

Milav Jayeshkumar Dabgar

Lecturer & AI/Data Science Practitioner

Engineering Educator • Innovation Leader • Full-Stack Developer

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Executive Summary

Engineering educator and R&D professional with **9+ years** of comprehensive experience spanning electronics hardware development, embedded systems, AI/ML, and full-stack software engineering. Currently pursuing **BS in Data Science and Applications from IIT Madras** (Diploma in Programming completed). Distinguished by exceptional student mentorship resulting in **Rs. 45+ lakhs in innovation funding**, including successful Shark Tank India pitches. Proven expertise in bridging academia-industry gap through innovative teaching methodologies, infrastructure leadership, and real-world system development.

Core Competencies

Technical Leadership	Academic Excellence	Strategic Roles
<ul style="list-style-type: none">Full-Stack DevelopmentInfrastructure ManagementAI/ML ImplementationEmbedded Systems Design	<ul style="list-style-type: none">Innovation MentorshipCurriculum DevelopmentResearch SupervisionPatent Guidance	<ul style="list-style-type: none">IT Strategy & ImplementationStartup Ecosystem DevelopmentIndustry-Academia CollaborationProject Management

Professional Experience

Lecturer (Class - II) & Innovation Leader <i>Government Polytechnic, Education Department - Government of Gujarat</i>	Nov 2016 – Present <i>Palanpur, Gujarat</i>
<ul style="list-style-type: none">Lead comprehensive technical education across Programming in C, Microprocessor & Assembly Language Programming, Microcontroller, Embedded Systems, Circuit Design & Tools, Consumer Electronics, and Entrepreneurship & Industrial ManagementHold key institutional positions: IT Convener (infrastructure strategy), SSIP Co-Convener (startup ecosystem), Training & Placement Member, and active contributor to MIS and UDAYAM initiativesAchieved remarkable student success: mentored teams securing Rs. 25+ lakhs from Shark Tank India and Rs. 20 lakhs through government innovation programs, resulting in 2 student patentsArchitected and deployed Next.js-based Smart Academic Portal featuring AI-driven attendance tracking, automated assessment workflows, comprehensive committee management, and real-time analytics dashboardDesigned and manage enterprise-grade infrastructure: self-hosted Linux servers, Dockerized microservices, CI/CD pipelines, automated backup systems, and collaborative development workflowsTransformed institutional technology landscape while fostering innovation culture and industry partnerships	
Electronics & Communication Engineer (R&D) <i>TEXEG India Private Limited (Japan-based Technology Firm)</i>	Jul 2015 – Oct 2016 <i>Gandhinagar, Gujarat</i>
<ul style="list-style-type: none">Led end-to-end product development lifecycle for commercial embedded systems in international R&D environmentExecuted advanced circuit simulation, PCB design, firmware development, and sophisticated control systems implementationDesigned and optimized advanced control algorithms (PID, PI, Fuzzy Logic) using MATLAB Control System Toolbox for high-precision industrial applicationsDelivered complete embedded solutions from concept to production, supporting cross-functional mechanical engineering teamsContributed to innovative product portfolio serving global markets with cutting-edge automation solutions	

- Gained comprehensive foundation in embedded systems research methodologies and industry best practices
- Developed proficiency in advanced debugging techniques and hardware-software integration strategies

Education & Continuous Learning

BS in Data Science and Applications

Indian Institute of Technology Madras (IIT Madras)

2022 – Present

Online Program

- **Diploma in Programming** - Successfully Completed with Distinction
- **Diploma in Data Science** - Final project phase (95% completion)
- Comprehensive coursework: Advanced Statistics, Machine Learning, Deep Learning, Data Visualization, Big Data Analytics
- Completed **100+ specialized courses** across AI/ML, Data Science, Computer Networks, Software Engineering, Database Systems, and emerging technologies through NPTEL platform with **elite performance rankings**

Master of Engineering, Communication Systems

L.D College of Engineering, Gujarat Technological University

2013 – 2015

Ahmedabad, Gujarat

- Specialized in Digital Signal Processing, Wireless Communications, and Advanced Communication Protocols

Bachelor of Engineering, Electronics & Communication

Sal Institute of Technology and Engineering Research

2009 – 2013

Gujarat

- Foundation in Electronics Design, Embedded Systems, and Communication Technologies

Key Projects & Innovations

Smart Academic Portal (*Next.js, React, Node.js, Docker, Linux*) - **Production System**

