAST/C++ and documented the methods for the ease of the developer. In addition, multiple python scripts were written by her in this respect to simplify the tool usage which is appreciable. She has also integrated VectorCAST/C++ into Jenkins tool environment running on an Automated Test System(ATS) that has enabled the continuous testing of the latest code.

Basic subject knowledge and basic programming skills are the primary lookouts in Interns. Over and above this communication skills, ability to work independently, explore new things taught to them and to mingle with the team are some of the additional aspects.

workflow of VectorCAST/C++ and documented the methods for the ease of the developer. In addition, multiple python scripts were written by her in this respect to simplify the tool usage which is appreciable. She has also integrated VectorCAST/C++ into Jenkins tool environment running on an Automated Test System(ATS) that has enabled the continuous testing of the latest code.

Basic subject knowledge and basic programming skills are the primary lookouts in Interns. Over and above this communication skills, ability to work independently, explore new things taught to them and to mingle with the team are some of the additional aspects.

Being strong with subject basics, Snigdha was quick in grasping the concepts of AUTOSAR and the project application which is commendable. The ability to independently find ways of simplifying tasks has been a highlight in Snigdha' s work at Nvidia. She is also a very good team player and her contribution to the project is significant.

**Name : Kirankumar Bobbu**

Designation : Systems Engineer

**comments** : Comments on :

Work done: Automation to create stress testing infra from existing sanity tools

Communication: keen Listener, communicates orally bit fast but clear, presentation skills Excellent

highlights of major achievements: Aggressive project driving capabilities. Proposed alternate solutions for improvisation

Outstanding student characteristics: Good reasoning and questioning

what do they look for in interns: skill to understand any new problem domain, embedded domain knowledge, python/c programming skills.

## Faculty

**Name: Brajabandhu Mishra**

**Comments: Expectations from industry :** 1) NVIDIA Graphics Hardware, Bengaluru

The Hardware division of NVIDIA Graphics, Bengaluru deals with architecture, design, development and verification work related to GPUs and SoCs of NVIDIA. The work requires expertise in Digital Design, VLSI Design, Architecture Modelling of chips, Synthesis, Low Power Design, Circuit Design and Place and Route of complex VLSI chips. A large chunk of the work at each stage of the Chip involve Verification and Validation. Since the complexity is very large, entire design and verification process require a lot of automation. Hence such a work demands expertise in various scripting languages like Unix Shell Scripting, Perl, Python and Tcl/Tk. Programming languages like Verilog, System Verilog, System C and C++ are necessary for design and verification of such complex circuits. Knowledge of Computer Architecture is essential for working in NVIDIA chips. Of course it is known that the interns may not have expertise in all of the mentioned topics. But it is expected that the interns should be fairly good in on Digital Design, Computer Architecture, Microprocessors, Verilog, Unix Shell Scripting, C++ etc. Knowledge on Python, Perl, Tcl/Tk, System Verilog, System C, Low Power VLSI design will definitely reduce the ramp-up time. Moreover enthusiasm to learn, faster ramp-up, proactiveness, a positive attitude are must have qualities required for the industry.

2) NVIDIA Graphics Software, Bengaluru

The Software division of NVIDIA Graphics, Bengaluru deals with architecture, design, development and verification work related to the software solutions for Automotive based on NVIDIA chips. The work requires expertise in C & C++ programming, Operating System, Linux internals, Build systems, Computer Graphics and Multimedia, Machine Learning and Deep Learning. Since the complexity is very large, entire design and verification process require a lot of automation. Hence such a work demands expertise in various scripting languages like Unix Shell Scripting, Python etc. Knowledge of Computer Architecture is also essential. Knowledge of good coding practices, adherence to associated standards and software engineering processes

are necessary for building large and complex software like the ones this team develops. Moreover enthusiasm to learn, faster ramp-up. proactiveness, a positive attitude are must have qualities required for the industry.

NVIDIA Authorities are quite helpful supportive in integrating the student interns into the mainstream activities. The interns work on live projects of NVIDIA and they often interact with the teams located across globe. Indeed it is a great opportunity for an intern to work in NVIDIA Bengaluru (both Hardware and Software divisions).

## **Student**

**Name: SONAWANE AJINKYA LAKHAN .(2014B1A70940G)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Power Consumption monitoring of the GPU

**Tool used (Development tools - H/w, S/w) :** Automated Power Management System

**Objectives of the project :** to check for inconsistency in power consumption

**Major Learning Outcomes :** Data analysis

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** No relevance

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**Name: SHREEDA PATTANAIK(2015AAPS0226H)**

## **Student Write-up**

**Short Summary of work done during PS-II :** My work was primarily based on automating the testing frameworks used. Continuous integration is helpful for this automation. The scripts can be made cron jobs to make the testing process smooth.

**Tool used (Development tools - H/w, S/w) :** Jenkins server

**Objectives of the project :** Automating multimedia testing frameworks

**Major Learning Outcomes :** Scripting using shell and python

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Work environment is good in the sense that people are kind and helpful. Not very hectic schedule. Predefined work and decent(reasonable) expectations

**Academic courses relevant to the project :** Data Structures and Algorithms, Digital Image Processing

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**PS-II Station : Nvidia Graphics -Software , Bangalore**

**Student**

**Name: SHUBHAM MALPANI(2014B2A80778H)**

**Student Write-up**

**Short Summary of work done during PS-II :** Initial phase of the project involved taking up initial source code structure analysis of a NVIDIA QNX system-software component identified for PLC coverage and make modification to some of it's functional components. After Mid-Semester worked on building Nvidia's tegra image using Yocto & Genivi with taking specific requirements for kernel version and other components into account. Also made size optimization of 66% to one of the early booting image of Nvidia. Finally, worked on upgrading QT which is cross-development framework for GUI and merged it into Nvidia's current main branch.

**Tool used (Development tools - H/w, S/w) :** Yocto, Docker, Git, Perforce, Source-trail, C, OS, Unity, CMock, FFF.

**Objectives of the project :** Objective of the project was to get familiarized with various tools like docker, perforce, git, Yocto and to work on analyzing the source code of safety critical QNX BSP safety component identified for NVIDIA's PLC (Product Life Cycle) coverage by working on several unit testing based tools like Unity, CMock & FFF. Also to build Nvidia Specific root filesystem using build tool Yocto and gaining deeper knowledge into these tools by reading and debugging through various errors that were encountered.

**Major Learning Outcomes :** Learnt about the Yocto's build process, Linux Shell scripting and also understanding embedded C programs and debugging them.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** NVIDIA has a very supportive working environment wherein everyone has been very helpful whenever I approached them. We , as interns , were treated no differently than full time employees in terms of work as well as the way in which the team proceeds. I extremely enjoyed working on the project that was assigned to me. I learnt a lot during the course of the internship both on the software and hardware fronts. Also got to know about the software development process and life cycle here. It is an amazing place to learn and start your career as the projects are challenging but at the same time there is no spoonfeeding.

**Academic courses relevant to the project** : Embedded Systems, Operating System, OOPS, C Programming

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**Name:** PRAKHAR GUPTA(2014B2A30906H)

### **Student Write-up**

**Short Summary of work done during PS-II** : As a part of System Software Team, I was given a project on BOOT KPI Optimization for customer Automotive platforms whereby I was supposed to find the potential hotspots throughout various bootloader stages which are feasible for optimizations and present approaches to optimize the same. Overall, the project was open-ended and gave me a complete outlook of the bootloaders, drivers and operating systems in general.

**Tool used (Development tools - H/w, S/w)** : S/W : C programming, Shell Scripting, Python,

**Objectives of the project** : Boot KPI Optimization for Customer Automotive Platforms

**Major Learning Outcomes** : Got a broader picture of bootloaders, drivers and operating systems in general.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Nvidia has a very comfortable working environment. If you are looking for a "chill" PS2 stations where you can interact with some of the best brains in OS industry and contribute to the best projects in embedded systems, graphics, and virtualization, Nvidia Software Bangalore is the place to be.

Other perks :

- > No defined working hours (Work from home if you like)
- > Free food, snacks and cabs to office
- > Decent Stipend (35K)
- > Opportunities to get PPO (Nvidia never let go talent)

> Chilled out the environment and best folks to hang out

**Academic courses relevant to the project** : C programming, Operating Systems, DSA

Apart from academic courses : having knowledge of GIT, Python, Shell is helpful

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**Name:** SHIKHAR SHARMA(2015AAPS0474H)

### **Student Write-up**

**Short Summary of work done during PS-II** : The project deals with the development of a configuration tool for the safety framework for the Autonomous Vehicle platform developed by Nvidia. Along with the generation of the configuration files, the tool also develops interface handlers to be used by various other applications to interact with the safety security framework.

**Tool used (Development tools - H/w, S/w)** : Python

**Objectives of the project** : Worked on developing a python tool for NVIDIA's safety framework for autonomous vehicles.

**Major Learning Outcomes** : Python, C, Autonomous vehicles

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Work environment is friendly and nice. The people are helpful and cooperative. Work life balance is well maintained.

**Academic courses relevant to the project** : C-programming, Any course which needs Python

**Name: NIKHIL MADAN(2015A3PS0283H)**

### **Student Write-up**

**Short Summary of work done during PS-II :** The project deals with the functional safety of the DLA component. It tries to make test application ISO-26262 compliant. DLA is a dedicated hardware component for deep learning inference operation. Its design has been developed keeping in mind the use of convolutional neural networks (CNNs) for object recognition in real time scenario. It also involved development of a framework for Tool-Qualification-Report Generation. This report is generated as a part of qualifying a tool to mark it as safe which can involve increased confidence from use, evaluation of tool development process, validation of the software tool or development in accordance with a safety standard..

**Tool used (Development tools - H/w, S/w) :** Python, C++, unittest

**Objectives of the project :** To develop a tool for generating Tool Qualification Report.

**Major Learning Outcomes :** Linux, Unittest Framework

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** Teammates were really helpful and mentor was always there to help no matter how many times i asked him doubts.

**Academic courses relevant to the project :** C Programming, DSA,

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**Name: UTKARSH AGARWAL(2015A8PS0858P)**

## **Student Write-up**

**Short Summary of work done during PS-II** : Used python to develop a safety network configuration tool which is used to configure sending and receiving commands across different layers of 3 layer safety supervision system which is a safety mechanism used in nvidia's self autonomous driving systems.

**Tool used (Development tools - H/w, S/w)** : Python and json

**Objectives of the project** : Development of a safety network configuration tool and a tool for stress testing

**Major Learning Outcomes** : Python and software development life cycle

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : Everything was great.

**Academic courses relevant to the project** : None

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**PS-II Station : OfBusiness , Gurgaon**

**Faculty**

**Name: Ashish Narang**

**Comments: Expectations from industry :** Rivigo Services (Tech and Non Tech): Rivigo Services Pvt. Ltd., founded in 2014, is an Indian supply chain and logistics company that provide logistics services all across the country. The organization uses a unique relay model which puts them ahead of their competitors. Rivigo offers two roles as interns: Software developer and Business analyst Role. Interns in software development role are exposed to web development, full stack development, Android App development and maintenance. They get to work on latest technologies like Java Springs, Android, React, Redux, Node js and Python etc. Interns in Business analyst role are expected to product analysis, make live reports from data using SQL and Periscope and assist product managers to contribute to product vision. It involves surveying product requirements, verifying the viability of solution framework from various teams and preparing technical specifications for technical team. In technology division, organization prefers to hire students with excellent programming and problem solving skills. Students should have excellent communication skills and analytical ability for business analyst role.

Oyo Rooms(Tech and Non Tech): OYO Rooms, commonly known as OYO, is India's largest hospitality company, consisting mainly of budget hotels. Oyo Rooms offers multiple profiles in technology, product management and business development. Interns in technology at Oyo rooms have worked on front end development, back end development, developed dashboards for pricing metrics, implemented elastic search and also involved in unit and integration testing. Technologies include Hive, superset, Java, Maven, Ruby on rails and JUnit etc. Interns in business development are expected to maintain relation with channel partners and on board new properties. For tech role, organization prefers to have interns with excellent programming skills. For non tech roles like business development and product management, students should have good analytical skills and excellent communication skills.

OfBusiness, Gurgaon: OfBusiness is technology driven start up that provides SME finance and SME business loans with flexible, hassle free and easy documentation. Organization offers profiles in software development. Interns have worked on web development, data pre-processing and character recognition to read captcha's using machine learning techniques. Technology stack includes python, java, tensor flow and keras etc. Organization look forward to hire interns who have sound knowledge of data structures and have excellent programming skills.

**Student**

**Name: MRIDUL ARORA(2015A7PS0075H)**

## **Student Write-up**

**Short Summary of work done during PS-II :** There were two major projects and other small projects that were given to me. In my first project, I was in a team and our objective was to automatically verify the personal information given by the supplier and customer is right or not. For this, we had to make an API to call the government website and take information from there. To do so we had to bypass a captcha. To break the captcha we made a machine learning model to do so.

The second one was to make a part of a web application to automatically make a graph of the company's transaction to map the connectivity between companies. Since oxyzo(a subsidiary company of OfBusiness) is an SME financing platform. So, to give loans to a company our processing team has to run a background check on the bank transaction of the company. This is a tedious process and requires a lot of time. So, to move this faster my project was to make this graph of the companies that are our customer or have a history of a certain type from that bank transactions.

**Tool used (Development tools - H/w, S/w) :** Spring Mvc, java, neo4j, react, echarts, python, keras

**Objectives of the project :** To make a network of companies to to make the loan processing easier

**Major Learning Outcomes :** There were a lot of things that I learnt from working in OfBusiness. It includes software development, how to work in a team, how to manage my time in a better way and lot other little things.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment of the company was very friendly and supportive. Everybody was thrilled to help the person in need as I was the person that needed the help the most. As I was an intern hand everybody else had way more experience than that of me. It was a very open and supportive

environment to work and everybody was ready to listen to new ideas other person had to give. They recognize the person that works hard and acknowledge their presence and are praised. They also put an emphasis on health, family, and environment.

There were a lot of good opportunities that were given to me. I was given a good project despite having virtually no experience in the field. And was helped whenever I needed it. My expectation from the company was to give a good project for me to learn the tricks and trade of the industry and it was fulfilled. So, I was happy to work in OfBusiness it not only helped me to learn software development but also how to effectively work in a team and was fun to work here.

**Academic courses relevant to the project :** Object Oriented Programming, Database Systems, Data Structure and Algorithms

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## **PS-II Station : OYO Tech , Gurgaon**

### **Faculty**

**Name: Ashish Narang**

**Comments: Expectations from industry :** Rivigo Services (Tech and Non Tech): Rivigo Services Pvt. Ltd., founded in 2014, is an Indian supply chain and logistics company that provide logistics services all across the country. The organization uses a unique relay model which puts them ahead of their competitors. Rivigo offers two roles as interns: Software developer and Business analyst Role. Interns in software development role are exposed to web development, full stack development, Android App development and maintenance. They get to work on latest technologies like Java Springs, Android, React, Redux, Node js and Python etc. Interns in Business analyst role are expected to product analysis, make live reports from data using SQL and Periscope and assist product managers to contribute to product vision. It involves surveying product requirements, verifying the viability of solution framework from

various teams and preparing technical specifications for technical team. In technology division, organization prefers to hire students with excellent programming and problem solving skills. Students should have excellent communication skills and analytical ability for business analyst role.

Oyo Rooms(Tech and Non Tech): OYO Rooms, commonly known as OYO, is India's largest hospitality company, consisting mainly of budget hotels. Oyo Rooms offers multiple profiles in technology, product management and business development. Interns in technology at Oyo rooms have worked on front end development, back end development, developed dashboards for pricing metrics, implemented elastic search and also involved in unit and integration testing. Technologies include Hive, superset, Java, Maven, Ruby on rails and JUnit etc. Interns in business development are expected to maintain relation with channel partners and on board new properties. For tech role, organization prefers to have interns with excellent programming skills. For non tech roles like business development and product management, students should have good analytical skills and excellent communication skills.

OfBusiness, Gurgaon: OfBusiness is technology driven start up that provides SME finance and SME business loans with flexible, hassle free and easy documentation. Organization offers profiles in software development. Interns have worked on web development, data pre-processing and character recognition to read captcha's using machine learning techniques. Technology stack includes python, java, tensor flow and keras etc. Organization look forward to hire interns who have sound knowledge of data structures and have excellent programming skills.

## **Student**

**Name: SIDDHANT THAKURIA(2014B1A30466P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** I want working on SAP Syncing and SAP stability. Since, my team was creating its own separate service as a part of Monolith to microservices project, I had received the opportunity to write the code from scratch. My team's work was to write code to generate payload which is then synced to SAP. The syncing

requirements were provided to my team by business department and we used to implement them.

**Tool used (Development tools - H/w, S/w) :** Ruby on Rails, Kafka, Amazon web services, DataGrip, Kibana, new relic, PostgreSQL, Sidekiq, Redis.

**Objectives of the project :** To implement the SAP Syncing requirements given by Business Department

**Major Learning Outcomes :** Ruby on Rails, AWS, Kafka, UI development, Database Query optimisation,

**Details of Papers/patents : -**

**Brief Description of working environment, expectations from the company :** I was given plenty of opportunities and ownerships. The work environment was good. But it was hectic too. There were times, when we used to get a call from the company even at 2 a.m. and had to work to fix very important issue. Sometimes, we had stay back till 12 a.m. in the office. But at the end of the day, I have developed a lot of skills during the internship. I was really lucky to get the opportunity of developing the code from scratch. The entire team was very cooperative and supportive.

**Academic courses relevant to the project : -**

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**Name:** KUMAR HARSH PATEL(2015A3PS0233P)

**Student Write-up**

**Short Summary of work done during PS-II :** Development of a microservice in java and ruby

**Tool used (Development tools - H/w, S/w) :** Eclipse, android studio

**Objectives of the project** : For proper functioning of their server

**Major Learning Outcomes** : Java,ruby,psql,mongo,spring

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : OOp,dbms

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**Name:** RISHAB MEHRA(2015A3PS0347H)

### **Student Write-up**

**Short Summary of work done during PS-II** : My team's main work was in backend where we had to build the various services or features for the hotel manager's App. My work consisted of creating integrated system for all the translations used in various other projects. These translations were crucial for internationalization of OYO. I worked on a project which provides the hotel manager, a structure to keep check on the cash transactions.

**Tool used (Development tools - H/w, S/w)** : S/w : Spring, SpringBoot frameworks, java, AWS, Jenkins, Kubernetes, Postgresql database and Mongoddb databases, IntelliJ

**Objectives of the project** : To create certain features for the hotel manager which will help him to co-ordinate staff, cash transactions and to provide all the features in his native language and not just in English.

**Major Learning Outcomes** : I learnt various tools to build an application which I have already listed. I learnt how to create the REST APIs, what is the meaning of the business logic, writing an industry level code, major products in the organization, co-ordinating in a team.

**Details of Papers/patents : NA**

**Brief Description of working environment, expectations from the company :** You can expect a lot of opportunities here. There is a lot to learn in every team and the growth here is exponential in terms of learning. There are many different teams and the work varies. So, there is something to work on everywhere. Working environment is pretty chill but it also depends upon your managers and the priority of work allotted to your team.

**Academic courses relevant to the project :** Object Oriented Programming, C programming.

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**Name: MANDEEP SINGH .(2015A3PS0260G)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Worked on feature development of consumer desktop website and mobile PWA. Used the latest web technologies and framework to implement the same.

**Tool used (Development tools - H/w, S/w) :** JavaScript, HTML , CSS, ReactJS, Handlebars

**Objectives of the project :** Feature development for the mobile and desktop website and overall improvement of user experience

**Major Learning Outcomes :** Learnt latest web technologies like ReactJS. Also working and handling the pressure in a fast paced working culture

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** OYO Rooms is one of the fastest growing startup in the country currently. The work around here is so fast

paced that you can get to learn a lot in very less time. One can expect long working hours but the learnings which one can get here can prove to be very useful

**Academic courses relevant to the project** : OOPS, DSA , OS

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**Name:** SUMEET KUMAR GUPTA .(2015A8PS0467G)

**Student Write-up**

**Short Summary of work done during PS-II** : Web development of website for managing hotel booking from manager end.

**Tool used (Development tools - H/w, S/w)** : React, VS code, AWS

**Objectives of the project** : Provided hotel management service to properly Manager.

**Major Learning Outcomes** : Front end web development

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Friendly working environment. Everyone is helping in nature. Promote new thinking.

**Academic courses relevant to the project** : None

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## PS-II Station : OYO Tech , Hyderabad

### Student

Name: Mukund Kothari(2015A7PS0133H)

#### Student Write-up

**Short Summary of work done during PS-II** : My work consisted of front end development in React to come up with a new interface for an already existing service and backend development in Ruby on Rails to improve the existing architecture of the core software services being actively used at Oyo.

