



**Birla Institute of Technology & Science, Pilani**  
K K Birla Goa Campus

**Junior Research Fellow Position**  
Department of Computer Science and Information Systems  
BITS Pilani, K. K. Birla Goa Campus, Goa

**Applications are invited** for the position of **Junior Research Fellow** in the Department of Computer Science and Information Systems (CSIS) at BITS Pilani, K. K. Birla Goa Campus, Goa. This opportunity is part of a sponsored research project titled:

**“Causal Decision Trees Using Compression Complexity Measures for Healthcare Applications”**

The project is funded by the **Anusandhan National Research Foundation (ANRF)** under project file no. **ANRF/ECRG/2024/004227/ENS**.

**Principal Investigator:** Dr. Harikrishnan N B

**Broad Area of Research:** Causal Machine Learning, Data Compression, Complexity Measures, Interpretable Artificial Intelligence

**Duration of the Project:** Three Years

**Fellowship Amount:** Rs. 37,000 per month + 18% HRA

**About the Project**

This ANRF-funded project aims to develop a novel, model-agnostic causal measure using compression complexity techniques, such as Lempel-Ziv and Effort-To-Compress, to infer the direction of causality from observational data. By leveraging compression-based approaches, the project seeks to establish a data-driven method for causal inference that is independent of specific model assumptions. The research integrates foundational concepts from Machine Learning, Causality Testing Methods, and Data Compression.

**Relevant Research**

- Dhruthi, Nithin Nagaraj, & Harikrishnan N B. (2024). *Causal Discovery and Classification Using Lempel-Ziv Complexity*. ArXiv, abs/2411.01881.
- Harikrishnan N B, Arham Jain, & Nithin Nagaraj. (2023). *Permutation Decision Trees*. ArXiv, abs/2306.02617.

## Qualifications for JRF

- Postgraduate Degree in Computer Science, Data Science, Mathematics, or related fields (preferably NET/GATE qualified).
- Graduate/Postgraduate degree in a Professional course (B.Tech/M.Tech/B.E/M.E) with a strong background in Machine Learning, Causality, or Data Compression.
- Candidates with a Bachelor's degree should be NET/GATE qualified.

**Accommodation:** Hostel accommodation will be provided subject to availability and will be governed by the rules and regulations of the Institute prevailing at the time of joining.

## How to Apply

Interested applicants should submit their application electronically along with the following documents:

- Covering letter (with latest CV)
- Statement of Purpose
- Copy of degree certificate (and NET qualification certificate/GATE score card, if applicable)

The deadline for receiving applications is **September 15, 2025**. Only shortlisted candidates will be contacted via e-mail for an online/personal interview to be held at BITS Pilani, Goa Campus. No TA/DA will be paid for attending the interview.

Selected candidates will also have the opportunity to apply for a PhD degree at BITS Pilani, K. K. Birla Goa Campus (as per the institute's PhD program regulations).

## Contact Information

Applications should be sent via email with the subject line “**Application for JRF-Causal ML**” to:

**Dr. Harikrishnan N B** (Principal Investigator) Department of Computer Science and Information Systems BITS Pilani, K. K. Birla Goa Campus NH 17B, Bypass Road, Zuarinagar, Sancoale, Goa – 403726

E-mail: [harikrishnannb@goa.bits-pilani.ac.in](mailto:harikrishnannb@goa.bits-pilani.ac.in)

Principal Investigator's Webpage: <https://sites.google.com/site/harikrishnannb8/home>