2023 – Present

- Architected comprehensive academic management ecosystem serving 500+ students and 50+ faculty members
- Implemented AI-powered attendance tracking with 98% accuracy, reducing administrative overhead by 60%
- Built automated assessment pipeline with real-time analytics, improving result processing efficiency by 75%
- Deployed on self-managed cloud infrastructure with 99.9% uptime, zero-downtime deployments, and automated scaling
- Enabled collaborative development model with student contributors, fostering practical learning experiences

Student Innovation Ecosystem (*IoT, Drones, Embedded Systems*) - **Rs. 45L+ Funding Success**

2018 – Present

- Established comprehensive innovation pipeline from ideation to commercialization, mentoring 50+ student projects
- Guided breakthrough projects: IoT-based smart agriculture system, autonomous drone delivery platform, embedded automation solutions
- Achieved exceptional funding success: **Rs. 25 lakhs from Shark Tank India** and **Rs. 20 lakhs government grants**
- Resulted in **2 filed patents** and multiple technology transfer opportunities with industry partners
- Created sustainable mentorship model adopted across multiple institutions in Gujarat

Technical Expertise

Programming & Development:

- Python, R, C/C++, JavaScript
- SQL, NoSQL, Assembly Language
- Next.js, React, Node.js, Express
- RESTful APIs, GraphQL

Infrastructure & DevOps:

- Linux Server Administration
- Docker, Kubernetes, CI/CD
- Git, Version Control Systems
- Cloud Computing, Self-hosted Solutions

Data Science & AI:

- Machine Learning, Deep Learning

- Computer Vision, NLP
- Statistical Modeling, Data Analytics
- TensorFlow, PyTorch, Scikit-learn

Embedded Systems:

- STM32, ARM Microcontrollers
- PCB Design, Circuit Simulation
- Firmware Development, RTOS
- IoT Systems, Sensor Integration

Tools & Platforms:

- MATLAB, Simulink, Control Systems
- Image Processing, Signal Processing
- CAD Tools, Simulation Software
- Educational Technology Platforms

Professional Development & Certifications

NPTEL Excellence & Recognition	2019 – Present
<ul style="list-style-type: none">NPTEL DISCIPLINE STARS - Computer Science (Top 1% performers nationally among 100,000+ learners)100+ Course Completions across diverse domains: AI/ML, Data Science, Computer Networks, Software Engineering, Database Management, Algorithms, Computer Graphics, Discrete MathematicsConsistent Elite Performance: Maintained top percentile rankings across multiple semesters and subject areasNPTEL ENTHUSIASTS & BELIEVERS recognition for sustained excellence in online learning ecosystemSpecialized certifications in: Machine Learning, Deep Learning, Data Analytics, Python Programming, Database Systems, Computer Vision, Natural Language Processing	
Innovation Leadership Excellence	2024 – 2025
<ul style="list-style-type: none">Rs. 45+ lakhs total funding secured through student mentorship programsSuccessfully guided teams through Shark Tank India pitching process with positive outcomesEstablished sustainable innovation pipeline adopted by peer institutions	
Academic Excellence - IIT Madras	2022 – Present
<ul style="list-style-type: none">Completed Diploma in Programming with distinction in competitive online programCurrently pursuing Diploma in Data Science (final project phase)Achieved 100+ course completions through NPTEL platform with elite performance and multiple domain expertise spanning Computer Science, AI/ML, Data Analytics, and Engineering subjects	

Achievements & Recognition

Innovation Leadership Excellence	2024 – 2025
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Leadership & Institutional Contributions

IT Convener	Leading comprehensive technology transformation including infrastructure modernization, digital curriculum integration, and faculty technology training programs
SSIP Co-Convener	Spearheading Student Startup & Innovation Policy implementation, establishing industry partnerships, and creating entrepreneurship ecosystem
Training & Placement	Strategic member of institutional placement committee, developing industry connections and enhancing student employability
MIS & UDAYAM	Contributing to Management Information Systems optimization and UDAYAM initiative for institutional excellence

Professional Objectives

Immediate Goal:	Secure AICTE Industry Fellowship to gain advanced industrial research experience in AI, embedded computing, or system design, bridging academic excellence with industry innovation
Long-term Vision:	Pursue PhD in AI/Embedded Computing/System Design from premier institution while establishing Gujarat as a leading hub for diploma-level innovation and research-driven education
Impact Mission:	Transform technical education landscape by integrating industrial rigor with academic excellence, fostering sustainable innovation ecosystems, and creating scalable models for interdisciplinary collaboration

Publications & Research

Resisting Blind Steganalysis in Real Time Covert Communication	Published Research
<ul style="list-style-type: none">Advanced research in cybersecurity and information hiding techniques with practical applications	