**Tool used (Development tools - H/w, S/w)** : H/w - Macbook pro  
S/w - Ruby Mine, Visual Studio Code, Postman

**Objectives of the project** : To improve the existing architecture of the oyo backend and also to develop a new interface with which interaction can happen more easily.

**Major Learning Outcomes** : Learnt about the software development process, different technologies used in the industry, and how to develop software in a live environment where each change impacts millions of users.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Working Environment was okay. Basic facilities were provided, in terms of office requirements.

**Academic courses relevant to the project** : Software Engineering, OOPS, DSA, DBMS

## PS-II Station : PAYPAL , Bangalore

### Student

Name: KASHILKAR ADITYA SOMNATH(2015A7PS0098H)

#### Student Write-up

**Short Summary of work done during PS-II :** Built an internal tool named billing admin to facilitate finding and debugging issues related to transactions carried out by PayPal users. It is a web app built using node js for front end with react and backend in java

**Tool used (Development tools - H/w, S/w) :** Nodejs+ react, Java

**Objectives of the project :** To facilitate and automate debugging issues related to transactions done by PayPal users.

**Major Learning Outcomes :** Web app dev, networks, sql, nodejs

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** A very stress-free environment conducive to learning and having fun at the same time. You are expected to deliver but get a lot of help from every employee.

**Academic courses relevant to the project :** Dbms, networks, oop

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Name: KRITIKA SHARMA(2017H1030071H)

#### Student Write-up

**Short Summary of work done during PS-II :** I developed a framework that supports Interface Contract validations in Distributed Systems. This is helpful in Regression testing and ensures that code changes does not break the existing flows on Production.

I was able to add them such that it didn't have impact on test case execution time by large factor. A lot of effort was required in testing code changes as I had to validate for various flows and also look into errors and exceptions in code.

**Tool used (Development tools - H/w, S/w) :** Eclipse, Cassandra Database, MySQL Workbench, Git, Maven

**Objectives of the project :** The objective of the project is to develop a framework which would ensure interface contracts are not breached in Cross Domain Components/Distributed Systems

**Major Learning Outcomes :** 1) Learnt Java 8, Git, Cassandra DB, Jenkins, Spring Framework, Google Protobuf API, tools/applications internally used required for framework development

- 2) Implemented the validations and successfully tested them such that there were no false alarms
- 3) Implemented the solution such that the new validations didn't increase the execution time by large factor
- 4) Learnt code optimizations, dealing with errors/exceptions

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Working environment is very good and relaxed. The company has flexible working hours. Internal culture is friendly and collaborative. There is lot of focus on inclusion and wellness of employees.

The company strongly believes in adding value for its customers by providing unique and fast payment experience.

**Academic courses relevant to the project :** NA

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## **PS-II Station : Paypal , Chennai**

### **Student**

**Name:** MOHAMMAD SALIM ALI KHAN(2015A7PS0017H)

#### **Student Write-up**

**Short Summary of work done during PS-II :** Development on Payment tool Galileo and Galilei

**Tool used (Development tools - H/w, S/w) :** Java EE, Mongo, ReactJS, NodeJS

**Objectives of the project :** To detect and correct payment alerts and exceptions

**Major Learning Outcomes :** Java EE, Mongo, ReactJS, NodeJS

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** OOPS

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**Name:** Anand S Shankar(2014B1A70726H)

#### **Student Write-up**

**Short Summary of work done during PS-II** : A visibility dashboard was required by internal stakeholders at PayPal to be able to track the status of large batch payouts and communicate the same with the merchants, without having to contact the Payouts team at every turn. For the dashboard, I developed a front-end UI using NodeJS and React and a backend API using GraphQL to fetch data from SQL databases and display the relevant information at the front end.

**Tool used (Development tools - H/w, S/w)** : NodeJS, React, GraphQL, HTML, CSS

**Objectives of the project** : The main objective of the project is to develop a visibility dashboard for displaying real-time Large Batch Payouts metrics.

**Major Learning Outcomes** : I was able to develop essential skills in developing Full stack web apps using ReactJS, Node and GraphQL. I also learnt a few concepts in Java8 and Springboot. I was also able to get an understanding of Agile team practices and how tasks are organised to improve team output and productivity.

**Details of Papers/patents** : None

**Brief Description of working environment, expectations from the company** : The work environment was very good during my time at PayPal. I was able to regularly talk to my teammates and clarify my technical doubts, which helped me quickly overcome any roadblocks and continue my work. My teammates were very helpful and clearly explained solutions to my problems.

**Academic courses relevant to the project** : Object Oriented Programming, Database Systems, Computer Networks

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**Name:** GURAJAPU SRAVAN SRI HARSHA(2015A7PS0063P)

**Student Write-up**

**Short Summary of work done during PS-II** : Automated some of the API's in the shipping product of PayPal.

**Tool used (Development tools - H/w, S/w)** : TestNG framework, Postman

**Objectives of the project** : To automate the testcases in the shipping product of PayPal

**Major Learning Outcomes** : Learnt about how API testing is done and the importance of testing in real time business applications.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : The work culture is very good with a lot of work life balance. The expectation from the company's side is to get the intern accustomed to the working environment in PayPal and to make sure he completes the job assigned to him by providing him all the required inputs.

**Academic courses relevant to the project** : Object Oriented Programming.

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**Name:** SHILPA RAJU .(2015A7PS0095G)

**Student Write-up**

**Short Summary of work done during PS-II** : I did a series of POCs related to Android that would help improve the efficiency of existing systems. I added some features to the PayPal app to help improve the user experience.

**Tool used (Development tools - H/w, S/w)** : Java, Android, Selenium, Gradle, Maven, Postman

**Objectives of the project** : The projects were intended to allow me to explore emerging technologies and see how they can be applied for the improvement of PayPal products.

**Major Learning Outcomes** : My Android development skills improved greatly. I learnt to use Postman to make API calls. I learnt how to use REST APIs. I worked in an Agile framework with sprint planning and demos.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : My team was very supportive of my projects. I was provided ample guidance and encouragement to carry out my tasks. My mentors and managers pushed me to participate in various events that took place in the office. Everyone was very invested in my learning during my time here.

**Academic courses relevant to the project** : Software Development for Portable Devices, Computer Networks, Object Oriented Programming

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## **PS-II Station : Petasense - Services & App Development , Bangalore**

### **Student**

**Name:** DEEPAK ALAPATT .(2014B4A30340G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Designed a rule based engine to predict health of bearings on industrial machinery. Also, I worked on building a microservice around this algorithm. Aside from this task, I worked on several minor software development tasks ( Both back end and UI-UX).

**Tool used (Development tools - H/w, S/w)** : Postgresql, Python, Redis, Celery, Kubernetes, JavaScript.

**Objectives of the project** : Full stack development

**Major Learning Outcomes** : Learned a lot about software development and vibration analysis.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Extremely helpful and knowledgeable team.

**Academic courses relevant to the project** : N/A

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## **PS-II Station : Pfizer Ltd. , Ahmedabad**

### **Student**

**Name:** SONAWANE KANCHAN RAJENDRA(2017H1460158H)

#### **Student Write-up**

**Short Summary of work done during PS-II** : understanding of regulatory department working by reading the guidelines/SOP for 2 to 3 months. Referring the health authorities sites , discussion and doubt solving sessions by guide. preparing few submission documents.

**Tool used (Development tools - H/w, S/w)** : web searching and Ms office.

**Objectives of the project** : The objective of this project is to understand the root cause of such disruptions and build up strategies to overcome them, to highlight regulatory strategies to mitigate such problems, to track down regulatory requirements for major geographic (EU, US, Australia, CA, SA, ASIA, China & Japan).

- Major Learning Outcomes** :
1. In-depth understanding of the guidelines from health authorities on the post approval reporting categories.
  2. Understanding of the CTD Sections (the format of filling any drug product details), DMF, CEP.
  3. Briefly overview of vendor management system (in co-ordination to quality assurance department)
  4. Learned regulatory filing procedures for a particular change control.
  5. Strategy building for grouping of variations.
  6. Professional ways of communication with people.

**Details of Papers/patents** : N/A

**Brief Description of working environment, expectations from the company** : Good working environment with all necessary facilities , encouraging and helping colleagues . company is expecting much on how much knowledge we gain rather than just completing a project. Heads of department spend time to review the final presentation and shares their suggestions and advice. There is a proper communication with other sites. monthly knowledge sharing meetings based on regulatory topics. competitions and team building activities are also carried out.

**Academic courses relevant to the project** : QARA- Quality assurance and Regulatory affairs  
DFD- Dosage form design (parenteral part)

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## PS-II Station : Pfizer Ltd. , Chennai

### Student

Name: GUPTA SAKSHI ASHOK(2017H1460284P)

#### Student Write-up

**Short Summary of work done during PS-II** : The project done is regulatory requirements in the renewals of finished pharmaceuticals in Europe and Southeast Asian Countries. For this I went through the official websites of different countries, and tried to extract information either from the renewal guidelines or from the subsection of renewal guidelines in the registration ones. I jotted down the requirements and procedure of filing for each of these countries and plotted out the differences between them.

**Tool used (Development tools - H/w, S/w)** : NA

**Objectives of the project** : Regulatory Requirements for the Renewals of Finished Pharmaceuticals in Europe and Southeast Asian Countries

**Major Learning Outcomes** : CTD, ACTD, NDA, ANDA guidelines, Guidelines for registration and filing of renewals in the above mentioned countries

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** : The working environment is good and appreciable. People are really supportive and reach out to help in case of difficulties. It's a cool, calm and composed environment though with lots of work too. The expectation from the company is to be more supportive and to provide a learning background to help us grasp things better

**Academic courses relevant to the project** : Quality assurance and regulatory affairs, Intellectual property rights, Pharmaceutics.

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**Name: LAKSHMI K(2017H1080261P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Once an NDA, ANDA or a BLA is submitted to any agency for marketing of that particular drug product, it goes through many changes every year until its term period, and each of its change must be notified to the agency. The change may be minor or severe with respect to the quality, safety and efficacy of the product. Thus, they must be filed under their respective categories for the approval of those new changes that needs to be used for the distribution of marketable products. One such type is the minor category of changes which is filed across different markets based on their own specifications and procedures. The minor changes are termed Annual reports in the USA, Type 1A variation in Europe, Annual notification in Canada, Minor variation in Australia and Product Change History in Brazil. Though their classification may be based on the same ideology (minor or no impact on the quality, safety and efficacy of the product), each market has its own documentation requirements and conditions to be fulfilled for a change to be categorized under the above said category. Thus, my project deals with the understanding, requirements and specification of minor type of changes in the USA, Europe, Australia, Canada and Brazil.

**Tool used (Development tools - H/w, S/w) :**

**Objectives of the project :** to understand the various requirements for Minor changes in USA, Europe, Canada, Australia and Brazil

**Major Learning Outcomes :** to Understand the core Regulatory process from an organizations perspective

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The organization had treated us like one among their employees. The organization's head, Mr. K S Babu (Head of Regulatory affairs, India), a fellow BITSIAN, had been supportive through out the duration of the project.

**Academic courses relevant to the project :** QARA

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**Name:** C SARAVAN KRISHNA(2017H1460285P)

### **Student Write-up**

**Short Summary of work done during PS-II :** The project is focused on regulations governing Orphan Drugs in various regulated markets, with a major focus on developed markets like US, EU, Japan, Australia. Criteria to designate a drug as orphan, submission requirements for filling application for getting orphan status and process of orphan designation. Incentives provided by agencies to support pharmaceutical industries and research organisation for developing these drugs. various challenges faced by agencies, industries and patients for the availability of orphan drugs. possible solutions to overcome these challenges

**Tool used (Development tools - H/w, S/w) :** No specialized tools are used in the project.

**Objectives of the project :** To understand the regulations governing designation of orphan drugs in developed nations, including incentive grants provided by Agencies that stimulate R&D to develop such drugs, submission requirements and process of orphan drug designation.

**Major Learning Outcomes :** About orphan drugs and their significance.

Criteria and process of orphan drug designation in various regulated markets.

Progress of orphan drug development in past 3.5 decades.

Status of orphan drug approvals in developed and developing nations.

India's current thinking on Rare Diseases.

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** The company and the employees are quite pleasant, supportive and encouraging in nature. Every one are easily approachable. As a BITSIAN company have high levels of expectations.

**Academic courses relevant to the project :** Quality Assurance and Regulatory Affairs

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**Name:** SANDEEP MISHRA(2017H1460286P)

**Student Write-up**

**Short Summary of work done during PS-II :** Searching web pages of health regulatory agencies of various markets for guidelines related to Registration requirements for NCE and Generics and extracting the required information from those guidelines.

**Tool used (Development tools - H/w, S/w) :** GDMS (Global Document Management System), browsing the guidelines in web pages.

**Objectives of the project :** The purpose of the study is to compare NCE & generic drugs registration requirements in Singapore, Malaysia, Philippines ,Thailand and Australia.

**Major Learning Outcomes :** Learned about regulatory guidelines of different countries along with ICH & USFDA guidelines.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Excellent working and learning environment in the company.

**Academic courses relevant to the project** : Quality Assurance and Regulatory Affairs

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## **PS-II Station : PharmaACE , Pune**

### **Student**

**Name:** SAKSHI JEEVAN NERE(2017H1080255P)

#### **Student Write-up**

**Short Summary of work done during PS-II** : My work here is forecasting for the sales of pharma products

**Tool used (Development tools - H/w, S/w)** : Excel and client based tool like forecastPro

**Objectives of the project** : Client is acquiring another company hence the objective lies in consulting the clients if they are investing correctly and should they go ahead with the same

**Major Learning Outcomes** : Concepts of forecasting, advanced excel and VBA learning

#### **Details of Papers/patents :**

**Brief Description of working environment, expectations from the company** : The working environment and the work is really interesting, there are challenges and you have to be proactive enough and be conceptual

**Academic courses relevant to the project** : Clinical research, IPR, PAM, REGULATORY AFFAIRS, Pharmacology, Chemistry

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**Name: SOURADEEP BOSE(2017H1080264P)**

**Student Write-up**

**Short Summary of work done during PS-II :** The aim of the project is to develop a forecast model for a pipeline asset in COPD and Asthma to determine its commercial opportunities, which can be used as a decision making and validating tool by the client specially the marketing and sales team to determine promotional and marketing strategies. The model should be inclusive of all current and probable future micro and macro-economic events and should have the provisions for including further events as they develop. The other aim for developing this model is to assess and minimize the external risk factors in short and long terms.

**Tool used (Development tools - H/w, S/w) :** EXCEL and EXCEL based VBA

**Objectives of the project :** To provide strategy planning guide and minimize risks regarding new product launch

**Major Learning Outcomes :** Pharmaceutical forecasting techniques and market assessment

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** NA

**Academic courses relevant to the project :** NA

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**PS-II Station : Piramal Group , Mumbai**

## Student

Name: FARHAN ALI .(2015A8PS0471G)

### Student Write-up

**Short Summary of work done during PS-II :** Creating model for construction finance usually takes can take up to 3-4 days, if created manually, and then transferring that data to the ppt takes 1-2 days more and if the data is changed even by a small amount then the whole process is repeated. By automating the whole model, user only have to fill 2 sheets and the rest of 10-20 sheets and the ppt of 60-80 slides is also created automatically all within 5 minutes and with no chance of error. The model, when complete will be used be all the finance, wholesale, and the risk teams working for the Piramal Group. For the development of the model, teams all across India have given their respective inputs on a weekly basis for two and half months, which were then discussed with the higher authorities and after their consent were then implemented in the model.

**Tool used (Development tools - H/w, S/w) :** VBA

**Objectives of the project :** Model Automation

**Major Learning Outcomes :** Learned a new language(VBA) and understood how tracking is done for construction finance loans

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** None

**Academic courses relevant to the project :** None

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**Name: GOTLASETH TARONISH ADIL(2015A3PS0348H)**

## **Student Write-up**

**Short Summary of work done during PS-II :** To analyze the performance of various digital marketing platforms like Facebook, Google etc. for Piramal Capital and Housing Finance. Piramal started its housing finance division in October 2017. A customer interacts with various systems of the Piramal Ecosystem. After analyzing the costs across various social media channels I had to create an interactive dashboard using Microsoft Power Bi and incorporating other various other parameters into it. Since Piramal HFC is quite new, it was necessary to review the working of various parts of the ecosystem and performance of marketing channels. It was important to design a structured and scalable dashboard that could be updated and refreshed on a daily basis.

**Tool used (Development tools - H/w, S/w) :** Python Pandas,R,MS Excel

**Objectives of the project :** Improve the digital campaign efficiency for Piramal Capital and Housing Finance

**Major Learning Outcomes :** Apart from learning about digital marketing ,a learning emphasis was given on the business model

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Great working environment in which there is no heirachal system.One gets to interact with business heads on a daily basis

**Academic courses relevant to the project :** Machine Learning,Information retrieval .

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## **PS-II Station : Pluss Advanced Technologies Pvt. Ltd. , Gurgaon**

### **Student**

**Name:** AKSHAT RASTOGI .(2014B5A10702G)

#### **Student Write-up**

**Short Summary of work done during PS-II :** I have worked in Research and Development department of the organization. We worked on a phase change material based heat sink for electronic vehicle batteries. We also worked on new calorimetric methods for measuring thermal properties of phase change materials.

**Tool used (Development tools - H/w, S/w) :** T-History, DSC, Injection Moulding, 2 Roll Mill, Muffle Furnace etc

**Objectives of the project :** Thermal Sink for EV Batteries

**Major Learning Outcomes :** Working of EV Batteries and new calorimetric methods

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Thermodynamics and Heat Transfer

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## **PS-II Station : PricewaterhouseCoopers (PWC) , Mumbai**

## **Student**

**Name:** JAIN VAIBHAV PRITHVIRAJ(2015A4PS0290P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Market entry if an international client in Oil and Gas industry in India, entry of a present player of Cement industry into the refinery and petrochemical segment and process flow to build a bitument refinery in India

**Tool used (Development tools - H/w, S/w) :** Excel, Powerpoint

**Objectives of the project :** Market entry into the Oil and Gas industry in India

**Major Learning Outcomes :** Presentation skills, Consulting world, Soft skills

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Environment is quite flexible and friendly, expectations is to rely more on interns and include them in the client meetings

**Academic courses relevant to the project :** Supply Chain Management

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**PS-II Station : PricewaterhouseCoopers (PWC) , New Delhi**

## **Student**

**Name: OZA VILOM GANPATLAL(2015A4PS0399P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Performed analytics for German development bank for their study on minigrid

**Tool used (Development tools - H/w, S/w) :** Python, Tableau, MS Excel, MS Word

**Objectives of the project :** To study the minigrid scenario in India

**Major Learning Outcomes :** The minigrid sector needs revamping in that most of the government operated minigrids stop functioning with the change in the governing party

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** The working environment was really constructive, the team helped a lot and they gave client facing quality work to the interns as well

**Academic courses relevant to the project :** NA

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**PS-II Station : Publicis Sapien , Bangalore**

**Student**

**Name: AJAY KUMAR K.(2017H1030039G)**

**Student Write-up**

**Short Summary of work done during PS-II :** Underwent 2.5 month intensive full stack development training , which was followed by a capstone project(building an internal tool using full stack development + microservice architecture which will be used across Publicis Sapien offices around the globe). Was placed into a live shadow project afterwards where we got to work on building and deploying Machine Learning models for specific use cases as needed by a leading client in the financial sector.

**Tool used (Development tools - H/w, S/w) :** VS Code, Jupyter Notebook, Eclipse, Jenkins

**Objectives of the project :** Developing an internal staffing application using Microservice Architecture + Designing, Training and retraining ML models for a client

**Major Learning Outcomes :** Product Thinking, Full Stack development, Machine Learning

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Casual & open work environment in general. No cubicles - everyone except the most senior leaders sit in the same open area. Everyone is encouraged(and expected) to walk up and share thoughts and solve problems together irrespective of designation.

Specific experience varies quite a bit based on which project you are staffed into, since this is a service-based company

**Academic courses relevant to the project :** Cloud Computing, Object Oriented Programming, AI & ML

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**Name:** SHRIRAM R(2015A7PS0011H)

**Student Write-up**

**Short Summary of work done during PS-II :** The PS begins with a training program. The training program is for 45 days followed by a capstone project for the next 15 days, where we build something from scratch and deploy it. The training program is very school-like, going on from 8 in the morning to 5 in the evening with 30 minutes break for lunch. After which you also have like videos to watch at home. And regular quizzes are conducted on the topics being covered. Topics being covered for a full stack engineer are, HTML, CSS, JS, Java, NodeJS, ReactJS, AWS, Java Spring Boot, MongoDB, Jenkins, GIT. They also include soft skill training, agile practices and clean code sessions. The capstone project was to build a internal staffing portal for sapient and was deployed in AWS. Based on your performance in all of the above, you will be allotted to different accounts in Sapient. After which the work was lenient at least for me. I got to work on credit card fraud detection including the idea of mlops. We worked on two use cases. First, receiving real time transaction and predict whether it was fraudulent. Second, detect cases of money laundering or schemes done over a period of time. I mainly focused on building different machine learning models and also keeping in mind the idea of mlops. Overall a very good experience. The work-life balance non-existent during the first two months. This is not for you if you want a chill PS.

