

# Mohanish Gunda

B.Tech - (2023-27)

Electronics and Communication Engineering  
Vellore Institute of Technology - Amaravati

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## OBJECTIVE

Electronics and Communication Engineering student with interest in Embedded Systems, Web Development, and AI. Learning microcontroller programming, hardware-software interfacing, and IoT applications. Eager to apply and improve my skills in embedded development, AI integration, and full-stack web projects.

## EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. ECE	Vellore Institute of Technology - Amaravati	9.41	2023-27
Senior Secondary	BIEAP Board	97.6	2021-23
Secondary	CBSE Board	83.8	2021

## PROJECTS

### • Room Pe

2025

*Web Development*

Github

- Developed a full-stack web application for property listings and bookings using Node.js, Express, and EJS with a modular backend architecture.
- Designed RESTful CRUD APIs and integrated MongoDB Atlas using Mongoose for efficient data handling.
- Implemented secure authentication and session management using Passport.js.
- Deployed the application on Render with cloud-based media storage using Cloudinary.

### • Smart Home Automation System

2025

*Embedded Systems / IoT*

- Designed and implemented an embedded IoT system to control home appliances using microcontroller-based logic.
- Integrated ESP32 firmware for Wi-Fi communication and real-time device monitoring.
- Interfaced sensors such as Ultrasonic, DHT11, and LDR for environment-aware automation.
- Implemented relay-based actuator control with a web interface for visualization and remote operation.

### • AI Enabled Wearable Health Monitoring & Early Warning System

2026

*Embedded Systems / IoT / Edge AI*

- Designed and developed an STM32 L-series based low-power wearable system for continuous monitoring of vital parameters including heart rate, SpO<sub>2</sub>, body temperature, and motion.
- Implemented trend-based early warning algorithms to detect fever risk, cardiac abnormalities, respiratory distress, and fall emergencies before critical thresholds.
- Integrated multi-sensor data fusion and confidence scoring to reduce false alerts caused by body motion and signal noise.
- Developed an edge-intelligence decision engine for real-time risk classification without continuous cloud dependency.
- Enabled offline emergency alerts using buzzer/SMS and real-time data transmission to a doctor dashboard via IoT.
- Generated doctor-ready health summary reports and event timelines to assist faster diagnosis and decision-making.

## TECHNICAL SKILLS

- **Programming:** C, Embedded C, Python, Java, SQL
- **Microcontrollers:** STM32 (ARM Cortex-M) (Basic), ESP32, Arduino
- **Embedded Systems:** Timers, Interrupts, GPIO, ADC, UART, SPI, I<sup>2</sup>C
- **Frontend:** HTML, CSS, JavaScript, React
- **Backend:** Node.js, Express.js
- **Databases:** MySQL, MongoDB
- **Tools:** Linux, Git, GitHub, MATLAB, LabVIEW, Keil μVision

## CERTIFICATIONS

- **Embedded System Design Internship** — Maven Silicon
- **C & Java Programming** — NexGen (Offline Coaching)
- **MERN Stack Development** — Apna College

## RELEVANT COURSEWORK

- Embedded Systems Design, Microprocessors and Microcontrollers, Digital Electronics, Control Systems