PENDING

(IN202311071325)
A system and method for real-time monitoring of a health condition of a machine

NEED

Factories report $1.4 T in unplanned downtime annually, with 40% of induction motor failures going undetected. Root cause lies in legacy systems that miss early fault signatures. But what if failure detection could be nearly zero? A new system is changing the game—without disrupting existing machines.

TECHNOLOGY OVERVIEW

This patented system captures motor current via sensors, extracts wavelet features and applies machine learning to identify fault signatures versus healthy baselines. It classifies faults—like stator or rotor issues—before breakdown, preventing sudden shutdowns and revenue loss. What if predictive maintenance became both accurate and seamless?

TECHNOLOGY KEY FEATURES

Dual-domain wavelet analysis; Machine learning fault classification; Works on existing 3-phase motors; Detects specific faults; No extra sensors required

MARKET ANALYSIS

Global condition monitoring market will grow at ~8% CAGR to ~$5.5B by 2030 [marketresearch.com, fortunebusinessinsights.com]. India-specific market grows at 10% CAGR to ~$200M by 2025 [industryarc.com]. Drivers include IIoT adoption, predictive maintenance, and downtime cost reduction.

Target Industries

Target Industries: predictive maintenance platform providers, industrial automation service integrators, energy efficiency consultancies and/or AI-based analytics developers, edge computing hardware firms and/or OEMs, heavy machinery users, smart factory operators, and defense maintenance labs working on mission-critical uptime.

AT A GLANCE

SDG 9 (Industry, Innovation and Infrastructure); SDG 12 (Responsible Consumption and Production)

Read more here