Note: The training could change drastically since we were the first batch. Also your work depends on the account you get.

**Tool used (Development tools - H/w, S/w) :** ReactJS, NodeJS, AWS, Python, Java Spring Boot, MongoDB, Jupyter Notebook, Keras, Flask

**Objectives of the project :** Credit Card Fraud Detection

**Major Learning Outcomes :** ML, MLOPS, Full Stack Developer, AGILE

**Details of Papers/patents :** na

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Machine Learning, AI, DSA, DBMS

**Name: SWARAJ K R.(2017H1030047G)**

## **Student Write-up**

**Short Summary of work done during PS-II :** Internship started with 45 days of full stack training. It covered various technologies in front end and back end in breadth. Last 10 days of training was dedicated to develop a product which will be used within Sapient. It was developed with tools, methodology and interactions with various SMEs who shared expert views and practices followed in industry.

After full stack training, shadow project followed. We were introduced to products (Adobe Experience Manager being one of the content management system) which live projects leveraged to optimise development, management of code, content. Management of various environment for software release, deployment of client requirements using agile methodology.

**Tool used (Development tools - H/w, S/w) :** Training

Java- Spring framework, MongoDB, Node JS, React JS, Jenkins, docker

Shadow project

Adobe Experience Manager, Spring reactive framework, Javascript ES6, Jenkins, docker

**Objectives of the project :** Utilise AEM to deliver content management solutions to client

**Major Learning Outcomes :** Micro services, Content management system

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Computer networks, Data Structures, Cloud computing

## PS-II Station : PwC DIAC US Advisory , Bangalore

### Student

Name: VERMA SHREYAS VIVEK(2015A8PS0369P)

#### Student Write-up

Short Summary of work done during PS-II :

Tool used (Development tools - H/w, S/w) : Python,Alteryx,Excel, Tableau

Objectives of the project : Predictive Modelling of B2B KPIs

Major Learning Outcomes : Machine Learning & deep learning Models Applications

Details of Papers/patents :

Brief Description of working environment, expectations from the company : An excellent place for exposure to Business Analytics/ Mgmt consulting

Academic courses relevant to the project : Machine Learning,NNFL

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## PS-II Station : PwC DIAC US Advisory , Mumbai

### Student

**Name: SAMIP JASANI(2015A7PS0127P)**

**Student Write-up**

**Short Summary of work done during PS-II :** We worked on analytics and client projects majorly involving making workflows in Alteryx and visualization in Tableau

**Tool used (Development tools - H/w, S/w) :** Alteryx, Tableau, Python

**Objectives of the project :** Client Projects

**Major Learning Outcomes :** Analytics tools

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Good Working Environment, Flexible Timings, No canteen, Smart Casuals

**Academic courses relevant to the project :** None

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**Name: SAMIP JASANI(2015A7PS0127P)**

**Student Write-up**

**Short Summary of work done during PS-II :** I worked on Business Intelligence and Social Media Analytics

**Tool used (Development tools - H/w, S/w) :** Alteryx, Tableau, Python

**Objectives of the project :** Deliver the final deck for the Client Facing Engagement

**Major Learning Outcomes** : Know about inner working of companies and how business consulting and advisory firms work

**Details of Papers/patents** : N/A

**Brief Description of working environment, expectations from the company** : Company is good overall. It has flexible working hours which takes a hit on your work life balance

**Academic courses relevant to the project** : None

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## **PS-II Station : Qualcomm India Pvt Ltd, Bangalore**

### **Student**

**Name:** GOURAB PAUL .(2017H1400084G)

#### **Student Write-up**

**Short Summary of work done during PS-II** : I am currently working on riscv. Here at Qualcomm my work is to compare the riscv features with Arm Cortex M3. So initially I started with the high level difference and then gradually going to low level difference like the synthesis of both the RTL,dmips, code density, etc.

**Tool used (Development tools - H/w, S/w)** : Synopsis Verdi, synopsis design compiler

**Objectives of the project** : Is to compare riscv core from Eth Zurich to Arm cortex M3

**Major Learning Outcomes** : Learnt about synopsis design compiler, Verdi,unix.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment is literally good. All employees have zeal to finish their work before the deadline. People here are really helpful.

**Academic courses relevant to the project :** Embedded system design

Vlsi design

Vlsi test and testability

Computer/vlsi architecture(both basic and advanced)

Reconfigurable computing

Microprocessor

Digital electronics

C and system verilog programming

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**Name:** VINEETH G K(2017H1230208P)

**Student Write-up**

**Short Summary of work done during PS-II :** i have been assigned to the memory controller verification team.i have been doing the regular debug stuffs and verification in their environment.as part of ps they have given me scripting work to acquire the control and status register values.currently working on writing test cases for a new feature in the architecture.

**Tool used (Development tools - H/w, S/w) :** verdi,vcs,excess on demand

**Objectives of the project :** verification

**Major Learning Outcomes :** system verilog,UVM,LPDDR,MEMORY CONTROLLER

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** VLSI test and testability, vlsi architecture,CAD

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**Name:** VINEETH G K(2017H1230208P)

### **Student Write-up**

**Short Summary of work done during PS-II :** i worked in the verification domain.specifically in the memory controller verification.during my PS i have worked on UVM test bench ,writing test cases for different scenarios and debugging the outcomes.i have did some scripting on shell for some automation's.

**Tool used (Development tools - H/w, S/w) :** synopsis verdi,vcs. UVM,system verilog,shell scripting

**Objectives of the project :** objective of the project is to bring up test cases for a feature that was recently added on the rtl and verify the feature is executed as per specifications.

**Major Learning Outcomes :** the project helped me learn more about reusable verification test benches. system verilog and UVM concepts.it helped learn more about LPDDR4 and LPDDR5 sdram topologies .various interface protocols of AMBA were learned.

### **Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** the working environment is good,the team mates are very helpful.the company expects us to grasp things fast and actively involve in the project.the team doesn't discriminate on the level basis ,see as similar to the full time employees and include as in work ,outings and discussions.

**Academic courses relevant to the project** : vlsi test and testability, vlsi architecture, advanced vlsi architecture

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**Name: ADITYA DUBEY(2015AAPS0181H)**

### **Student Write-up**

**Short Summary of work done during PS-II** : Interning in the analog team in Qualcomm has provided a lot of experience on how much, work, effort and knowledge goes into the development of a perfectly functioning chip that will soon be used in the order of billions. The analog team being at a different stature of the company is an excellent demonstration of the quality of knowledge required to survive in the industry. My work here was on an analog calibration module that will be part of the upcoming 5G chip. The work requires very good theoretical and problem-solving skills with a strong intuition for the subject. Side-by-side, one requires good interpersonal skills to convey their idea, explain their work and results, along with interaction with high-profile leaders in charge of the modules

**Tool used (Development tools - H/w, S/w)** : Cadence Virtuoso

**Objectives of the project** : Meet the specifications defined for the calibration block (Analog Design)

**Major Learning Outcomes** : Analog IC design, Cadence Virtuoso, Layout design

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Analog electronics, Microelectronics, Electronics Devices.

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**Name: VINEETH G K(2017H1230208P)**

**Student Write-up**

**Short Summary of work done during PS-II :** the entire work was aimed at functional verification of dram subsystem.the work gave a good understanding of UVM and system verilog.work involves understanding design specification, bringing up verification plan,writing tests and sequences to verify the features and writing the coverage's for the tests.

**Tool used (Development tools - H/w, S/w) :** vcs, synopsis verdi, system verilog

**Objectives of the project :** verification dram subsystem, bring up of test cases.

**Major Learning Outcomes :** project helped in learning system verilog. universal verification methodology .develop a reusable verification environment for a design under test.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** the working environment is very good.people here are every cooperative and feel free to help at anytime.the company will help me develop my skills in different domains help in my overall development.

**Academic courses relevant to the project :** CAD, vlsi architecture, vlsi testing and testability

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**Name: DILSYA JOY(2017H1230220P)**

**Student Write-up**

**Short Summary of work done during PS-II :**

**Tool used (Development tools - H/w, S/w) :** verilog, UVM

**Objectives of the project :** Learn the verification methodology

**Major Learning Outcomes :** writing sequences and testcases in UVM. learning python and writing scripts,

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** VLSI test and testability, Computer Architecture

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**Name:** PATIL SWARALI MILIND(2015A3PS0306H)

**Student Write-up**

**Short Summary of work done during PS-II :** Synthesis of RTL files using Design Compiler, Static Timing Analysis using PrimeTime and Tempus, Perl Script to analyze Tempus Reports, Python Script to parse Excel files

**Tool used (Development tools - H/w, S/w) :** Design Compiler, PrimeTime, Tempus, Perl, Python

**Objectives of the project :** Synthesis, Timing Analysis, Automation (Scripting using perl and python)

**Major Learning Outcomes :** Gained experience in working with tools like Design Compiler, PrimeTime and Tempus. Learnt software languages like Perl and Python.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Analog and Digital VLSI

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**Name:** ABHISHEK .(2017H1230071G)

**Student Write-up**

**Short Summary of work done during PS-II :** I did power analysis for the CPU and also learnt the different techniques to reduce the power consumption both Static and Dynamic.

**Tool used (Development tools - H/w, S/w) :** PTPX

**Objectives of the project :** Power Analysis

**Major Learning Outcomes :** Low Power Techniques

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** VLSI Design

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**Name: MAYEKAR KIRAN UDAY(2017H1230212P)**

## **Student Write-up**

**Short Summary of work done during PS-II :** First task was to write an automation script for a chip initialization function for the existing architecture in System Level Notation(SLN), a language specific to the verification tool, Perspec System Verifier used in the project. The task was extended to cover regression testing of the entire System on Chip (SOC) and when that was done successfully, it was integrated in the existing model. Another was to analyse an existing system model and generate tests from it and lastly to debug test generation failures which arised from it.

**Tool used (Development tools - H/w, S/w) :** Perspec System Verifier, Clearcase, QSAM

**Objectives of the project :** Automation of Design Veification at the SOC level

**Major Learning Outcomes :** Languages like SLN, Portable Stimulus Standard(PSS), Python, and basic understanding of Linux

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Qualcomm provides a balanced environment wherein you have your work outlined to you with clear deadlines and along with that, there are a lot of extra curricular activities like Zumba, Yoga, Gym,Music or the Games room. There are team outings and lunches as well to get to know the people you work with. Also, other activities like Family Day, Cultural events like Rangotsav, and Marathons are organised regularly to lighten up the atmosphere. There are no restrictions on your time slots. You can work at your convenience, only thing is your work should be on time.

**Academic courses relevant to the project :** VLSI Architecture, VLSI Test and Testability, language like System Verilog

## PS-II Station : Qualcomm India Pvt Ltd. , Hyderabad

### Student

Name: PRATEEK RAI(2015A3PS0273P)

#### Student Write-up

**Short Summary of work done during PS-II :** My work was to do CPU profiling, on thread level and on the function level. I designed a API framework for profiling that can be used by my teammates and any other user to profile their code. It will help them to get better overview of their code and debug easily.

**Tool used (Development tools - H/w, S/w) :** Perforce, Source Insight, C , DAN lab machine, Linux, Xtensa Xplorer

**Objectives of the project :** To design a framework that can be used by my teammates and any user to profile their code and debug easily

**Major Learning Outcomes :** I learnt about various threads and functions used in original LTE 4G code. I learned about profiling both on thread and function level. I also modified the original LTE 4G code.

#### Details of Papers/patents :

**Brief Description of working environment, expectations from the company :** Working culture is awesome. No timing restrictions. All facilities are there. However the teammates are little busy so you won't always get them.

**Academic courses relevant to the project :** OOP, Introduction to C, Operation Systems and microprocessor.

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**Name: B.N.V.V.VINAY DEEPESH .(2017h1230068g)**

**Student Write-up**

**Short Summary of work done during PS-II :** Working on Company specific hardware Synthesis flow. Part of SoC Implementation team.

**Tool used (Development tools - H/w, S/w) :** Synopsys DC

**Objectives of the project :** Performing block level synthesis

**Major Learning Outcomes :** Company related softwares and methodologies

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** CAD for IC design

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**Name: POLISETTI RAHUL SAI KUMAR(2015AAPS0240H)**

**Student Write-up**

**Short Summary of work done during PS-II :** This project is part of a six-month internship at Qualcomm. It includes the development of LTE firmware for Qualcomm mobile chipsets. The first steps for the project consist of learning about

the history of mobile communication standards, the working of the LTE technology and the Hexagon DSP architecture. The next step for the project was learning the development workflow.

This was done by making changes to the code for logging various measurements. The final step was the actual development work on the firmware for a future modem release.

**Tool used (Development tools - H/w, S/w) :** C

**Objectives of the project :** Firmware Development

**Major Learning Outcomes :** Learned about the Snapdragon modem development process.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Operating systems , C programming, Computer architecture

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**PS-II Station : Qubole , Bangalore**

**Student**

**Name: ANSA ZAIBA SM(2014B1A70659H)**

**Student Write-up**

**Short Summary of work done during PS-II :** The work was on backend web development using rails. As a part of main project done , worked on GCP saas intergration. This included work on Gcp Pub/Sub and GCP marketplace integration.

**Tool used (Development tools - H/w, S/w) :** Rails, Ember.

**Objectives of the project :** Integrating Qubole's services with Google Cloud Platform via Market place

**Major Learning Outcomes :** Rails, GCP integration, ember

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Object Oriented Programming, Networking.

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**Name:** VIVEK SINGHVI(2015A7PS0108P)

### **Student Write-up**

**Short Summary of work done during PS-II :** A simple auto-scaling policy in the kubernetes cluster can be run as an application/pod in the cluster itself, which will upscale and downscale nodes based on the current available resource. Default Kubernetes auto-scaler does it reactively instead of proactively. What that means is, whenever a pod is requested and there is not enough capacity to run that pod, the auto-scaler brings up more nodes. This creates delay of about 5-10 mins for launching an application leading to bad User Experience. Thus we want a proactive auto-scaler which can foresee such conditions in advance and take appropriate actions. Also, A bug resulted in a large number of clusters being terminated. We need to be able to detect such situations and take preventive actions which was part of my mini project.

**Tool used (Development tools - H/w, S/w) :** S/w: git, intellij, aws console, bitbucket

**Objectives of the project :** Upscaling Downscaling of Kubernetes Cluster and Detect False Positives in Cleanup Worker

**Major Learning Outcomes :** Overview of AWS and Kubernetes cluster

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Qubole is right in time of big data revolution. It is earning great customer traction making analytics as easy as pie. Office space is full of energy and great quotes - "talk is cheap, show me your code". Cafeteria on the top is full of food, Xbox, Table tennis, foosball and dart board. Each employee efforts are recognized by rewards and appreciation, creating healthy competition and growth.

**Academic courses relevant to the project :** No relevant courses

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**Name:** [SIDDHARTH SHAH\(2015A7PS0059G\)](#)

### **Student Write-up**

**Short Summary of work done during PS-II :** I spent the first 2 months in in the Spark QA team. Worked on improving execution time and debugging efficiency of integration tests. Rewrote a number of automation tests to allow them to be executed parallely. Wrote a framework to rerun only failed tests of a previous regression run on Jenkins. After two months, I shifted to the Spark developer team. I successfully integrated a Redshift connector into Qubole's Apache Spark distribution. Wrote a service to track usage on different file formats in SparkSQL. Subsequently, i wrote scripts to ensure better packing of containers on Spark Clusters. Finally, i worked on improving the memory efficiency and reliability of broadcast joins in Spark.

**Tool used (Development tools - H/w, S/w) :** Jenkins, IntelliJ, AWS, Git, Bitbucket, Apache Spark, Pytest, Amazon Redshift

**Objectives of the project :** Integrate a redshift connector in Qubole's Apache Spark distribution

**Major Learning Outcomes :** Big data, Cloud computing, Hadoop, Apache Spark, Distributed Computing, Amazon Redshift, Pytest, Writing production grade code(with unit & integration tests)

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Object Oriented Programming, Database Systems, Cloud Computing, Operating Systems

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**Name:** [P SUDARSHAN\(2014B3A70749H\)](#)

**Student Write-up**

**Short Summary of work done during PS-II :** I worked on a new streaming service platform that the company was developing.

**Tool used (Development tools - H/w, S/w) :** Rails, Ember, Pytest,

**Objectives of the project :** End to end to feature development

**Major Learning Outcomes :** Full Stack Development

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** DSA, OOP, DBMS

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**Name:** KAPADIA DARSHIL CHITAL(2015A7PS0113P)

**Student Write-up**

**Short Summary of work done during PS-II :** Worked on numerous aspects of development, maintenance and testing of a custom fork of the Apache Zeppelin Project.

**Tool used (Development tools - H/w, S/w) :** Languages - Java, Python, Ruby, Scala. Tools and Frameworks - Maven, Selenium, Pytest, Ruby on Rails, etc

**Objectives of the project :** Developing custom features / bug fixes for Zeppelin

**Major Learning Outcomes :** Understood how large software projects are developed and maintained and the processes and tools employed in order to achieve that.

**Details of Papers/patents : -**

**Brief Description of working environment, expectations from the company :** Working environment is good and conducive to learning.

**Academic courses relevant to the project : -**

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**Name: ROHIT LODHA(2015A7PS0040P)**

## **Student Write-up**

**Short Summary of work done during PS-II** : Over the course of the five months at Qubole, I worked on various projects - some small some big - involving different challenges - some that will make the entire testing analysis faster and better and some on the development side of Apache Zeppelin. Three of the main project I worked on : UI Tests with Multi Threading and Account Parallelization, Introducing Checkstyle in the UI- Tests and Qubole Versioning of Apache Zeppelin.

**Tool used (Development tools - H/w, S/w)** : Selenium, Java, Python, Cucumber/Gherkin/BDD(Testing), Apache Zeppelin,

**Objectives of the project** : Improve the time taken by ui-tests to complete all the test scenarios, build Qubole Versioning of Apache Zeppelin

**Major Learning Outcomes** : Learnt about how the testing works in such a big company over different large projects, how we build things over open source projects to provide customer with advanced tools.

**Details of Papers/patents** : N/A

**Brief Description of working environment, expectations from the company** : The environment is quite chill. They provide Breakfast, Lunch and Lunch Reimbursement so that makes life a lot easier. The timing is not at all strict. You can come and go anytime you want. Work from Home and Out of Office can be easily applied. People are very very helpful if you face any difficulty (Thats the advantage of working in a startup)

**Academic courses relevant to the project** : Object Oriented Programming (Java), DSA, DAA,

**Name:** AAYUSHMAAN JAIN(2015A7PS0043P)

## **Student Write-up**

**Short Summary of work done during PS-II :** I worked with the Apache Spark team at Qubole. For the first 2 months, I worked with the Spark QA team. I helped to refactor and upgrade their testing framework and was able to drastically (>50%) reduce their regression times by increasing parallelism. Other than this, I worked on other new features and test fixes and optimizations. Post this, I spent the remainder of the PS working with the Spark Dev team. I worked on 2 epics related to optimizations for the Spark SQL Engine, in order to improve performance efficiency of Big Data queries. These involved both static and dynamic optimizations. Other than these epics, I worked on new features and fixes related to these epics. One of the optimizations was also open sourced and the PR was merged into Apache Spark (OSS).

**Tool used (Development tools - H/w, S/w) :** Big Data, Apache Spark, Hive, Hadoop, Pytest, Distributed Clusters

**Objectives of the project :** Improve efficiency of Apache Spark SQL engine by introducing new optimizations.

**Major Learning Outcomes :** I gained in-depth knowledge of how Spark engine efficiently handles Big Data queries by executing them in parallel on clusters. Moreover, I learned how Spark SQL engine adds various optimizations to achieve significant performance gains over traditional Map-Reduce (Hadoop) and how as a developer one can contribute to reduce execution time or improve performance, even further.

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** My colleagues at Qubole were extremely smart people with an in-depth domain knowledge, thus making PS-2 an incredible learning opportunity. They were incredibly helpful throughout and guided/mentored me through all the challenges I faced. Qubole also takes good care of you - your breakfast and lunch is sorted, they have snacks so that you don't have to work on an empty stomach; and

most importantly, they have an incredible set of people (a lot of them are BITSians) working there. You'll get to learn a lot and have great fun while doing so. One thing that stood out for me is that, even as an intern, you are given similar responsibility as any full-time employee and your work has directly impact on the tools/services Qubole offers. This greatly aides one's learning, in my opinion, and also gives the satisfaction of doing important/meaningful work.

