

Statement of Purpose

AICTE Industry Fellowship Application – 2025

Milav Jayeshkumar Dabgar

Engineering Educator & R&D Professional

✉ milav.dabgar@gmail.com • ☎ +91 8128576285 • AICTE ID: 1-3241967546

My engineering journey began with a deep-rooted curiosity about how things work—a habit of dismantling toys as a child transformed into a lifelong pursuit of building and optimizing real systems. This hands-on inclination led me to pursue a degree in Electronics and Communication Engineering and kick-start my career in the R&D division of a Japan-based firm, where I managed end-to-end electronics development for commercial embedded products. Working directly on circuit simulation, PCB design, firmware development, and control systems gave me a strong foundation not only in hardware but in the systems-thinking approach that connects devices to intelligent behavior.

In 2016, I transitioned into academics and have since been serving as a Lecturer at Government Polytechnic, Palanpur. Over these years, my technical interests evolved beyond embedded systems toward software engineering, artificial intelligence, and data-driven automation. I complemented this transition by completing over 100 online courses and enrolling in the **BS in Data Science and Applications** from **IIT Madras**, where I've earned the **Diploma in Programming** and am one project away from completing the **Diploma in Data Science**. This experience gave structure and depth to my evolving interest in AI, web development, and applied machine learning.

In my teaching role, I engage with students not just in classrooms but also through hands-on innovation. I have mentored several project teams working in IoT, drones, and embedded automation. One of these efforts resulted in two student patents—one of which received over 25 lakhs in funding from Shark Tank India and another 20 lakhs through government innovation support. Beyond teaching, I contribute to institutional development as the **IT Convener**, **SSIP Co-Convener**, **Training & Placement Member**, and part of our **MIS and UDAYAM initiative teams**. These responsibilities reflect my ability to coordinate across departments, lead technical initiatives, and foster a culture of innovation.

To address gaps in academic systems, I initiated and now lead the development of a **Next.js-**

based smart academic portal—an in-house solution offering smart attendance tracking, assessment workflows, committee and profile management, automated result processing, and real-time feedback analytics. The system is developed collaboratively with student contributions through Git, and is deployed using a self-hosted Linux server stack with Dockerized services, CI/CD pipelines, and backup infrastructure—all managed by myself. This project reflects not only my full-stack and infrastructure expertise, but also my dedication to real-world, scalable solutions that blend software, operations, and educational workflows.

These cumulative experiences—spanning electronics, data systems, AI/ML practices, and full-stack engineering—have shaped me into a hands-on, self-motivated, and systems-oriented engineer-educator. I believe the Industry Fellowship offers a transformative platform to further this trajectory by immersing myself in applied industrial research, working on real-world challenges in areas such as edge intelligence, backend optimization, or AI system integration. The opportunity to collaborate with industry professionals and researchers will expose me to high-performance team dynamics, product-oriented development cycles, and problem-solving frameworks beyond the academic context.

Long-term, I aspire to pursue a Ph.D. in the fields of AI, embedded computing, or system design from a premier institution. I see this fellowship as a bridge to that goal—a chance to bring industrial rigor into my academic evolution. More importantly, I aim to channel this experience back into the diploma-level ecosystem in Gujarat, which, in my view, holds vast untapped potential for innovation and research-driven education. As a faculty leader already involved in SSIP and IT strategy, I’m committed to shaping student initiatives, research culture, and interdisciplinary collaboration.

I am confident that my technical depth, academic versatility, leadership experience, and motivation for continuous learning align well with the goals of the Industry Fellowship. I look forward to contributing meaningfully while growing professionally and academically through this opportunity.

Milav Jayeshkumar Dabgar

Lecturer, EC Department

Government Polytechnic, Palanpur

AICTE Faculty ID: 1-3241967546

milav.dabgar@gmail.com