Rakesh Sambu

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Summary:

Embedded Systems and IoT Engineer pursuing an M.Tech in Embedded Systems, with hands-on expertise in C, Embedded C, microcontroller programming (ESP8266, Arduino), and I²C communication. Proven track record in designing end-to-end IoT monitoring solutions and diagnosing industrial PLC/HMI control systems. Seeking an entry-level Embedded Software or IoT Engineer role to build reliable hardware-software integrations.

Professional Experience

Graduate Engineer Trainee (GET)
HSN (Deployed at Premier Energies Global Environment Pvt Ltd)
Hyderabad, Telangana | March 2026 – June 2026

- Assisted in troubleshooting **PLC-based industrial control systems** and diagnosing electrical/control faults.
- Monitored **HMI systems** for machine control, parameters, and operational status
- Worked with **industrial sensors, relays, SMPS and electrical control components**
- Gained practical exposure to **industrial automation, sensor interfacing, and real-time machine monitoring**.

Core Technical Skills:

- **Programming:** C, Embedded C
- **Embedded Systems:** ESP8266, Arduino, Microcontroller Programming
- **Industrial Automation:** HMI, PLC Basics
- **Communication:** Wi-Fi, UART, SPI, CAN, I2C, HTTP
- **IoT & Cloud:** ThingSpeak, IoT, Cloud Monitoring
- **Sensors & Interfacing:** DHT11, Soil Moisture Sensor, LDR, Relay, LCD
- **Tools & IDEs:** Arduino IDE,Git,GitHub
- **Core Areas:** Sensor Interfacing, Hardware-Software Integration, Automation, Real-Time Monitoring

Soft Skills:

- Analytical and Problem-Solving Skills
- Teamwork and coordination
- Quick learner and self-motivated

Projects:

IoT-Based Smart and Precise Autonomous Irrigation Management System
ESP8266, Embedded C/C, IOT, ThingSpeak

- Developed an IoT-based irrigation system using **ESP8266, DHT11, soil moisture and LDR sensors** for real-time environmental monitoring.
- Implemented **automatic relay-controlled water pump operation** based on soil moisture conditions.
- Integrated **ThingSpeak cloud and Wi-Fi** for remote data monitoring and visualization.
- Interfaced an **I²C LCD** for displaying sensor readings and system status locally.

Microcontroller-Based Temperature Controller System

- Designed a system to control temperature for industrial applications
- Used **LM35 temperature sensor** for accurate measurement
- Compared readings with standard industrial thermometer with minimal deviation
- Improved understanding of embedded systems and control mechanisms

Education:

M.Tech –ECE- Embedded Systems (Pursuing) 2025 - 2027
Vidya Jyothi Institute of Technology (VJIT), Hyderabad

B.Tech – Electrical and Electronics Engineering 2019 - 2023
Sree Chaitanya College of Engineering, Karimnagar - (JNTUH-Telangana)

Languages:

- English, Hindi, Telugu