**Academic courses relevant to the project** : Parallel Computing, Data Structures and Algorithms, Cloud Computing

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## **PS-II Station : Ramboll India Pvt. Ltd. , Gurgaon**

### **Student**

**Name:** SHUBHAM SANGRAM SHARMA .(2017H1430036H)

### **Student Write-up**

**Short Summary of work done during PS-II** : Work scope is mainly structural design of structures in U.K. as I was associated to the UK team. I was assigned a project to design the Auditorium in Swansea UK.

**Tool used (Development tools - H/w, S/w)** : Structural analysis tools as: CSI SAFE, TEDDS, AUTOCAD

**Objectives of the project** : Design of Swansea Central Arena

**Major Learning Outcomes** : Practical application of Structural analysis and design.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company :** Working environment is very friendly and helpful, I was given full support to understand their working culture and adapt accordingly.

**Academic courses relevant to the project :** Advanced Structural analysis and Design of concrete structure

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## **PS-II Station : Reflexis Systems India Pvt Ltd. , Pune**

### **Student**

**Name:** Yogendra Singh Chouhan(2014B2A30786G)

### **Student Write-up**

**Short Summary of work done during PS-II :** I was assigned to team advance analytics which was takes with developing tools for analysing and improving work force using advance data science and machine learning techniques. I was assigned the Frontend part of the product called EPP. Initial few weeks I concentrated on learning the technologies used in the project i.e. ReactJS, Java spring , D3 etc. Later I looked after refactoring and debugging of code. some of the tasks I completed are : I changed parts of code that used victory charts to d3.js and also refactored old d3.js code. I also added new page for displaying some specific metrics.

**Tool used (Development tools - H/w, S/w) :** ReactJS, D3.js Redux

**Objectives of the project :** Adding new feature and debugging old features on the webapp

**Major Learning Outcomes :** Frontend web development

### **Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Reflexis is a good place to work. The timings are flexible. Also the colleagues are helpful and guides you in learning in every possible way they can. The work given to interns is not trivial non-consequential . We could contribute to a project in production.

**Academic courses relevant to the project :** data structures and algorithms, computer programming

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## **PS-II Station : Reliance Jio , Mumbai**

### **Student**

**Name:** CHORDIYA ANAND RAJESH(2015A7PS0118P)

### **Student Write-up**

**Short Summary of work done during PS-II :** building and training various object detection and CRNN models used for camera based automated parking system, number plate recognition, various other security violation detection.

**Tool used (Development tools - H/w, S/w) :** Frameworks : Tensorflow, Pytorch.

Programming languages : python and its libraries(numpy, etc.), C++.

System/Hardware configs : Nvidia P4 GPU's, 20 cores intel 8th generation i7 processor, 64GB RAM.

**Objectives of the project** : Jio Parking : Building a smart parking system based on computer vision and deep learning which can be used in various commercial offices, shopping complex, schools, etc. || Jio ANPR : Building an automatic number plate recognizer which can be used for surveillance in corporate offices and housing societies.

**Major Learning Outcomes** : learned to use frame works like Pytorch, Tensorflow and implemented various optimization techniques

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : NNFL, ML, Image Processing and pattern recognition, DSA, OS, OOP.

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## PS-II Station : Rivigo Tech , Gurgaon

### Faculty

**Name:** Ashish Narang

**Comments: Expectations from industry** : Rivigo Services (Tech and Non Tech): Rivigo Services Pvt. Ltd., founded in 2014, is an Indian supply chain and logistics company that provide logistics services all across the country. The organization uses a unique relay model which puts them ahead of their competitors. Rivigo offers two roles as interns: Software developer and Business analyst Role. Interns in software development role are exposed to web development, full stack development, Android App development and maintenance. They get to

work on latest technologies like Java Springs, Android, React, Redux, Node js and Python etc. Interns in Business analyst role are expected to product analysis, make live reports from data using SQL and Periscope and assist product managers to contribute to product vision. It involves surveying product requirements, verifying the viability of solution framework from various teams and preparing technical specifications for technical team. In technology division, organization prefers to hire students with excellent programming and problem solving skills. Students should have excellent communication skills and analytical ability for business analyst role.

Oyo Rooms(Tech and Non Tech): OYO Rooms, commonly known as OYO, is India's largest hospitality company, consisting mainly of budget hotels. Oyo Rooms offers multiple profiles in technology, product management and business development. Interns in technology at Oyo rooms have worked on front end development, back end development, developed dashboards for pricing metrics, implemented elastic search and also involved in unit and integration testing. Technologies include Hive, superset, Java, Maven, Ruby on rails and JUnit etc. Interns in business development are expected to maintain relation with channel partners and on board new properties. For tech role, organization prefers to have interns with excellent programming skills. For non tech roles like business development and product management, students should have good analytical skills and excellent communication skills.

OfBusiness, Gurgaon: OfBusiness is technology driven start up that provides SME finance and SME business loans with flexible, hassle free and easy documentation. Organization offers profiles in software development. Interns have worked on web development, data pre-processing and character recognition to read captcha's using machine learning techniques. Technology stack includes python, java, tensor flow and keras etc. Organization look forward to hire interns who have sound knowledge of data structures and have excellent programming skills.

## **Student**

**Name: AKUTHOTA GURU RAJ VAISHNAV(2015AAPS0255H)**

## **Student Write-up**

**Short Summary of work done during PS-II :** I got to work on front end web development project, which was to design a portal for existing feature for their business team, used for internal work flow. The project was exciting as I got to learn business workflows as well besides web development.

I had to learn the basics of UI web dev with React+Redux, which is a very popular skill set for those who want to enter web dev industry. I also got to work on lot of web page optimization and revamp sub-projects and a migration project which helped me to expand my knowledge in web dev.

These tasks were interesting as I was able to dive through a pool of tech stacks and javascript libraries and also got to implement them. It was a great learning experience in terms of learning Web dev, Web page optimization, code maintenance and development.

**Tool used (Development tools - H/w, S/w) :** React JS and Redux + Angular JS + Redux + Javascript libraries

**Objectives of the project :** Day to Day maintenance and enhancement of Front end UX, Keeping the portals updated to the current versions of tech stack, inclusion of new on-boarding features based on business requirement, seamless assistance to the users by improving web page response times

**Major Learning Outcomes :** Front end Web Development, Optimization of UI/UX

**Details of Papers/patents :-**

**Brief Description of working environment, expectations from the company :** Work Environment :

The work environment is pretty chill and everyone in the team is approachable and helpful. I got to work on different front end technologies and development of interfaces end to end. It was a good learning experience, both in terms of adding value to the organization and upgrading my own skill sets. You are given ownership of the tools and tech stack and you have freedom to add more value to the existing work stack. All in all, a decent work experience and good exposure to dynamic start-up work culture.

Expectation:

They do expect to catch you up soon and they projects are time bound so you have to put in extra work hours. Work culture is a bit hectic but it is good for a fresher as you get to learn and implement a lot.

**Academic courses relevant to the project** : OOPS, Basics of Web Dev, Some DBMS and basics of DSA

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**Name: Rishabh Vijayvargiya(2014B3A80753P)**

### **Student Write-up**

**Short Summary of work done during PS-II** : Fast-paced startups like RIVIGO put loads of responsibility on their employees. So there is always an opportunity for learning and growth. You get to learn new things each and every day by the progress and mistakes you make in the process. The overall objective of the project was to do Backend Software Development for GOAL APP (An internal app for RIVIGO field agents) as per business requirement by providing various software solutions using RESTFUL APIs using Spring Boot and Hibernate Frameworks. Making new API's for new sections and improvising existing API's as per product requirement are among the two major tasks in the project. Our backend application is written in java using spring boot framework. There are primarily two application servers - API server and scheduler server along with storage and cache in RDS (MySQL), MongoDB and Redis.

**Tool used (Development tools - H/w, S/w)** : Spring boot MVC, Hibernate, JDBC, Mysql, MongoDB, Elastic search, Aws cloudsearch, Aws SQS, Aws SNS.

**Objectives of the project** : The overall objective of the project was to do Backend Software Development for GOAL APP (An internal app for RIVIGO field agents) as per business requirement

**Major Learning Outcomes** : Fast-paced startups like RIVIGO put loads of responsibility on their employees. So there is always an opportunity for learning and growth.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Operating Sysytems, Object oriented programming, DSA

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**Name:** Divanshu Gupta(2015A3PS0174P)

**Student Write-up**

**Short Summary of work done during PS-II :** Backend development for demand team of rivigo, most of my work was focused on developing features to improve user experience.

**Tool used (Development tools - H/w, S/w) :** Java, spring, MySQL, mongo, redis

**Objectives of the project :** Develop scalable software, to improve user experience.

**Major Learning Outcomes :** Development of highly scalable and resilient codebase.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** DSA, OOP

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**Name: TALLAM KUMAR KAUSHIK(2015A7PS0201P)**

**Student Write-up**

**Short Summary of work done during PS-II :** building scalable software on server-side and browser-side

**Tool used (Development tools - H/w, S/w) :** AngularJS, Spring Framework, ElasticSearch, MySQL, MongoDB,

**Objectives of the project :** Software Development

**Major Learning Outcomes :** teamwork, writing scalable code, building softwares with a good user experience

**Details of Papers/patents :** N.A.

**Brief Description of working environment, expectations from the company : -**

**Academic courses relevant to the project :** DSA, OOP, OS

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**Name: ARPIT KUMAR TIWARI(2015A3PS0240P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Back-end software development involving data persistence with Spring, Spring Boot, Hibernate, HikariCP in Java 8.

**Tool used (Development tools - H/w, S/w) :** IntelliJ, DataGrip, Mysql, Pgsql, MongoDB, Spring, Kafka, Kafka streams

**Objectives of the project** : Developing useful features like tracking,blocking services,fraud check services .

**Major Learning Outcomes** : Java 8 streams,Mysql,Pgsql,Kafka,Kafka streams

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Very supportive peers.Competitive and fast pace working environment involving lot of learning.

**Academic courses relevant to the project** : OOP,DSA,CP

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## **PS-II Station : Rivigo Services (Non Tech) Gurgaon**

### **Faculty**

**Name: Ashish Narang**

**Comments: Expectations from industry** : Rivigo Services (Tech and Non Tech): Rivigo Services Pvt. Ltd., founded in 2014, is an Indian supply chain and logistics company that provide logistics services all across the country. The organization uses a unique relay model which puts them ahead of their competitors. Rivigo offers two roles as interns: Software developer and Business analyst Role. Interns in software development role are exposed to web development, full stack development, Android App development and maintenance. They get to work on latest technologies like Java Springs, Android, React, Redux, Node js and Python etc. Interns in Business analyst role are expected to product analysis, make live reports from data using SQL and Periscope and assist product managers to contribute to product vision. It involves surveying product requirements, verifying the viability of solution framework from

various teams and preparing technical specifications for technical team. In technology division, organization prefers to hire students with excellent programming and problem solving skills. Students should have excellent communication skills and analytical ability for business analyst role.

Oyo Rooms(Tech and Non Tech): OYO Rooms, commonly known as OYO, is India's largest hospitality company, consisting mainly of budget hotels. Oyo Rooms offers multiple profiles in technology, product management and business development. Interns in technology at Oyo rooms have worked on front end development, back end development, developed dashboards for pricing metrics, implemented elastic search and also involved in unit and integration testing. Technologies include Hive, superset, Java, Maven, Ruby on rails and JUnit etc. Interns in business development are expected to maintain relation with channel partners and on board new properties. For tech role, organization prefers to have interns with excellent programming skills. For non tech roles like business development and product management, students should have good analytical skills and excellent communication skills.

OfBusiness, Gurgaon: OfBusiness is technology driven start up that provides SME finance and SME business loans with flexible, hassle free and easy documentation. Organization offers profiles in software development. Interns have worked on web development, data pre-processing and character recognition to read captcha's using machine learning techniques. Technology stack includes python, java, tensor flow and keras etc. Organization look forward to hire interns who have sound knowledge of data structures and have excellent programming skills.

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## **PS-II Station : Robert Bosch Center for Cyber Physical Systems , Bangalore**

### **Student**

**Name: ARUN D PRABHU(2015A7PS0046P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** The domain of the project is smart cities. A smart city has many sensors which collect data. This data is stored in resource server. We are creating the catalogue server - a list of all servers supporting complex queries and CRUD operations. The user can discover the desired sensors and then query the resource server for its data. Thus, enabling data discovery.

**Tool used (Development tools - H/w, S/w) :** Java , Vertx framework, MongoDB, Json schemas

**Objectives of the project :** The objective of the project is to develop India Urban Data Exchange (IUDX), for identifying assets and data resources in Smart Cities.

**Major Learning Outcomes :** Areas:Web development, Database Management System.

Tools: Java, Vertx, MongoDB, JUnit, Jmeter

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The company has many research projects and is filled with PhD students and professors. This enables one to be involved in projects of various domains and learn from them. The timings are flexible and the mentors are very helpful. The deadlines are set such that we can complete the task comfortably before it.

**Academic courses relevant to the project :** Object Oriented Designing, DBMS, DSA

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**Name: VADERIA SHYAMAL LALITBHAI(2015A7PS0048P)**

**Student Write-up**

**Short Summary of work done during PS-II :** The next phase of smart cities implementations should focus on data empowerment. The

current smart city implementations are unable to satisfy this need efficiently, due to the proprietary and ad-hoc nature of the interfaces and their implementations. The India Data Urban Exchange (IUDX) project, supported by the Ministry of Housing and Urban Affairs, Govt. of India, aims to address this gap, by creating a reference architecture and technical specifications for interconnecting various IT systems of different government departments as well as external organizations. Our work focuses on implementing the standards agreed upon by IUDX.

**Tool used (Development tools - H/w, S/w) :** Java, Vert.x, MongoDB, Junit, Maven

**Objectives of the project :** Implementing a state of the art system that demonstrate the ability of the standards finalised by IUDX

**Major Learning Outcomes :** System Design. Project workflow. Real time database management system

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** Flexible timing. Focuses more on outcome of the work rather than time spent. Good mentor ship.

**Academic courses relevant to the project :** OOP, DBMS

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**PS-II Station : Samhita Social Ventures , Mumbai**

**Student**

**Name: Rohitashva Vashishtha(2015B4PS0546H)**

## **Student Write-up**

**Short Summary of work done during PS-II :** Made Web App and Data Analytics Tools

**Tool used (Development tools - H/w, S/w) :** Linux, Node, Sublime Text 3, Firefox

**Objectives of the project :** Create a Web App and Data Analytics Tools

**Major Learning Outcomes :** Learned how to create a Web App and Data Analytics Tools

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Good team, helpful coworkers. No one is technically much proficient beyond everyday computing so I was the only IT guy.

**Academic courses relevant to the project :** None



**PS-II Station : Samsung R & D Institute , Bangalore**

## **Student**

**Name:** ANIRUDH AGGARWAL(2015A3PS0222P)

## **Student Write-up**

**Short Summary of work done during PS-II :** 5G Physical Layer, PRACH Design and Evaluation

**Tool used (Development tools - H/w, S/w) :** MATLAB

**Objectives of the project :** Comparison of simulated results and published 3GPP results for evaluation of PRACH design

**Major Learning Outcomes :** In-depth analysis and development of a 5G block to be tested on unreleased 5G devices

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Comfortable work culture, focussed work

**Academic courses relevant to the project :** Signals and Systems, Communication Systems

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**Name:** AMARTYA SHARMA .(2014B2A30597G)

**Student Write-up**

**Short Summary of work done during PS-II :** Worked on developing a software application for IoT (Internet of Things) enabled doors, which allows users to monitor the status of doors at their home or office, lock or unlock them remotely. Both the server portion and UI of the application were designed and integrated into the codebase. Also got some exposure on working with databases, which are used to store important door information. The database, server and the user interface were integrated into one fully functional application. Also tested the entire application for any bugs and issues. Worked on building test cases to test various functionalities being used in the application codebase.

**Tool used (Development tools - H/w, S/w) :** AngularJS, Express.js, JavaScript, Mocha, Node.js.

**Objectives of the project** : To develop a fully functional and tested software application on IoT enabled doors.

**Major Learning Outcomes** : Lots of experience gained on working with JavaScript and AngularJS programming languages, which are primarily used for application development. Gained beneficial exposure on working with databases and building test cases using Mocha.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : I had an excellent experience working in a company of tremendous repute like Samsung R&D. The work culture was very conducive to efficiency and productivity. My mentor and team-members were very helpful and guided me throughout the duration of the internship. I also got to learn a lot by working on the project allotted which would come in handy in the future. The company also provided for recreational activities such as gym and foosball. Overall, the internship was a very enriching and learning experience.

**Academic courses relevant to the project** : Data Structures and Algorithms(DSA), Object Oriented Programming(OOP)

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**Name: Dwait Bhatt(2015A3PS0284P)**

**Student Write-up**

**Short Summary of work done during PS-II** : My work mainly involved proposing an appropriate Reinforcement Learning framework for the given problem and identifying meaningful state and action parameters for the same

**Tool used (Development tools - H/w, S/w)** : Python

**Objectives of the project** : Designing an RL framework for dynamic kernel policy selection to improve app performance

**Major Learning Outcomes** : Studied Reinforcement Learning, Android graphics pipeline, and kernel tunables affecting the scheduler, cpu governor, virtual memory, etc

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : The working environment in general is friendly and supportive. The quality of work however, is highly dependant on the team you're assigned to

**Academic courses relevant to the project** : Operating Systems, NNFL (Major focus on RL, but some Neural Network theory was also required)

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**Name:** DIVYA KUMAR .(2017H1030040G)

**Student Write-up**

**Short Summary of work done during PS-II** : Performance Evaluation of Multilayer Data Protection and Blockchain based trusted authentication in IOPS

**Tool used (Development tools - H/w, S/w)** : Research Work

**Objectives of the project** : Performance Evaluation of Multilayer Data Protection and Blockchain based trusted authentication in IOPS

**Major Learning Outcomes** : Android Battery, working of LTE and WLAN, Blockchain, IOPS

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Working environment is good.

**Academic courses relevant to the project** : Communication courses

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**Name:** MEGHA SHISHODIA(2014B3A70605P)

### **Student Write-up**

**Short Summary of work done during PS-II** : Developed a web application to ease the process of labelling data for machine learning. The app had features like uploading data, downloading labelled data, customizing labels specific to the data, labelling the data, validating the labelled data, posting comments, user management, admin page etc. The app developed was used by employees to label data and then use it for machine learning models. This app helped speed up the process of training the models.

**Tool used (Development tools - H/w, S/w)** : Node.js, javascript, angular, css, html, mysql

**Objectives of the project** : Ease the process of labelling data, Prepare data for ml models, Validate labelled data

**Major Learning Outcomes** : Learned JavaScript, node.js

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Colleagues were extremely helpful and the objectives were clearly specified. There was a lot of learning throughout the internship.

**Academic courses relevant to the project** : Database management system

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**Name: SHREE GARG(2015A7PS0074G)**

**Student Write-up**

**Short Summary of work done during PS-II** : Development of a profiler to collect data of the computational resources used during the execution of a machine learning model on an android device. Resources like cpu, gpu, ram, nsu, dsp etc. Then using this collected data to develop a prediction model.

**Tool used (Development tools - H/w, S/w)** : Git, c++, python

**Objectives of the project** : Inference of the best compute unit

**Major Learning Outcomes** : Development of large code-base and how to integrate it with the existing code-base.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : The work culture is okay. The working employees are really helpful in guiding you and they help you a lot.

**Academic courses relevant to the project** : None

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**Name: ADITYA DESAI(2015A3PS0211H)**

**Student Write-up**

**Short Summary of work done during PS-II :** The work was on building a novel algorithm based on deep reinforcement learning for the LTE MAC scheduler.

**Tool used (Development tools - H/w, S/w) :** Python, jupyter notebooks, tensorflow.

**Objectives of the project :** To build a novel algorithm and show that it is better than traditional scheduling algorithms.

**Major Learning Outcomes :** Reinforcement learning, LTE, OOP.

**Details of Papers/patents :** If the results pan out to be as expected, a paper can be expected too.

**Brief Description of working environment, expectations from the company :** Company expected us to build the algorithm and compare it with other traditional algorithm essentially benchmarking and seeing how the new algorithm is doing. Then depending on the results a paper was expected. Working hours were strictly 9 hours per day on average over a month.

**Academic courses relevant to the project :** Machine learning, neural networks and fuzzy logic, communication systems, wireless technologies, operating systems.

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**Name:** BHAVANAM SRAVAN KUMAR REDDY(2015A7PS0072P)

### **Student Write-up**

**Short Summary of work done during PS-II :** The project is primarily focused on performing analytics on the log data. Since there are a vast majority of fields that are logged for each utterance and millions of utterances that are recorded day-to-day basis (due to the millions of users worldwide), this proves to be a challenging task. The methodology involves identifying an issue that

exists within the system, mining the required text data and its corresponding fields, pre-processing the data in a way that is suitable for analysis and finally performing the root cause analysis to come to the core reason of the issue at hand. This is then followed by appropriate ways of representing the data so as to support our root cause analysis.

**Tool used (Development tools - H/w, S/w) :** Pandas

**Objectives of the project :** Using descriptive analytics to dive down into issues existing with the system and performing a root cause analysis for the same.

**Major Learning Outcomes :** Ability to analyze and work on huge volumes of live data records

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Data Mining

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**PS-II Station : Samsung R&D Institute , Noida**

**Student**

**Name: PRANEET ASHOK MEHTA(2015A3PS0342H)**

**Student Write-up**

**Short Summary of work done during PS-II :** Worked on Graph based databases for benchmarking and analysis of their qualitative performance. Did comparison between knowledge graphs and NoSQL databases to distinguish pros and cons of each.

**Tool used (Development tools - H/w, S/w) :** DGraph

**Objectives of the project :** Qualitative benchmarking and analysis of Graph Databases

**Major Learning Outcomes :** Graph database are capable of holding a great amount of relational information and are able to query it much faster than traditional relational DBs

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Database Management Systems

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**Name:** [SIDDHARTH SHANKAR TRIPATHI\(2014B2A30365P\)](#)

**Student Write-up**

**Short Summary of work done during PS-II :** Awa based creation of identity and access management services using microsoft AD 2016, lambda, rds, docker.

**Tool used (Development tools - H/w, S/w) :** Aws

**Objectives of the project :** Confidential

**Major Learning Outcomes :** Cloud architecture and monitoring of servers

**Details of Papers/patents :** No

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** N/A

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## **PS-II Station : Samsung Semiconductor India R&D Center , Bangalore**

### **Student**

**Name:** MANOJ J.(2017h1400089g)

### **Student Write-up**

**Short Summary of work done during PS-II :** As a part of PS-@ in SSIR, I was assigned the role of automating log queries in modem team. The process included web-scraping , finding the relevant information using keywords and subsequent classification using a decision tree. I was also given the task of designing and implementing a monitor task to check the server health.

**Tool used (Development tools - H/w, S/w) :** Samsung proprietary tools

**Objectives of the project :** Automation of log queries

**Major Learning Outcomes :** Got a peek into the world of software engineering and also developed an end to end application

**Details of Papers/patents :** N.A

**Brief Description of working environment, expectations from the company :** The working culture was amazing, with all talented,enthusiastic and passionate people around me. The

deadlines were very sharp and there was something new to learn or pick up on on a daily basis. This kept us occupied and never felt bored. There were also fun events organised by the company once in a month. The company expects us to pick up new tools and concepts soon , by doing our study. Also expects us to be good at coding. We are supposed to qualify a coding round to be considered for full time opportunity.

**Academic courses relevant to the project :** c++,data structures,system design, python

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**Name:** Aunirban Dutta(2017H1230213P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Learned scripting languages-PERL and TCL and used them for analysis.

Identifying modules with timing violations and then rectify those violations by altering the placement of the modules.

Worked on NDR(Non default routing).Modified the net widths and spacing and did a comparison of slack(whether increasing or decreasing) before and after NDR.

Imposing constraints and then improve the quality of report(QOR).

**Tool used (Development tools - H/w, S/w) :** IC Compiler 2 for physical design,MS excel for data analysis

**Objectives of the project :** Module to module timing analysis at different placement stages,analyzing tool behaviour ,analyzing different methods to mitigate congestion and improve the Quality of Report(QOR)

**Major Learning Outcomes :** In depth knowledge of physical design flow, static timing analysis and the different steps associated with it.Also got to learn TCL scripting and use it along with IC compiler tool in analysis of certain stage of a block.

Identifying critical paths between different modules and use techniques to remove the timing violations between those modules.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment was good,no fixed working hours.Manager and mentors are there to cater to any issues you might face which helped a lot.

**Academic courses relevant to the project :** CAD for IC Design,VLSI design,Basic digital electronics

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**Name: KANDARP GUPTA .(2017H1400086G)**

**Student Write-up**

**Short Summary of work done during PS-II :** Work was to develop a Cross Platform Desktop Application for verification of Solid State Drive. The application was build on Electron and Node.js was used for back-end connectivity

**Tool used (Development tools - H/w, S/w) :** Electron , Visual Studio

**Objectives of the project :** To develop an OS-independent application with a native Graphical User Interface to verify the functionality of Samsung memory devices.

**Major Learning Outcomes :** Cross Platform Desktop Application Development

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The work environment is good and flexible. The mentors and manager are really supportive , cooperative and always welcome your opinion in discussions. Overall its good learning experience

**Academic courses relevant to the project :** Web Development

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## **PS-II Station : Sattva Media & Consulting Pvt Ltd , Bangalore**

### **Student**

**Name:** DIVYA JAIN .(2015A1PS0661G)

### **Student Write-up**

**Short Summary of work done during PS-II :** Impact evaluation studies for evaluation of csr activities undertaken, creation of databases

**Tool used (Development tools - H/w, S/w) :** Excel, word, collect of

**Objectives of the project :** social impact evaluation study

**Major Learning Outcomes :** database creation, primary and secondary research

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** people are friendly and cooperative, amazing work environment

**Academic courses relevant to the project :** International relations

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## PS-II Station : Seance , Bangalore

### Student

Name: DEEPAK KUMAR KAR(2015A7PS0129P)

### Student Write-up

**Short Summary of work done during PS-II :** Learner about Apache Beam and Google Cloud Dataflow. Cloud dataflow is used to process large datasets in parallel. Implemented multiple Pipelines for the clients of the company.

**Tool used (Development tools - H/w, S/w) :** Google Cloud Dataflow, Google Cloud Datastore, Google Cloud Functions, Google Cloud Storage, Bigquery, Bigtable, Apache Beam Java and Python SDK, Google Cloud PubSub

**Objectives of the project :** I had three projects. Objective of the first one was to migrate all the datasets from the onpremise servers of the client to Google Cloud Storage. Second project was to analyse and aggregate real time data. Third was to migrate data stored in Google Cloud Storage to Bigtable.

**Major Learning Outcomes :** Learner many things about Google Cloud Platform. Learner to communicate with clients. Learner to architect the cloud-based solutions according to requirements.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** None

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## **PS-II Station : Servicenow Software Development India , Hyderabad**

### **Student**

**Name:** SHIVANG DIXIT(2015A7PS0113H)

### **Student Write-up**

**Short Summary of work done during PS-II :** Team - ToolsEng-idc . Work focused mainly on Test Automation , testing my teams new app on the ServiceNow platform. Most of this was done by using a testing framework built on top of Selenium by my team. Later moved on to test optimisation.

**Tool used (Development tools - H/w, S/w) :** Java , Eclipse , Git , ServiceNow platform (They give a basic training for ServiceNow platform)

**Objectives of the project :** writing , verifying , optimising tests written for various products and services.

**Major Learning Outcomes :** Code-flow , Software Development Lifecycle , Proficiency in writing tests

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company** : Working environment is quite chill , while it varies from team to team. I am able to take sick days whenever required with no pressure from my manager.

**Academic courses relevant to the project** : OOP , Software Development , OOAD .

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**Name:** SHIVANG DIXIT(2015A7PS0113H)

### **Student Write-up**

**Short Summary of work done during PS-II** : Mostly test automation (web apps and iOS , Android both) with a few other short projects like writing APIs for writing to Excel spreadsheets to be used by the other engineers working here. Working on Test Management framework (the newest product in the team). Manual validation and verification of features implemented by the engineers here. Working on incidents (features requested by the teams using our product)

**Tool used (Development tools - H/w, S/w)** : Java , vanilla Javascript , Selenium , Appium(for testing iOS and Android) , ServiceNow platform

**Objectives of the project** : Creating faster/more compatible tests , Supporting the teams using our products

**Major Learning Outcomes** : proficiency in Java , Javascript and ServiceNow Platform as well as general good practices in test automation.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Working environment is pretty good with nice office and helpful peers and colleagues . Expect to fully use internal products only as the general motto here is to develop something rather than use 3rd party products.

**Academic courses relevant to the project** : OOP , Object Oriented Analysis and Design , Database

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## **PS-II Station : Siemens technology and Services Pvt ltd , Bangalore**

### **Faculty**

**Name: Pradheep Kumar K**

**Comments: Expectations from industry** : Students should be equipped with skills on Artificial Intelligence, Deep Learning, Machine Learning and Data Analytics

### **Student**

**Name: D ANIL .(2017H1060109H)**

### **Student Write-up**

**Short Summary of work done during PS-II** : Noise arising from Aeroplanes and Fighter planes exhaust, Gas fire extinguishers in data centres has been a rising concern in the world today. These high level noises cause severe impact on the civilians like hearing loss, disturbed sleep, reduced immune response and heart diseases. This issue needs to be addressed which require an ample amount of research. So far scientists have explored a fraction of acoustic phenomena in jets due to its high complexity. In order to reduce the noise, first the noise sources and mechanism of their generation in the flow must be identified. With this objective this

project has been taken up and the simulations were conducted in Siemens, Bangalore (R&D division).

Simulated screech noise arising from a supersonic jet flow involving shock waves through an orifice using STAR CCM+ software. Validated the simulation results of sound pressure levels to due to screech noise upto a reasonable accuracy with an experiment conducted in NASA Langley Research Center, Virginia.

The acoustic simulations which were conducted in Siemens was one of a kind, till now this domain has not been explored by the company. Aeroacoustics which is a science dealing with noise arising from a flow has been properly studied and sound sources arising from a supersonic jet through orifice were identified with reasonable accuracy.

**Tool used (Development tools - H/w, S/w) :** STAR CCM+

**Objectives of the project :** Acoustic simulations on supersonic flow through orifice

**Major Learning Outcomes :** Explored sound simulations on a new software STAR CCM+; Identified types of noise sources due to a supersonic flow; Developed a methodology for simulating flow involving shock waves and sound arising from it.

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Working environment was quite good at Siemens. All sorts of facilities were provided for the interns to complete their projects.

**Academic courses relevant to the project :** Computational Fluid Dynamics

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**PS-II Station : Skoda Auto India Pvt. Ltd. , Aurangabad**

## Student

Name: PATEL DHRUV BHARATBHAI(2017H1420178P)

### Student Write-up

**Short Summary of work done during PS-II :** New projects implementation which includes technology planning and implementation, trials and modification & project management

**Tool used (Development tools - H/w, S/w) :** MS Office, SAP

**Objectives of the project :** To generate concept and test feasibility for installation of new technology (manipulators, fixtures, etc) required for production of a car.

**Major Learning Outcomes :** Studied various assembly processes, technology used for the processes, planning and implementation of new projects.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Operations planning, Lean manufacturing, Quality

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Name: PATEL DHRUV BHARATBHAI(2017H1420178P)

### Student Write-up

**Short Summary of work done during PS-II :**

**Tool used (Development tools - H/w, S/w) :** Excel, MS office, SAP

**Objectives of the project** : New projects implementation for Audi A6 NG

**Major Learning Outcomes** : Technology planning and implementation

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Lean manufacturing, production planning

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**PS-II Station : Skoda Auto India Pvt. Ltd. , Mumbai**

**Student**

**Name:** DEVASHISH GIRISH BONDE(2015A4PS0438P)

**Student Write-up**

**Short Summary of work done during PS-II** : Did the work that full time paid workers are supposed to do.

**Tool used (Development tools - H/w, S/w)** : Software - Excel, VBA

**Objectives of the project** : Analyse the daily sales operations of the company.

**Major Learning Outcomes** : How to prioritize objectives in life.

**Details of Papers/patents** : N/A

**Brief Description of working environment, expectations from the company :** No expectations, colleagues were nice, free coffee and a snacks budget, no free lunch though...

**Academic courses relevant to the project :** N/A

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## **PS-II Station : Society for Health Information Systems Programme , Noida**

### **Student**

**Name:** ANAMITRA LAYEK .(2017H1290005H)

### **Student Write-up**

**Short Summary of work done during PS-II :** Work was done on AMR surveillance data in collaboration with ICMR. We used DHIS2 software to analyze the data provided to us.

**Tool used (Development tools - H/w, S/w) :** Microsoft Excel, DHIS2 software

**Objectives of the project :** To analyze anti-microbial resistance data patterns

**Major Learning Outcomes :** Data analytics, MS Excel

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Microbiology

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## PS-II Station : Spicer India Ltd. , Jodalli

### Student

Name: AMIT KUMAR GHOSH(2017H1060192P)

#### Student Write-up

**Short Summary of work done during PS-II :** The working hours required for each shift in inward inspection is 765 mins. The objective of the project is to reduce that time. To that end, key areas are identified by analysing the work activities. Why- why analysis is used to find root causes, and redundant data entries were eliminated using automation. Excel automation using VBA language programming is also implemented. Further suggestions are given to the management to reduce working hours effectively.

**Tool used (Development tools - H/w, S/w) :** Microsoft Excel

**Objectives of the project :** To reduce working hour at inward inspection department

**Major Learning Outcomes :** Learnt about Supplier Quality Control processes in an automobile component manufacturing company.

**Details of Papers/patents :** Nil

**Brief Description of working environment, expectations from the company :** The working environment was hectic at first. But with time, I got used to working and enjoyed my time at the company. Management and engineers working at the company is helpful.

**Academic courses relevant to the project** : Quality Control Assurance and Reliability (ME F443)

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## **PS-II Station : SRF Ltd. , Gurgaon**

### **Student**

**Name:** ABHAY SHRANGRAJ(2017H1010034P)

### **Student Write-up**

**Short Summary of work done during PS-II** : I was involved in preparation of BEP(Basic Engineering Package) for expansion of P-14 plant .

BEP includes all the relevant basic information required for the expansion .

Columns specifications, Exchangers simulation data, Material Balance, IPDS(Instrumentation Process Data Sheet) ,PDS(Process Data Sheets) ,P&ID , Fabrication sheets.

BEP preparation is necessary for expansion of any continuous or batch plant which serve as the backbone of the plant which is running or being considered for further expansion.

**Tool used (Development tools - H/w, S/w)** : Aspen plus, Aspen EDR , MIXIT, Microsoft Excel

**Objectives of the project** : The objective of the project was to prepare the basic informative package which will contain all the parameters, necessary documents, Material balances necessary for the expansion of the plant.

**Major Learning Outcomes** : Column and Exchanger Simulation

Understanding of P&ID , PDS, TEMA sheets

Types of Valves used , Utilisation of various Different heat Exchanger Configurations, Line list Preparations, IPDS,PDS, HAZOP analysis

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Heat Exchanger Designing

Process Equipment Design

Distillation Design

Mass transfer

Heat Transfer

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**Name:** ABHAY SHRANGRAJ(2017H1010034P)

**Student Write-up**

**Short Summary of work done during PS-II :** i was assigned with the preparation of BEP for P-14 Project . BEP consists of all the equipments necessary for the plant expansion and to know about all the information regarding the processing of the plant. It consists of PDS,SMDS,IPDS,INDEX,Material Balance, simulation . I was also involved in Fired Heater Designing( calculations till simulation phase) EDR simulations for P-35 project.

**Tool used (Development tools - H/w, S/w) :** ASPEN EDR

ASPEN PLUS

MIXIT

**Objectives of the project :** Preparation of B.E.P package of P-14 Pant expansion from 150TPA-350TPA

**Major Learning Outcomes :** Columns and exchanger designing

Material and Energy Balance

ASPEN simulations

ASPEN EDR

Pipe sizing and line sizing

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The company is a great atmosphere for learning and the team members are very supportive in nature for helping you out in understanding the problems associated. The company treats you equally responsible and give you ample opportunities to learn and explore . They will surely helps you in getting a feel of how the process industry works and what is the role of process design engineer.

**Academic courses relevant to the project :** HEAT TRANSFER

MASS TRANSFER

PROCESS EQUIPMENT DESIGNING

ASPEN PLUS

PROCESS CALCULATIONS

PUMPS

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**Name:** AMEER MAQSOOD(2017H1010027P)

**Student Write-up**

**Short Summary of work done during PS-II :** Production of fine agro chemicals, pharmaceutical products and refrigerants in multipurpose plant (MPP) located in Dahej. so, for the production of these chemicals i have prepared Basic Engineering Package (BEP) for Batch Process. Basic Engineering Package consists of Material Balance, Energy Balance, Equipment Designing, Preparation of Block Flow Diagram, Understanding Process Flow Diagram (PFD) and P&ID and Hydraulics Calculation. so, i have involved in designing of falling film evaporator, calculation of Material Balance, Energy Balance, Hydraulics Calculation, Designing of pump, Preparation of Campaign Schedule.

**Tool used (Development tools - H/w, S/w) :** MixIT, Microsoft Excel

**Objectives of the project :** So, for the production of any new chemical, it requires designing of basic engineering package which consists as: (1) Understanding the reaction chemistry, (2) Material & Energy Balance, (3) Preparation of BFD and Campaign Schedule, (4) Equipment Designing, (5) Understanding PFD and P&ID

**Major Learning Outcomes :** Material & Energy Balance, Designing of Centrifugal Pump, Designing of Heat Exchanger, Understanding of Process flow diagram and Process and Instrumentation diagram, preparation of instrumentation process data sheet, Line sizing calculation.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment at SRF Limited Gurgaon is too good, you won't feel like an outsider or an intern because everyone is cooperative, flexible timing. so, that's why everyone likes this kind of environment.

**Academic courses relevant to the project :** Chemical Process Calculation, Fluid Mechanics, Heat Transfer, Process Equipment Design, Mass Transfer.

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**Name:** HARSHIT KUMAR SINHA .(2014B2A10888G)

**Student Write-up**

**Short Summary of work done during PS-II :** The project undertaken was related to milling of bulk solid into powder. The sample given was highly sensitive to heat. Different tests were carried out on the sample and analysis was done

based on these results. Burning test, MIT, MIE, Dust explosion test, percussion test and powder resistivity test were carried out for the sample and based on the analysis of these tests various safety measures were suggested. Process hazard analysis was done based on these results and protective and constructional measures were suggested.

**Tool used (Development tools - H/w, S/w) :** MS Excel.

**Objectives of the project :** The main objective of this project was to safely mill the bulk solid. The main purpose of this project was to go through the tests results of sample and then suggest the constructional measures and precautions required for milling bulk solid safely.

**Major Learning Outcomes :** Process plant safety. Hazop study.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Professional working environment, with helpful employees. Ample opportunities to learn about process plant design.

**Academic courses relevant to the project :** Process plant safety, Separation Process.

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**PS-II Station : Synopsys India Pvt. Ltd. , Hyderabad**

**Student**

**Name: MANGALAGIRI DINESH KUMAR(2017H1230134H)**

**Student Write-up**

**Short Summary of work done during PS-II** : Developing PDKs & iPDKs for various technology nodes. Developing and enabling various features for the PDKs. Verification and debugging of callback source codes.

**Tool used (Development tools - H/w, S/w)** : Synopsys Custom Compiler, Tcl scripting, Shell scripting, Unix

**Objectives of the project** : Main objective of the project was to develop and support the PDK without any bugs.

**Major Learning Outcomes** : Better understanding of Unix system operation there by better utilization for effective file handling. Got to work using scripting languages which were totally new for me which are also important for any tool development. Through project I was able to understand and help in development of each of the devices of the library used in circuit design.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : The working environment was encouraging. If we have the required skills for the job, we are always encouraged to do anything new. The team members were approachable and guided at every point needed.

**Academic courses relevant to the project** : No Academic courses relevant to project. Knowledge on Tcl, Shell, Python scripting languages along with good scripting skills are the requirements for the job.

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**Name: AMIT KAPATKAR(2017H1230206P)**

**Student Write-up**

**Short Summary of work done during PS-II** : I was working with DFT R&D TEAM, and worked on DFT based project including RTL Designing of it.

**Tool used (Development tools - H/w, S/w)** : Vcs, Verdi, DC Compiler, Tetramax, Spyglass

**Objectives of the project** : To get better dft designs

**Major Learning Outcomes** : Industry based generic designing in verilog. Dft concepts was major part of learning.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Working environment is pretty cool here. All people over here are really helping.

**Academic courses relevant to the project** : Vlsi design, Vlsi testing and testability, Cad for ic design

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**PS-II Station : Tata Autocomp Systems Ltd. , Pune**

**Student**

**Name: SHWETA YADAV .(2017H1060105H)**

**Student Write-up**

**Short Summary of work done during PS-II** : The project was on data analysis.

Analysis includes cost optimization of indirect consumable materials and outbound transportation. The project mainly comes under Central purchase and supply chain management.

**Tool used (Development tools - H/w, S/w) :** Excel, SAP, tableau

**Objectives of the project :** Cost optimization through data analysis

**Major Learning Outcomes :** Data analysis and spend analysis helps in getting an idea to what things are giving profit and to whom the contract should be awarded so that the organization gets the profit.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Total Quality management and reliability

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## **PS-II Station : Tata Chemical Innovation Center , Pune**

### **Student**

**Name:** Swapnil Pramod Kumar(2015A1PS0732G)

### **Student Write-up**

**Short Summary of work done during PS-II :** Components of FOS were successfully purified and characterized. A standard operating Procedure for the same was made and recorded for future use. Yield of 97% and above was achieved in the same and this

proved to be very economical compared to purchasing individual standards. The components GF2, GF3 & GF4 were characterised using techniques like HPLC, FTIR and Mass spectroscopy and it showed excellent match in terms of purity. Thermal studies showed promising results as well. The components did not show much changes in its properties while subjected to various moisture contents. They maintained their stability. Scans done using its mixtures with sucrose showed similarities of the behaviors of FOS and its components. However, after a particular ratio, it deviates, thus indicating that up to a point, there is a possibility that it can be used as replacement to common sugar (sucrose)

**Tool used (Development tools - H/w, S/w) :** Instruments: Semi Preparative High Performance Liquid Chromatography (HPLC)  
Rotary Vacuum Evaporator & Eppendorf Concentrator  
Differential scanning calorimetry (DSC)  
Thermogravimetric analysis (TGA)  
Fourier-transform infrared spectro

**Objectives of the project :** To obtain pure components of FOS by semi preparative HPLC, To characterize the pure fractions, To study the properties of purified FOS components and their mixtures & To predict various applications for the studied compounds

**Major Learning Outcomes :** Principles and Usage of the various instruments.  
Analysis of various plots and data obtained from these instruments.  
Applications of FOS and its components

**Details of Papers/patents :** Nil

**Brief Description of working environment, expectations from the company :** Working environment was good. The scientists are all helpful and friendly. It was more of lab work and chemistry.

**Academic courses relevant to the project :** Chemistry Lab

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## PS-II Station : Tata Motors Ltd. , Pune

### Student

Name: KAMBHAMPATI VENKATA SAI ANISH(2015A4PS0383H)

#### Student Write-up

**Short Summary of work done during PS-II :** Time studies of manufacturing processes of Tipper, trailer and RMC mixers

**Tool used (Development tools - H/w, S/w) :** Excel

**Objectives of the project :** Improving the productivity of the fabrication

**Major Learning Outcomes :** Corporate exposure, Lean manufacturing

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Production techniques

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## PS-II Station : Tata Technologies , Pune

## Student

Name: RAJAT KUMAR PANIGRAHI .(2017H1410091H)

### Student Write-up

**Short Summary of work done during PS-II :** My work here deals with calculating the material properties of metal sandwich composites both analytically and using virtual simulations .

**Tool used (Development tools - H/w, S/w) :** Abaqus,Hypermesh, Microsoft Excel, Nastran

**Objectives of the project :** Estimation of engineering constants of metal sandwich composites using different methods.

**Major Learning Outcomes :** . Deep learning on composites

- . Determined the behaviour of metal sandwich composites and its parametric dependency.
- . Estimation of engineering constants

### Details of Papers/patents :

**Brief Description of working environment, expectations from the company :** Work environment is good , Everyone is supportive .A very good place to learn if you are pursuing design engineering.

**Academic courses relevant to the project :** Composites,Practical courses on mechanical softwares

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## **PS-II Station : Taxilla Info Pvt. Ltd. , Hyderabad**

### **Student**

**Name: KOPELLA MANIKANTA SWAMI(2015A4PS0349H)**

#### **Student Write-up**

**Short Summary of work done during PS-II :** Building an application for conversion of data in one format to another

**Tool used (Development tools - H/w, S/w) :** Java

**Objectives of the project :**

**Major Learning Outcomes :**

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** OOPS

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## **PS-II Station : Techure Structures Pvt Ltd. , Nagpur**

### **Student**

**Name: SWETHA KANNEPALLI(2017H1430069P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** I was responsible for design and development of various types of structures including R.C.C and complex Steel structures. Including the designing, I was also responsible for coordinating with the client , generating drawings and relevant structural reports.

**Tool used (Development tools - H/w, S/w) :** STAAD Pro, ETABS

**Objectives of the project :** Design and detailing of various structures

**Major Learning Outcomes :** I was able to learn how to design any structure, provide the design detailing to the client in an appropriate manner.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The company offers a very friendly atmosphere as far as work is concerned, the learning atmosphere is nice. One can see continuous progress in the company and people tirelessly working on projects.

**Academic courses relevant to the project :** Structural Analysis, Steel Structures Design, Design of Reinforced Concrete Structures

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**PS-II Station : Tega Industries SEZ Ltd , Dahej**

**Student**

**Name: KARNAM ABHISHEK(2017H1420181P)**

## **Student Write-up**

**Short Summary of work done during PS-II :** The main goal of industries in general is to improve their productivity which is possible by improving productivity in individual departments. The productivity of any department depends on various factors such as Layout, working procedure, Inventory/Product flow management, workforce management etc. In the projects we talk about improving productivity in the Mould department and Blasting department of Tega Industry by redefining layout, managing Inventory, managing Product flow, Vertical Rack design for material placement, conducting Process flow analysis and Time study, defining Standardized Operating Procedure (SOP) wherever applicable. It provides comprehensive view of Mould department and Blasting department working which can help the management decide the further course of actions to be taken.

**Tool used (Development tools - H/w, S/w) :** Solidworks (Trial version), Autocad (by company)

**Objectives of the project :** The objective of the project is to increase the productivity of the concerned departments. The objectives involve reduction of man-material movement, Area identification in layout design, Easy Reach-ability of parts in the concerned department, find the non-value added activities and suggest solutions to reduce them, vertical racking system design to save shop floor space.

**Major Learning Outcomes :** The project helped me understand about the common problems faced by the industries, The method by which the productivity can be improved by process flow analysis (time study). Understood on how Standardizing the man-material movement can improve the productivity. A deep understanding of how the steel structures can be used in making Vertical racking systems(Industrial Racks)

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment is supportive and all the employees of the organization are ready to help you when

needed. The facilities while working depends on the department. The accommodation and food facilities provided are good.

The company expects results that are out of the box and and which can be implemented. The detailed study is very important. Basic knowledge about production process is required for the projects.

**Academic courses relevant to the project** : Production Planning and control, Toyota Production system, Flexible manufacturing systems, Strength of Materials, Steel structures

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## **PS-II Station : Tejas Networks , Bangalore**

### **Student**

**Name:** GUNE SHRIYA SHRISH .(2014B4A30895G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Development of Wifi Access point

**Tool used (Development tools - H/w, S/w)** : Coova-Chilli

**Objectives of the project** : To setup wifi access point along with the environment

**Major Learning Outcomes** : To develop any environment according to the needs of the device

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project : MTN**

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## **PS-II Station : TESCO Hindustan Service Centre , Bangalore**

### **Student**

**Name: YOGANSH SHARMA(2015A2PS0806P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Analysis of impact on sales due to reduction of minimum basket size for "Click and Collect".

Helped company in analyzing and comparing our slot prices by our competitors

Created a core stats file that accommodates all the major financial performance data like sales, orders, etc. and analysed it through graphs and important insights

Analysis of sales impact due to bagless trial in control set of stores and then estimated it for entire estate

Updated market share for all the retailers in business and predicted their growth

**Tool used (Development tools - H/w, S/w) :** SQL, MS Excel, MS Powerpoint

**Objectives of the project :** Data Analysis for ongoing projects in the company

**Major Learning Outcomes :** Project Planning and time management, SQL, Analytical skills

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project : N/A**

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**Name: THAKRE ABHIJEET ONKAR .(2014B5A80631G)**

**Student Write-up**

**Short Summary of work done during PS-II :** Forecasting, done on monthly, weekly and daily basis for expecting the number of calls . Then using BI tools for displaying the analysis.

**Tool used (Development tools - H/w, S/w) :** Excel, Microstrategy

**Objectives of the project :** Predicting number of calls on per week basis

**Major Learning Outcomes :** Forecasting methods

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** It's relaxed.

**Academic courses relevant to the project :** Probability and Statistics

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**PS-II Station : Texas Instruments (I) Pvt. Ltd - Systems , Bangalore**

**Student**

**Name: PREETHAM N REDDY .(2015A3PS0174G)**

## **Student Write-up**

**Short Summary of work done during PS-II :** The project involves getting accustomed to Eagle Test Software which is vital to effectively test the specifications. Various Design for Test concepts are discussed in detail. Then the project involves adapting existing code to cover specifications of a new device variant. The effectiveness of the test solution is measured using various statistical parameters.

**Tool used (Development tools - H/w, S/w) :** EagleVision, Test Stand, Labview 2016, Thermostream, Keysight DC Power supply, Matlab, Microsoft Office 2010(Outlook,Excel, PowerPoint, Word, OneNote), word, Allegro, Oscilloscope, Multimeter, Wires, Mother Board/Daughter Card, Current Probe, Motor Driver

**Objectives of the project :** To Release to the market of the Spin Device

**Major Learning Outcomes :** Process of RTM, and all the guardbanding and the analysis of variance of the test procedure, Silicon Debug

**Details of Papers/patents :** None

**Brief Description of working environment, expectations from the company :** The team is very good, everyone is approachable, there is always a helping hand on the other side. The company will provide all forms of learning help, but will also require you to figure out stuff on your own, thus helping you mature as a budding engineer in the world. The project encourages you to challenge your limits and overcome problems. This provides a holistic development to the individual. But being an intern, and if you are required to use highly sought after hardware equipment, you will only gain access after hours/weekends.

**Academic courses relevant to the project :** DD, MUE, ADVD, Analog Electronics, CP, EM, MATH 4, Practice School 1.

## **PS-II Station : Thornton Tomasetti , Mumbai**

### **Student**

**Name:** SOVIK MAITRA(2017H1430066P)

### **Student Write-up**

**Short Summary of work done during PS-II :** The major work during PS was reviewing submittals or shop drawings which is considered to be the final step before the fabrication phase thus playing a pivotal role in any project. Besides, there were some in hand experience with softwares like RAM Concept, SAFE and REVIT which aid in understanding the structural intricacies further.

**Tool used (Development tools - H/w, S/w) :** BlueBeam, RAM Concept, SAFE, REVIT

**Objectives of the project :** Projects assigned are mostly multifaceted.

**Major Learning Outcomes :** Working in close association with the top personnel in the industry helps bridge the theoretical knowledge and the application of it in the respective field.

### **Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The working environment in Thornton Tomasetti is the best you can ask for in a MNC considering the time flexibility and the ease with which you can approach the top management for any kind of help whatsoever.

**Academic courses relevant to the project :** Advanced Steel Structures, Earthquake Engineering, Design of Multi-storey Buildings, Advanced Concrete Structures.

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## PS-II Station : Thorogood , Bangalore

### Student

Name: TAMANNA PAHOOJA .(2014B3A30793G)

### Student Write-up

#### Short Summary of work done during PS-II :

**Tool used (Development tools - H/w, S/w) :** SQL, SSIS, ADF, Tableau, Power BI, DAX, Salesforce

**Objectives of the project :** The first project is aimed at streamlining collection and analysis of point of sales data for a leading Multinational Corporation dealing in Tobacco products. The second project aims to partially migrate a huge Unilever project into Azure Data Lake for easy accessibility. The third project aims to research and create audio- visual content for Azure Data Factory that can be used by other business analysts to understand the technology and get required practice for the same before applying it in the project. The fourth and the main project aims to develop a solution to integrate two applications currently being used for two different purposes in Thorogood

**Major Learning Outcomes :** Written communication

Creating professional presentations

Understanding Business Side of things

Learning various Front end and Back end Tools

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company** : The company has an amazing policy of work-life balance. The timings include 8 hrs of daily work and 1 hr for lunch. One of Thorogood's high points is an amazing 2 month induction cycle where they get you familiarized with various back-end and front-end tools. During the same time, you are given a case study to get hands on practice on the business needs in future projects that you would be a part of. The projects vary from being client-based to internal, involving back-end tools like SQL, ETL tools like SSIS/ ADF and front-end tools like Tableau/Power BI. Some of the projects also involve basic coding.

**Academic courses relevant to the project** : Principles of Management, Technical Report Writing

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**Name:** ARITRA CHOWDHURY .(2014B5A30602G)

**Student Write-up**

**Short Summary of work done during PS-II :**

**Tool used (Development tools - H/w, S/w)** : SQL Server, SSIS, SSMS, Tableau, QlikView, Power BI, Power Pivots, JAVA, Powershell, Salesforce

**Objectives of the project** : To build a complete BI system

**Major Learning Outcomes** : Technical Consultancy

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : It's a business intelligence and Analytics company. The average project is cleaning raw data and building dashboards out if it for the clients. There are new upcoming projects related to ML, but mostly we're trained on SQL and the like. In terms of work culture, I feel it's excellent, much better than

what other companies might have. The average age of employees is 25, so it's amazing. Plus the work hours are great, 9-6 or 10-7, and nobody expects you to stay more than that.

**Academic courses relevant to the project :** DBMS

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## **PS-II Station : UBER , Hyderabad**

### **Student**

**Name:** ADITYA CHITRAY(2015A4PS0412H)

### **Student Write-up**

**Short Summary of work done during PS-II :** At Uber I had the opportunity of working with the analytics team. I was assigned a data science project and ad-hoc tasks. Work is interesting and challenging. Projects have a high impact.

**Tool used (Development tools - H/w, S/w) :** SQL, Excel, Python/R

**Objectives of the project :** Managing demand and supply in Uber eats.

**Major Learning Outcomes :** Proficiency in SQL and Python, Building ML models

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Work Environment is amazing at Uber. People are dedicated and willing to help you. Manager is easily approachable.

**Academic courses relevant to the project :** Machine Learning, Theory of Optimisation, Probability and statistics

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## **PS-II Station : UBS Business Solutions (India) Private Limited - Finance Group , Pune**

### **Student**

**Name:** MOHAMMAD FARHAN KHAN(2017H1490293P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Worked in Single Cost Ledger team to control the flow of financial data in Single Cost Ledger. To maintain & approve critical access, general ledger a/c creation & maintenance & monthly hierarchy creation & maintenance of cost centers in SAP

**Tool used (Development tools - H/w, S/w) :** SAP

**Objectives of the project :** Financial data flow & control

**Major Learning Outcomes :** Banking Systems, Data Management Systems, Production & Testing environment

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project** : Financial Accounting, Management Accounting, Corporate Finance

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## **PS-II Station : UBS Business Solutions (India) Private Limited - Group Operations , Hyderabad**

### **Student**

**Name:** ANIRBAN MUKHOPADHYAY(2017H1490337P)

### **Student Write-up**

**Short Summary of work done during PS-II** : During my PS II, working at UBS Group Operations, Hyderabad, I was put into a change management project as an operations analyst. I was involved into one major project and two minor projects during my stay in the company.

The major project I was a part of, I was assigned the responsibility of helping the team to increase the operational efficiency of the organisation. This was done through a tool which is a part of operational management. During the project I analysed the reports to find out the change in the quality of data and helping the team of increase the productivity of the individuals. I used the tool along with MS Excel and MS Access to perform the task. I was also able to complete the foundation certification of an Operational Management course.

In the minor projects, I worked as a business analyst where my primary role was to gather and communicate the requirements to the respective teams and analyse the data to improve its accuracy which can be used in capacity planning. I was assigned to report the discrepancies of the data quality on a reporting platform. Also I was entrusted to create an interactive dashboard which I did with the help of tableau.

Apart from this, on my own initiative I learnt a workflow management tool and presented it to my seniors showcasing the benefits of it for the organisation.

**Tool used (Development tools - H/w, S/w) :** MS Access, MS Excel, MS Powerpoint, Tableau, Alteryx, RPA

**Objectives of the project :** Planning optimum resource usage; Balancing cost, quality and service; categorize top applications for cost cutting.

**Major Learning Outcomes :** Capacity Planning methods and approach; Analysis and Communication Skills for Business Analysis and requirements; Reporting Process; MS office tools like Excel and Access; Tools like Tableau and Alteryx.

**Details of Papers/patents :** N/A

**Brief Description of working environment, expectations from the company :** The working environment at UBS group operations is very friendly and encouraging. The team I was working with provided me with a lot of help and support to pursue my objectives in the projects assigned. I was also given enough flexibility to put in my own ideas in solving the projects assigned to me. My team encouraged me to explore on new tools so that new ways could be found out to increase the operational efficiency of the organisation. In short, the organisation is very supportive in the active participation of an employee in his/her new initiatives to improve its operational functioning.

The company expects the interns/employees to be proactive in the work which is given to them, and complete them within the deadlines mentioned. The organisation encourages innovative ways to solve a problem unless there are some procedures which need to be followed strictly. The organisation believes firmly in honesty and integrity of work and confidentiality of client data, breaching which is considered an offense and actions may be taken against the offenders.

Overall, the organisation is a very robust one and having a career here can make employees learn a lot about the banking culture.

**Academic courses relevant to the project :** Project Management ; Production and Operations Management ; Financial and Management Accounting.

**Name: ASHISH YADAVA(2015A2PS0520H)**

## **Student Write-up**

**Short Summary of work done during PS-II :** I worked as a KYC analyst in UBS (Group Operations) Hyderabad. The first part of my internship was to do the KYC periodic reviews of UBS clients. For this we were first given a training of 3 weeks where we were explained about all the tools that UBS uses to do KYC as well as all the process in the KYC of clients were discussed end to end. Post training, we were assigned with actual cases. I was able to complete 4 cases before being transferred to a different project.

In the second project, I worked with On-boarding of UBS for Indian Securities Market. Here also, I was first given one week of training. After the training I was tasked to complete background checks for the Ultimate Beneficial Owners of the existing FPIs that were our clients. This had to be done because of a circular issued by the SEBI on 10 April, 2018 about the new format of UBO reporting for all the FPIs along with other guidelines.

**Tool used (Development tools - H/w, S/w) :** MS Excel, MS Outlook

**Objectives of the project :** Periodic Review of UBS-IB clients and Background Checks for BOs of FPIs.

**Major Learning Outcomes :** Due diligence standards across AMER, EMEA and APAC regional regulatory regimes for Investment Banking.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The work culture is like that of a start-up, new updates regarding the process work flow came almost every week. We used to have quality referral calls daily for the better understanding of the process and clearing of doubts, if any. The client information is 3rd party restricted, so everyone was expected to be extra-cautious about any event of data-breach. The kind of relations you have with the people affects your work in many ways, mainly because people here are working in team rather than working individually.

**Academic courses relevant to the project** : FOFA, SAPM, and DRM

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## **PS-II Station : UBS Business Solutions (India) Private Limited - RAS FINANCE , Mumbai**

### **Student**

**Name:** Shreya Sharma(2013B4A20749P)

### **Student Write-up**

**Short Summary of work done during PS-II** : I worked upon writing Python Programs to analyse heaps of financial data and produce summaries that included various properties and characteristics as demanded by the Valuations Team that I was assigned to.

**Tool used (Development tools - H/w, S/w)** : Python, Excel VBA, IRP

**Objectives of the project** : Analysing financial data using the programming language Python.

**Major Learning Outcomes** : I learned about the reporting, summarising as well as various analyses done on financial data produced from a Valuations prespective. I've also become more proficient at Python and Excel VBA.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : The environment here at UBS is very much relaxed and the expectations set are given due time for process.

**Academic courses relevant to the project** : Financial Management, Derivatives and Risk Management, Object Oriented Programming, Graphs and Networks, etc.

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## **PS-II Station : UBS Business Solutions (India) Private Limited - RAS FINANCE , Pune**

### **Student**

**Name:** Ganisha Bhawsar (2014B3A80800G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Worked on a large scale project for financial, operational and reputational risk reduction in the bank. Part of a newly formed data governance team, responsible for checking data quality, controlling risks and establishing an end to end smooth financial Reporting process.

**Tool used (Development tools - H/w, S/w)** : Microstrategy, Excel, SQL

**Objectives of the project** : Cost Reduction, Process Efficiency, Risk Elimination, Consistent Financial Reporting

**Major Learning Outcomes** : Financial Reporting, Project Management

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Working environment - disciplined, professional, empathetic

Expectations - Work hours must be fixed

**Academic courses relevant to the project** : Principles of Management, Econometrics, Financial Management

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**Name:** RATHI NISCHAY MAHESH(2017H1490306P)

**Student Write-up**

**Short Summary of work done during PS-II** : Financial Reporting and Performance Analytics for the business division depending on the ledger entries and aligning the forecast with actual. Had a scope of automation in the reporting side with trainings on UAT testings, alteryx platform and Tableau.

**Tool used (Development tools - H/w, S/w)** : SAS, SAP, IBM COGNOS, SHAREPOINT, UnifiNeo, Alteryx, Robotics process automation.

**Objectives of the project** : Determining the scope of Automation and designing a business case.

**Major Learning Outcomes** : The banking terminologies, working. The predictive analysis behind forecast and rational thought. Automation tools and there Outlook.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : N/A

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## PS-II Station : Udaan , Bangalore

### Student

Name: RAKSHITH CHANDRA M S .(2014B2A10791G)

#### Student Write-up

**Short Summary of work done during PS-II :** In udaan, I look after the costing of the food and fmcg operation which includes the monthly cost reports, cost estimation and cost optimization methods.

**Tool used (Development tools - H/w, S/w) :** SQL, excel

**Objectives of the project :** Cost optimization of food and fmcg supply chain operation.

**Major Learning Outcomes :** Working of an e commerce company and it's supply chain.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Udaan is a very good company to work with no time restrictions. Most of the work includes solving real time problems. There is no hierarchy in the company and everyone's treated with equal respect.

**Academic courses relevant to the project :**

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## **PS-II Station : UPGRAD , Mumbai**

### **Student**

**Name: CHELLAPILLA SHRI AKHIL(2015A3PS0314H)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Learned to develop iOS Applications using the Swift programming language. Worked on maintaining and adding new features to upGrad's iOS Application on the App Store. This involved fixing app crashes, handling tech support from users of the app, and integrating new features which were previously not in the app, from scratch. Also worked on similar tasks for their Android application on the Google Play store.

**Tool used (Development tools - H/w, S/w) :** Software: (available for free online in most cases)

Programming Languages - Swift, Java

Version Control - Git, Bitbucket

IDEs - Xcode, Android Studio

Hardware: (provided by upGrad)

Macbook Pro (to develop iOS apps), various Android and iOS test devices

**Objectives of the project :** Development of upGrad's iOS Application

**Major Learning Outcomes :** I learned iOS App development and the Swift programming language. I also navigated through other important aspects of the app life-cycle such as ideation, implementation and release to production.

On a generic level, I got familiar with an IT workplace, their hierarchy, the Agile development workflow and how upGrad functions in various verticals.

**Details of Papers/patents :** N/A

**Brief Description of working environment, expectations from the company :** upGrad was an amazing station with colleagues that were open to suggestions and helpful in their guidance. I was able to transition from the initial allotment to their content writing team to the Tech team after having a chat with the relevant HR and Tech managers. They let us choose specific projects within the team based on our previous skills and future interests. While they do give advice if stuck at some point, they let the students explore and work out problems on their own, which was quite beneficial.

I felt that I was given a good set of responsibilities and treated as a proper employee; something that was very lacking during PS 1. I would definitely recommend continuing with upGrad as a station, and sending in more students if possible, since they are looking to expand across domains, especially in the Tech team.

**Academic courses relevant to the project :** None of the CS courses offered on campus had enough relevant practical project experience to be directly helpful, as they tended to be on the purely theoretical side. In addition, very little of the technology stack used is covered in any of the courses,

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**Name: PARTH SANDIP MEHTA(2015A7PS0044G)**

**Student Write-up**

**Short Summary of work done during PS-II :** Improved grader feedback by developing frontend restrictions and created a dashboard that fills itself with grader-level information by the trigger of a Django API.

**Tool used (Development tools - H/w, S/w) :** Python, Django, Javascript, Backbone.js, Google Data Studio

**Objectives of the project :** To improve the grader feedback and help in sampling

**Major Learning Outcomes :** Learnt full-stack development along with data science. Got to work with multiple technologies and got to understand the working of a tech team in a startup

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** Extremely friendly work culture that gives us the freedom to learn whichever type of tasks that we want.

**Academic courses relevant to the project :** Database Systems, Data Structures and Algorithms

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## PS-II Station : UST Global - Business Domain( Cochin) , Cochin

### Student

Name: AYUSH GARG(2017H1490362P)

#### Student Write-up

**Short Summary of work done during PS-II** : Work was majorly related to Market Research.

**Tool used (Development tools - H/w, S/w)** : Web based data tools like Owler, CB Insights, Crunchbase

**Objectives of the project** : Business Development

**Major Learning Outcomes** : Better understanding Market reports like white papers etc.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Decent working environment, though not much for management students.

**Academic courses relevant to the project** : Marketing and Market Research

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## PS-II Station : UST Global - Cochin , Cochin

### Student

**Name: GEETHKRISHNA R.(2014B5A80587G)**

**Student Write-up**

**Short Summary of work done during PS-II :** My work for PS-II at UST Global was in the development of a platform for the organisation. I received a good exposure in the software development industry and about various tools and frameworks responsible to build a product.

**Tool used (Development tools - H/w, S/w) :** Java, Spring, Hibernate, AngularJS

**Objectives of the project :** Development of a platform.

**Major Learning Outcomes :** Learned about new technologies and frameworks such as Spring and Hibernate in Java and UI development in AngularJS framework.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Computer Programming, Object Oriented Programming, Data Structures and Algorithms

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**PS-II Station : UST Global Infinity Labs-Robotics , Thiruvananthapuram**

**Student**

**Name: SHREYASH ANAND(2014B4A10803P)**

**Student Write-up**

**Short Summary of work done during PS-II :** My project was in the field of Brain Computer Interface. Objective was analysis & classification of EEG Signals so that we can use it for moving prosthetic arm.

**Tool used (Development tools - H/w, S/w) :** Hardware - uArm, BCI headgear  
software- Python

**Objectives of the project :** Classification of EEG signals, Moving prosthetic arm using BCI headgear

**Major Learning Outcomes :** Machine Learning techniques

**Details of Papers/patents :** N/A

**Brief Description of working environment, expectations from the company :** Working environment is very good. There was sufficient amount of time to finish the work before deadline. There was immense support from manager. Timings are strict.

**Academic courses relevant to the project :** N/A

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**Name:** DESHPANDE GANDHAR MAKARAND(2015A8PS0419G)

### **Student Write-up**

**Short Summary of work done during PS-II :** Designed and implemented an embedded system for the control and navigation of an Automated Guided Vehicle. We also looked at PCB designing for the same. Various protocols were used and implemented. I also learnt a host of new topics which are relevant in the industry right now like Kalman filters and Python coding.

**Tool used (Development tools - H/w, S/w) :** Micropython, Arduino, ESP8266 WiFi module.

**Objectives of the project** : Designing an embedded system for an Automated Guided Vehicle

**Major Learning Outcomes** : Learnt the practical intricacies of working with a working robot. Learned Micropython and by extension, basics of Python. Did a lot of literature survey on various topics in electronics.

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** : The work environment was very easy going. The timings were not very flexible, but not extremely stringent either. Variety of projects available, like AR/VR, Blockchain, Machine Learning, Computer Vision as well as web and software development. The mentor was very accommodating and allowed you to pursue your choice of projects.

**Academic courses relevant to the project** : Microprocessors and Interfacing, Embedded System Design, Digital Design, Analog Electronics.

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## **PS-II Station : UST Global- Trivandrum , Trivandrum**

### **Student**

**Name:** NIHAL REDDY BARLA(2014B1A80792H)

### **Student Write-up**

**Short Summary of work done during PS-II** : We designed 3 blockchain usecases in the course of PS2. The blockchain platform we used is ethereum.

**Tool used (Development tools - H/w, S/w) :** S/w

**Objectives of the project :** Speedchain- In our use case, we are building a consortium among the medical insurance companies through blockchain technology. There will be a common platform where all the doctors' details will be stored which won't be company specific. We store the details which all the companies won't object to share like personal details, addresses etc. The company specific details like the contract details won't be stored in the blockchain. Since the common platform is blockchain, we won't have trust issues among the companies.

**Major Learning Outcomes :** We learned about blockchain and some areas of front-end. We learned how to design ,develop, deploy and test the products.

**Details of Papers/patents :** -

**Brief Description of working environment, expectations from the company :** The work environment is good in the company. If you show interest then the mentors will push you. They are very supportive.

**Academic courses relevant to the project :** Cryptocurrencies

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**PS-II Station : Viacom18 Media Pvt. Ltd - Digital Ventures , Mumbai**

**Student**

**Name:** GAURAV RAJENDRA MANDLECHA(2014B3A40725P)

**Student Write-up**

**Short Summary of work done during PS-II :** The project was aimed towards understanding the main Voot Demographics to help the senior leadership in making key decisions, explore Chinese Ecosystem and maintain an active repository of branded content instances online which helped the Ad Sales team in improving client targeting, content team to identify themes and finally, the marketing team to forecast key metrics related to a web series.

**Tool used (Development tools - H/w, S/w) :** MS Excel, MS Powerpoint, Salesforce, BARC, Mixpanel

**Objectives of the project :** Sales Planning and Strategy, Business Development

**Major Learning Outcomes :** Major enhancement in MS Excel skills. I was able to learn how to collaborate with different stakeholders and understand why few things are structured in a certain way. I could appreciate the processes and systems even more through my internship

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** The working environment is very conducive. Given, it is a media and entertainment company, you can expect fun things happening around, very informal and relaxed setting but having said that working hard is imperative. The more you get engrossed, the better results you will see for yourself. If you are sincere in your approach, you can get a full time role with Viacom18

**Academic courses relevant to the project :** Probability and Statistics

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## **PS-II Station : Vittor Health Science**

**Mentor**

**Name : Vikram Rai**

Designation : Project Head

**comments** : Student has good knowledge on Android and Data Analytics.

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## **PS-II Station : VMS (Vakil Mehta Seth) Consultants Private Limited , Mumbai**

### **Student**

**Name: ANKIT SINGH MEHRA(2017H1430070P)**

### **Student Write-up**

**Short Summary of work done during PS-II** : The project involves designing a steel-concrete composite commercial multi-storey structure as per Eurocode and BIS guidelines. The solution was chosen such that it provided the most efficient sections in terms of stresses at ultimate stage and deflections at service stage. Any typical floor was divided into spans of 11m x 11m consisting of primary beams and secondary beams supported on columns at the corners. The section of primary and secondary beams were designed as per ArcelorMittal ABC Software package considering the composite action of slab, ensured by providing one row of shear connectors welded to the beams. Connections were designed using OSDAG software package. For achieving efficiency and economy the column section was varied along the height of the building by decreasing the thickness of the plate, along the height of the building. To simulate the structure so as to get accurate behavior, the structure was modelled as a three dimensional steel-concrete composite ordinary moment-resisting frame with RCC ductile Shear walls in ETABS: 2016 and structural performance report was prepared. Finally bill of quantities for a typical 11m x 11m bay was prepared.

**Tool used (Development tools - H/w, S/w) :** ArcelorMittal Beams calculator, ETABS, STAAD.pro, OSDAG

**Objectives of the project :** To prepare a design basis report for designing the structural elements of a steel-concrete composite multi-storeyed commercial structure. To review the proposed design by preparing a structural performance report. To prepare the bill of quantities for a typical 11m x11m bay.

**Major Learning Outcomes :** The program introduced me to the newly emerging field of “Steel-Concrete Composite Structures”. Enhanced my skills of modelling, analyzing and designing an efficient and optimized engineering structure. Exposed me to current practices followed in a design office like performing quick and accurate hand calculations, effectively using the standard empirical charts, coefficients, spread sheets and various national and international standards. Opportunity to get hands on experience of FEM based commercial software packages like ETABS, STAAD.Pro, ArcelorMittal Beams Calculator (ABC), OSDAG etc. by working on real world problem. Eventually leading to acquire the required competency in writing a DBR (design basis report), performing design calculations, and reviewing the design through a SPR (structural performance report).

**Details of Papers/patents :** N.A.

**Brief Description of working environment, expectations from the company :** VMS is a small firm in terms of employee numbers but large in terms of excelling in fundamentals of structural engineering bringing with it more than 60 years of experience in structural design. It is one of the few firms having representation in BIS code committees. The firm is a perfect place for freshers as it allows them to work on real world problems from day 1. The seniors are very cooperative and always ready to help. The top management makes sure that the interns are introduced to the challenges of the design office with a smooth gradient.

**Academic courses relevant to the project :** CE G612-Advance steel structure,  
CE G618-Design of multi-stor-str,  
CE G551-Dynamics of structures,  
CE G615-Earthquake engineering.

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## PS-II Station : VMware Software India Pvt. Ltd. , Pune

### Student

Name: SAVANI ABHISHEK AJAYKUMAR(2015A7PS0087H)

#### Student Write-up

**Short Summary of work done during PS-II** : Worked on Guest Introspection. Two projects-  
1)Driver development 2)API test bed automation

**Tool used (Development tools - H/w, S/w)** : C++, Python, valgrind, gdb, postman

**Objectives of the project** : To improve one of the drivers. To automate test bed of API testing

**Major Learning Outcomes** : Multi threading and it's applications, data structure applications, concepts of many to many mapping, operating systems application. How actually TCP connections are made, modifications in them. VMCI socket connection libraries.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Operating systems, computer networks, data structures and algorithms.

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## PS-II Station : Wabco India Pvt. Ltd , Chennai

### Student

Name: BHAUTIK BIPINBHAI PATEL .(2017H1060104H)

### Student Write-up

**Short Summary of work done during PS-II** : I worked here in PE (Product engineering) department for foundation brake team. Was allotted project on Automatic Slack Adjuster (ASA), one component of air brake system. My work was to understand the functioning of ASA and devise a new mechanism which can replace current ASA to next gen which has fewer components leading to lower cost.

**Tool used (Development tools - H/w, S/w)** : Creo Parametric, MS excel

**Objectives of the project** : To develop air motor for application of ASA.

**Major Learning Outcomes** : Product designing

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Working environment was good. Mentors and co-mentors were really helpful and guided along the right path. Free food (lunch & breakfast) 9hrs 5 days a week.

**Academic courses relevant to the project** : Strength of materials, Machine design, Product design.

## PS-II Station : Western Digital (SANDISK) , Bangalore

### Student

Name: DIVYANSH MAHAJAN(2014B3A30935H)

#### Student Write-up

**Short Summary of work done during PS-II :** Tool Development for upcoming products. Tools are developed in house to test the products before entering the market, thus tools needs software and code modifications as per the latest specifications. These tools are generally coded in C, Cpp, c sharp, python or java.

**Tool used (Development tools - H/w, S/w) :** C, C++, C#, Java, Python. Visual studio 2015, PyCharm.

**Objectives of the project :** To enhance an in-house developed tool as per the specifications of the upcoming product.

**Major Learning Outcomes :** Deeper learning of C, Deeper learning of driver development, Deeper learning of Non Volatile Memory Express protocol used by drives.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Cool and calm environment. Good mentorship. Crisp and clear communication.

**Academic courses relevant to the project :** Object Oriented Programming, Computer Architecture, Basic computer science.

**Name: YADAV KRISHNA KUMAR AMRITLAL(2017H1230217P)**

**Student Write-up**

**Short Summary of work done during PS-II :** Implemented differential amplifier in place of inverter in order to get low power .Designed the differential amplifier as per the required specification in repeater path.

**Tool used (Development tools - H/w, S/w) :** Candence

**Objectives of the project :** Low power architecture

**Major Learning Outcomes :** Designing of analog circuits , factors affecting the performance of architecture

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Analog IC design , VLSI concepts etc



**Name: SHWETA NARAYAN SHETTY .(2017H1400085G)**

**Student Write-up**

**Short Summary of work done during PS-II :** Developing Test Firmware for screening out NAND Flash memories.

**Tool used (Development tools - H/w, S/w) :** Atom Text Editor with Python Interpreter, Visual Studio, in house tools

**Objectives of the project** : Understanding the NAND architecture and finding failures using test firmware

**Major Learning Outcomes** : Data Extraction from Logs using Python, NAND Flash architecture and failure cases.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Embedded Systems, VLSI Design, Digital Design

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**Name: Tushar Aherkar(2017H1030084H)**

**Student Write-up**

**Short Summary of work done during PS-II** : Unit Test Framework does unit testing for SSD validation platform used in production testing. Unit Test Framework emulates the tester used in actual production along with SSD reply behavior and injects various errors to tester API, system API and device errors. Unit test cases will verify the CommonFramework platform code developed to run on production tester platform in actual scenario.

**Tool used (Development tools - H/w, S/w)** : Google Test Platform, Valgrind, cppcheck, Gcovr,Gcov

**Objectives of the project** : UNIT TESTING FOR NVMe SSD COMMONFRAMEWORK VALIDATION PLATFORM

**Major Learning Outcomes** : Deep understanding of DS, OOPS concepts, OS concepts, C++

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** OOPS, Operating System, Data Structures

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**Name:** SHILPI VARSHNEY(2017H1240105P)

### **Student Write-up**

**Short Summary of work done during PS-II :** The objective of the project is to develop the UDA (User Defined Algorithms) for controller based NAND evaluation well suited for memory reliability and qualification. To begin with, one must have a basic understanding of NAND and its operations like Read, Write, Erase. The UDA development is a part of post-silicon qualification. Various test flows/screens need to be developed based on specifications for the product qualification. Also, the goal is to develop the UDA for auto failure analysis of errors in gen 4 memory samples due to WL

WL (Word Line to Word Line), WL-MH (Word Line-Memory Hole), WL-LI(Word Line -Line Interconnect) leakage.

**Tool used (Development tools - H/w, S/w) :** Putty, Source Insight, WinSCP, Hex Editor

**Objectives of the project :** The objective of the project is to develop the UDA (User Defined Algorithms) for controller based NAND evaluation well suited for memory reliability and qualification

**Major Learning Outcomes :** Memory Basics like Read ,Write ,Erase .

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working Environment is good. All the teammates are quite supportive and encouraging.

**Academic courses relevant to the project :** VLSI Design ,C Programming

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**Name:** HARRY JOHNSON(2017H1030120P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Designed and Developed a parser which can parse binary file to a csv file. Packet formats were also designed. This packets are written to a binary file and the parser parses this binary file.

**Tool used (Development tools - H/w, S/w) :** Different Code editors - VS, SourceInsight etc.  
Code testing softwares

**Objectives of the project :** Design and Develop a generic parser that can work across multiple NAND testing platforms

**Major Learning Outcomes :** Implementation of OS concepts in Linux kernel , Packet parsing mechanism, Design and Development of multi threaded programs in C

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** C Programming, OS , Computer Architecture,

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**Name: AYUSHI BAPNA .(2017H1230076G)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Code coverage for USB Tester. Code Coverage is a measure used to describe the degree to which the source code of a program is executed when a particular test suite runs. A program with high test coverage, measured as a percentage, has had more of its source code executed during testing, which suggests it has a lower chance of containing undetected software bugs compared to a program with low code coverage. It tells how well the source code has been exercised by your test bench

**Tool used (Development tools - H/w, S/w) :** C/C++

**Objectives of the project :** Code Coverage to make the source code of test program more efficient

**Major Learning Outcomes :** C/C++

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment is very nice

**Academic courses relevant to the project :** VLSI Test & Testability

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**Name: ABHISHEK KUMAR SINGHANIA(2017H1230222P)**

### **Student Write-up**

**Short Summary of work done during PS-II :** Firstly we studied about High speed Design and some basic blocks (AFIFO AND SERDES) Then I designed a new data path architecture that is working at very high speed.

**Tool used (Development tools - H/w, S/w) :** Cadence, Hspice, Finesim

**Objectives of the project :** Project was divided into several phases. Phase I was focused on study, analysis the components of the design that degrades the performance. Study that components in detail. This was followed by some problems based on external setup/hold requirements. Phase II is Datapath Design.

**Major Learning Outcomes :** Gain Sufficient understanding about the high speed data path design.

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** NA

**Academic courses relevant to the project :** VLSI DESIGN, ADVANCED VLSI DESIGN, ANALOG IC DESIGN

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**Name:** NISHANT RANJAN .(2017H1230066G)

**Student Write-up**

**Short Summary of work done during PS-II :** Automation framework was developed and delivered to the company to increase the efficiency of Checkout system and increase the tester utilisation .

**Tool used (Development tools - H/w, S/w) :** Jenkins Server

**Objectives of the project** : Automation of Checkout system

**Major Learning Outcomes** : Test flow was fully understood.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : None .

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**Name:** [DIVYAMAN SINGH\(2015A3PS0332H\)](#)

**Student Write-up**

**Short Summary of work done during PS-II** : Worked in the DCS department on a service for providing a global namespace for bucket and identity management for the product.

**Tool used (Development tools - H/w, S/w)** : Gitlab, Jenkins, IntelliJ.

**Objectives of the project** :

**Major Learning Outcomes** : Extensively worked on MongoDB and got to know the functionality and use-case of NoSql database.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** :

**Academic courses relevant to the project** : Database Management System, Computer Networks, Object oriented programming.

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**Name: Yalaj Goyal(2015A8PS0243G)**

### **Student Write-up**

**Short Summary of work done during PS-II :** The project is divided in 5 phases. Phase 1 constituted getting used to design tools and environment. Phase 2 intended on study of the existing design of 48 DUT Carrier, which is supposed to be modified into 24 DUT carrier, with a current measurement card as add on feature. Phase 3 was focussed on designing of circuits, according to the requirements. Phase 4 intends on implementation of design and schematics design using Cadence Capture CIS. This will be followed by phase 5 in which it is required to work with PCB layout engineer and review the schematics and correct them.

**Tool used (Development tools - H/w, S/w) :** Cadence Capture, STM32CUBEMX, hyperlynx

**Objectives of the project :** Design of a 24 DUT carrier for testing

**Major Learning Outcomes :** Circuit design

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Comfortable and helpful environment, completion of the project and design from the basic

**Academic courses relevant to the project :** Microprocessor and Interfacing, Digital design, Analog Electronics

**Name: KARADKHEDKAR SIDDHI MUKUND(2017H1230067G)**

### **Student Write-up**

**Short Summary of work done during PS-II :** 1. Schematic design of circuit and schematic making on orcad tool by cadence

2. Analog circuit simulation analysis using pspice simulator
3. Signal integrity analysis using hyperlynx
4. Working on CPLD for clock timing requirement

**Tool used (Development tools - H/w, S/w) :** Quartus prime, vivado design suite, capture cis, pspice, hyperlynx

**Objectives of the project :** To upgrade existing design of project to meet new requirements of internal customers as well as speed upgrade.

- Major Learning Outcomes :**
1. Schematic design
  2. SI problems and solution for high speed issues
  3. Modification in circuit with opamp for yielding better results

**Details of Papers/patents :** NA

**Brief Description of working environment, expectations from the company :** The work constituted of analysis of previous design, understanding new requirements, proposing new design based on simulation results and making schematic for final layout making.

There were weekly thrice sync-up meetings for the team to discuss on individual updates and tracking of projects. There was a session from director of our team for understanding the work done by interns and to collect feedback if any. There were regular diversity and inclusion meetings to increase awareness and making a friendly environment for work.

The industry expectations from us as interns were to work and contribute to actual ongoing projects and bring about new ideas and new energy on the table.

**Academic courses relevant to the project** : Reconfigurable computing, basics of analog circuit, Digital Design

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**Name:** VENKATA SAI KRISHNA VALLURY(2017H1240099P)

### **Student Write-up**

**Short Summary of work done during PS-II** : A highspeed, low power, low start-up time, supply and temperature invariant oscillator is designed. Design specifications include frequency, accuracy and stability requirements of an oscillator. The oscillator should be trimmable for process, supply voltage and temperature variations.

**Tool used (Development tools - H/w, S/w)** : Cadence Virtuoso, Synopsys HSPICE

**Objectives of the project** : To design a high-speed, low power, low start-up time, supply and temperature invariant oscillator

**Major Learning Outcomes** : 1. Internship work translates the theoretical learning in college to the practical challenges  
2. Self Confidence on working challenging problems

**Details of Papers/patents** : Working on journal paper and patent

**Brief Description of working environment, expectations from the company** : Manager, mentor and other teammates always motivates, encourage and support to work on innovative circuits and designs

**Academic courses relevant to the project** : Analog IC Design, Analog Circuits, Control Systems, Electric Circuits, Signals & Systems, Digital Circuits, VLSI Design

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## PS-II Station : Whirlpool , Pune

### Student

Name: BHARADWAJ J(2017H1410145P)

#### Student Write-up

**Short Summary of work done during PS-II :** Detailed literature survey on glass failure and modeling techniques. Understanding the theory and LS-DYNA implementation of peridynamics, a method specifically developed for glass failure modeling. Perform benchmark simulation and sensitivity study to validate the method. Propose a general guideline for glass failure modeling.

**Tool used (Development tools - H/w, S/w) :** LS-DYNA, Hypermesh

**Objectives of the project :** To develop a simulation methodology to predict the impact load at which failure occurs in glass and also predict the crack pattern after failure.

**Major Learning Outcomes :** Practical understanding of fracture mechanics and finite element method concepts. Hands-on exposure to LS-DYNA and Hypermesh. Conversion of an experimental test setup into a finite element model and simplifying assumptions associated. Experimental correlation experience. Soft skill improvement.

#### Details of Papers/patents :

**Brief Description of working environment, expectations from the company :** Working environment is friendly and people are willing to help if we have any queries. We were given time and freedom to learn new softwares and explore different approaches for the completion of the project.

**Academic courses relevant to the project :** Finite Element Method, Fracture Mechanics, Material testing and technology

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## **PS-II Station : William O Neil India Pvt Ltd , Bangalore**

### **Student**

**Name:** NAREDDY NITHIN REDDY(2015A4PS0208H)

### **Student Write-up**

**Short Summary of work done during PS-II :** The work done was mostly related to the stock market and trading. Most of the time was spent on research about commonly believed investing strategies. The aim was to find out the best performing strategies and filter out the better threshold limits to build algorithms based on them. The work gave me a good exposure to the SQL Programming and also python.

The procedure was to research various articles and come up with a proposal. Later, the events are coded in SQL and the reports are generated for analysis. All the research findings are then presented to all the teammates and best bullish/bearish signals were decided.

The company specific CAN SLIM methodology was very interesting and helpful in picking up the stocks. We also had an opportunity to work on the buy and sell alerts that were sent by the company to their clients.

It was interesting to look at the performance of those buy and sell alerts and finding the best alerts.

**Tool used (Development tools - H/w, S/w) :** SQL AWS Redshift, Microsoft SQL, Pycharm

**Objectives of the project** : Finding the best thresholds for commonly believed investing strategies and later use them as constraints for building algorithms

**Major Learning Outcomes** : Knowledge in SQL programming, Programming in python using pandas library, Knowledge about various investment strategies, Stock market analysis.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : A pleasant working environment with a supportive mentor who guides in all the obstacles. Company provided an excellent opportunity to work on investment strategies and also a good exposure to the company specific analysis of the stocks.

**Academic courses relevant to the project** : Business Analysis and Valuation , Securities and portfolio Management, Derivatives and Risk Management.

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## **PS-II Station : Worley Parsons India , Mumbai**

### **Student**

**Name:** PARAB NACHIKET SUBHASH(2015A3PS0282G)

### **Student Write-up**

**Short Summary of work done during PS-II** : The work done involves a variety of Data Science projects. The programming language used is Python and the most used tools are OpenCV (Open Computer Vision), an image processing tool which performs a variety of functions like image filtering and image thresholding, and Tesseract 4.0, an Optical Character Recognition (OCR) tool, which has been developed through Deep Learning. Students having

experience with Machine Learning experience and knowledge can work on projects using Support Vector Machines (SVM), k-Nearest Neighbours (kNN) and those with Deep Learning experience and knowledge can work on projects using Convolutional Neural Networks (CNN) and Recurrent Neural Networks (RNN). I have worked on projects which were as follows: ConvertPDF, an application which converts scanned PDFs to searchable ones; DetectHolds, an application which detects a list entity called Holds from scanned Engineering drawings and transfer them to an Excel sheet; Handwritten Comments Extractor, an application which detects Handwritten Comments, written in color ink, from a black and white scanned Engineering drawing; AnnotationExtractor, an application which extracts the text from annotations in a PDF, and BrewCAD, an application which converts scanned Engineering drawings to an AuroCAD drawing.

**Tool used (Development tools - H/w, S/w) :** Python language, Python-OpenCV, Tesseract 4.0 (through means of pytesseract and pyocr) and East Text Detector

**Objectives of the project :** Objectives are mentioned in work summary

**Major Learning Outcomes :** Got a good knowledge of Python along with experience in handling OpenCV and Tesseract. Some knowledge of CNNs was also gained.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment is healthy. Students are provided with enough time to think of innovative solutions which can be implemented to enhance the performance of the existing applications and to develop new applications. No work stress present and guidance is provided if needed. Company expects students to take interest in the projects offered and contribute to the development of the current applications and develop new ones as per the requirements of the clients.

**Academic courses relevant to the project :** Machine Learning

## **PS-II Station : Xilinx India Technology Services Pvt. Ltd. , Hyderabad**

### **Student**

**Name:** GURUKALYAN MOHANTY(2017H1400162P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Project on hardware accelerator. Implementation of Static Timing Analysis using Xilinx Alveo u200 accelerator card.

**Tool used (Development tools - H/w, S/w) :** Xilinx Vivado, SDAccel

**Objectives of the project :** Performance improvement of Static Timing Analysis using Xilinx Alveo u200

**Major Learning Outcomes :** RTL coding and OpenCL

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Reconfigurable computing, VLSI Architecture, HW/SW Co-design

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## **PS-II Station : Zendrive India Pvt Ltd , Bangalore**

## Student

Name: ABHISHEK JOSHI(2015A7PS0116P)

### Student Write-up

**Short Summary of work done during PS-II** : Refactoring Android dogfood app code to achieve a better parity with the iOS app. Setting up a CI pipeline to run static analysis on the entire Android codebase to detect warnings and bugs during the compile task and post the errors as inline robot comments on the code review tool. Implement a visualization tool to analyse and identify SDK's most battery consuming components.

**Tool used (Development tools - H/w, S/w)** : Android Studio, Java, Kotlin, Jenkins, Gerrit, Android bug reports, Static Analysis

**Objectives of the project** : Refactoring dogfood app, setting up static checking pipeline, investigate battery tooling

**Major Learning Outcomes** : Collaboration in a distributed environment, working closely to production branches, learning best industrial practices

**Details of Papers/patents** : N/A

**Brief Description of working environment, expectations from the company** : I have been working as a software engineering intern with the Android SDK team for the past six months. My experience with Zendrive has seen a holistic technical as well as personal growth as I have been working very close to the production environment. A peculiar thing about Zendrive is that you get a lot of work done but you don't feel strained at any point in time; I think it is most probably because of the approachable, friendly and extremely talented peer group that one gets. This journey was nothing short of phenomenal.

**Academic courses relevant to the project** : Computer Programming, Data Structures and Algorithms, Parallel Computing, Compiler construction, Computer networks, Principles of programming languages, Theory of computation

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**Name: AMOGH SHARMA(2015A7PS0053P)**

**Student Write-up**

**Short Summary of work done during PS-II :** I worked at Zendrive Backend. My work involved creating automation solutions for production deployments. I worked on setting up an automated continuous delivery pipeline using Jenkins. After that, I set up a static code analyser to run on every piece of python code being checked in. My final project was setting up an infrastructure as a code tool from scratch. This tool helps replicating and creating entire production stacks through a single command.

**Tool used (Development tools - H/w, S/w) :** Python, Jenkins, Amazon Web Services

**Objectives of the project :** Automating Deployments through Jenkins

**Major Learning Outcomes :** - Learnt how a startup goes from manual environment management to full automation.

- Learnt how continuous delivery pipelines work and why they're important for agile development.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** Parallel Computing

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**Name: ANURUP DOSHI(2015A3PS0208P)**

## **Student Write-up**

**Short Summary of work done during PS-II :** My work at Zentrive spanned multiple projects - Assessing the performance of GPS sensors when it came to extreme acceleration events like collisions and hard brakes; Determining a threshold on phone acceleration beyond which phone movement can be classified as phone usage; Making improvements to Kalman filters used in Sensor Fusion algorithms; Assessing the scope for changing sampling frequency of motion data and refining the existing Sensor Fusion pipeline.

**Tool used (Development tools - H/w, S/w) :** R, Python, Matlab

**Objectives of the project :** Assessing performance of GPS sensors during extreme acceleration events. Threshold selection on phone acceleration to classify phone usage. Assessing performance of re-tuned Sensor Fusion algorithm on 100Hz data when compared to 5Hz data.

**Major Learning Outcomes :** Advanced signal processing techniques, problem solving methodologies, technical skills in terms of exploratory data analysis.

**Details of Papers/patents :** N/A

**Brief Description of working environment, expectations from the company :** Environment is very conducive to working - hierarchy is flat, upper management is very accessible, people are very helpful.

**Academic courses relevant to the project :** Digital Signal Processing, Probability and Statistics, Neural Networks and Fuzzy Logic

**Name: Abhishek Aggarwal(2015A3PS0250P)**

## **Student Write-up**

**Short Summary of work done during PS-II :** My PS-II involves working with dogfood app which is an Internal testing app. This app is responsible for testing each and every test case of Zendrive SDK (In most simple term SDK is a collection of software which can be integrated with app and it depends on app developer how he/she uses its functionality). Sometimes we add such functionalities to SDK which can only be validated by user. So we need changes in app UI to show results to the user so that they can verify them. If you don't have a scalable UI, ui change would take a lot of development time as well as effort. So, my first project revolves around designing a scalable UI for dogfood app.

My second project was about app migration from Objective C to Swift. In this project I was involved in end to end development of app. We needed migration because nowadays swift has gain much more popularity over Objective C, so young developer prefer to start their development carrer with swift. So, ultimately if company want to work with these young mind, it has to change accordingly.

**Tool used (Development tools - H/w, S/w) :** Xcode, git, Kibana, Objective C, swift

**Objectives of the project :** Reduce development effort and time by making UI scalable

**Major Learning Outcomes :** First project was mainly about UI, so learnt more stuff about different types of UI options iOS offers.

Second project was about end to end development of iOS app. I was understanding code in Objective C and writing in swift. This way I was able to learn two language - Objective C and Swift. Moreover, I learnt about different states of app and also about different architecture(MVC, MVP, MVVM) we can use in app development.

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Working environment in Zendrive is really cool. What I like most is that company has open culture i.e if

you have any problem you can talk to anyone within the company. Moreover you can expect a team outing every quarter. You never feels hungry in Zendrive .Apart from providing free lunch, it also has pantries on each floor.

Apart from all above stuff, you also have ample learning opportunities in Zendrive. As it is a startup, it try to allot production level projects to intern.

**Academic courses relevant to the project :** Object Oriented Programming, Database Management System, Computer Networks, Operating System

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## **PS-II Station : ZiMetrics Technologies Pvt. Ltd. , Pune**

### **Student**

**Name:** RISHABH GAUR(2014B1A40404P)

### **Student Write-up**

**Short Summary of work done during PS-II :** Using AWS Sagemaker, our first step was to make a POC for the client organization to show them the capabilities of Sagemaker and how it can be used to deploy not only some already built model, but to deploy Docker images directly onto AWS. Once that was done, we were required to understand their requirements and needs for a centralized data hub for the client.

**Tool used (Development tools - H/w, S/w) :** AWS Sagemaker, NodeJS, Java

**Objectives of the project :** POC for the client organization to showcase the capabilities of AWS Sagemaker

**Major Learning Outcomes :** JDBC, AWS Sagemaker, NodeJS, Image Processing

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** Learning curve was great. Start-up culture meant we were working on multiple projects at the same time which provided great opportunities to learn and succeed.

**Academic courses relevant to the project :** Image processing, Data Mining, Data Science

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**PS-II Station : Zinnov Management Consulting Pvt. Ltd., , Bangalore**

**Student**

**Name:** JAIESH KUMAR JAIN(2015A4PS0409P)

**Student Write-up**

**Short Summary of work done during PS-II :** As part of the Zones team at Zinnov, my work revolved around the three major reports published annually by them which were on Engineering Research and Development (ER&D); Internet of Things (IoT), and Media and Technology (M&T). These reports provide ratings and rankings of various Service Providers in different verticals and horizontals, based on various parameters like capabilities; expertise; achievements etc. It was a great experience working in Zinnov, being a part of such a helpful team and gaining exposure to the world of consulting.

**Tool used (Development tools - H/w, S/w) :** MS Office (Excel, Word and PowerPoint)

**Objectives of the project** : The Zinnov Zones reports can be used extensively both by Service Providers (SPs) for marketing their expertise and capabilities and also, by OEMs while deciding the most suitable SP for the task.

**Major Learning Outcomes** : Industry exposure and knowledge, Market research, Data Collection and analysis, Decision making

**Details of Papers/patents** : N/A

**Brief Description of working environment, expectations from the company** : The company is comprised of experienced individuals who are very helpful, and are easily approachable as there is no hierarchy. Flexible hours and a very supportive team.

**Academic courses relevant to the project** : Principles of Economics, Current Affairs

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**Name:** NADEEM(2015B5PS0976P)

**Student Write-up**

**Short Summary of work done during PS-II** : GENDER DIVERSITY STUDY 2019 REPORT  
(AN INDIAN PERSPECTIVE)

**Tool used (Development tools - H/w, S/w)** : Excel, PowerPoint, LinkedIn search, Sales Navigator, Recruiter

**Objectives of the project** : This study has been undertaken to benchmark the maturity of Gender Diversity and the programs implemented to enable the agenda within Indian organizations across industries. Our key focus is on the policies and practices companies are undertaking to foster gender diversity and sustainable inclusion, steps taken to establish a brand name of an equal opportunity employer, building the pipeline for future women in technology, and engaging them within their ecosystem.

**Major Learning Outcomes** : Excel, Research skills, Power-point, Decision making, Location Analysis, basic functioning of consultant, Knowledge about various industries and digital technologies. Apart from this, soft skills were developed.

**Details of Papers/patents** :

**Brief Description of working environment, expectations from the company** : Friendly people, flexible hours, helpful seniors you can learn the basics of being a consultant while working in the firm. you can get a pretty good idea of corporate working culture here.

**Academic courses relevant to the project** : Principle of Management, Current Affairs,

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**Name:** VENKAT MOHIT SORNAPUDI(2014B5AB0751H)

**Student Write-up**

**Short Summary of work done during PS-II** : Had fun working at Zinnov and Draup (Zinnov-IT) and learned a lot.

**Tool used (Development tools - H/w, S/w)** :

**Objectives of the project** : Web scraping, building alerts system whenever the required fields in a given website are updated above a threshold level.

**Major Learning Outcomes** : Languages: Python

Web technologies: Flask, Django, Javascript, HTML, CSS, pyQuery

Databases: MongoDB (NoSQL), MySQL, SQLite, Redis

Operations: Celery, Postman, SQLAlchemy (ORM), Celery, Git

Others: Object oriented programming, Rest APIs (JSON)

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** DSA, DBMS

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**Name:** [Diksha Singh\(2014B2A10897H\)](#)

**Student Write-up**

**Short Summary of work done during PS-II :** As part of the Marketing and Strategic Initiatives team at Zinnov, my projects majorly revolved around coming up with rough plans and methodologies for new initiatives to be taken up by the team. All assignments involved intensive research into various industries like healthcare, fintech etc. and coming up with ideas to increase the visibility of Zinnov globally across these sectors. Overall this provided me with lots of learning opportunities and exposure to the marketing world

**Tool used (Development tools - H/w, S/w) :** MS Excel, Word and PowerPoint, YouTube analytics

**Objectives of the project :** Increasing the reach and visibility of Zinnov on social media and devising programs to generate leads for other divisions of Zinnov

**Major Learning Outcomes :** Market research, data collection and analysis, presentation skills, exposure to current trends and technologies

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :** The company consists of very enthusiastic and helpful individuals. There is no hierarchy and all high-level members of the team are always approachable.

**Academic courses relevant to the project** : Principles of Economics, Technical Report Writing

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**Name:** MALAVIA KUNAL JAYENDRA .(2014B2A30948G)

### **Student Write-up**

**Short Summary of work done during PS-II** : Worked with two teams for completing three projects. First project deals with advanced technology application by MNC's in India for research purposes. The second report is a holistic view of the B2B ecosystem in India and the effect of accelerator programs on B2B start-ups. The last report was a deep dive analysis of 14 tier 2 cities and to compare them on various parameters so that MNC's can judge the cities well for setting up their GIC's in India.

**Tool used (Development tools - H/w, S/w)** : MS-Word

MS-Excel

MS-Powerpoint

Adobe Photoshop

Adobe Publisher

**Objectives of the project** : Analyses based on client requirements and preparation of reports for further sale to clients

**Major Learning Outcomes** : Data Insights; Presentation Skills

**Details of Papers/patents** : NA

**Brief Description of working environment, expectations from the company** : Very good working environment; Very friendly colleagues and helpful seniors; Punctuality and diligence expected

**Academic courses relevant to the project :** Business Communications

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**PS-II Station : Zinnov Management Consulting Pvt. Ltd., , Gurgaon**

**Student**

**Name:** A REDDY KUMARA SIMHA(2013B3A20596P)

**Student Write-up**

**Short Summary of work done during PS-II :** Work on various projects helping client to understand more about what to do and what not to do

**Tool used (Development tools - H/w, S/w) :** excel, powerpoint, word

**Objectives of the project :** To ensure the client company is working, focusing on correct fields

**Major Learning Outcomes :** How to use excel, deep knowledge about what is happening around the world. How to use powerpoint, How to use google and research for the nessary things

**Details of Papers/patents :**

**Brief Description of working environment, expectations from the company :**

**Academic courses relevant to the project :** economics, current affairs

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