Sabari Mani K

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Objective

Electronics and Communication Engineering student with hands-on experience in embedded systems, firmware development, and IoT applications. Seeking an entry-level role as an Embedded Software/Hardware Engineer to contribute to microcontroller programming, hardware-software integration, and real-time system optimization.

Technical Skills

Languages: Embedded C, C++, Java, SQL, HTML, CSS
Microcontrollers: Arduino UNO, ESP32, ESP8266, MSP430
Tools: Arduino IDE, TinkerCad, Proteus
Concepts: UART, SPI, I2C, PWM, GPIO, Interrupts, RTOS, Power Mgmt
Hardware: Circuit Design, Sensor Interfacing, PCB Prototyping
Soft Skills: Problem Solving, Teamwork, Time Management

Experience

Electronics Engineering Intern *June 2023 – July 2023*
XYMA Analytics Pvt Ltd, Chennai, India

- Developed a temperature data logger using the DS18B20 sensor, improving data collection efficiency by 30%.
- Designed a data acquisition system with analysis capabilities for predictive maintenance.
- Performed system-level testing, diagnosed technical issues, and implemented effective debugging strategies.

Projects

LoRa-Based Smart Ambulance Traffic Control System ***2025***

- Built a LoRa and GPS-based traffic system for ambulances, improving emergency response time by 40%.
- Designed wireless override logic using ESP32 and LoRa SX1278 to control signal clearance.

Automated Water Management System ***2025***

- Automated water transfer between tanks using ESP32, flow sensors, motors, and solenoid valves.
- Achieved 60% efficiency by dynamically selecting source/destination tanks based on volume.

Face Recognition Based Bike Starter ***2025***

- Developed a secure vehicle ignition system using ESP32-CAM and facial recognition.
- Reduced unauthorized access risk by 85% with embedded real-time image verification.

GSM900A Emergency Talk-Back System ***2025***

- Created a GSM-based two-way audio system for emergency street pole use.
- Reduced emergency response time by 50% with auto-answering and speakerphone mode.

Certifications

Embedded C for Beginners – Educational Engineering Team, Udemy (2025)
Microcontrollers and the C Programming Language (MSP430) – Mark Budnik, Udemy (2025)
Coursework: Completed hands-on embedded projects using UART, SPI, LoRa, GSM, and timers.

Education

B.E. in Electronics and Communication ***2021 – 2025***
Francis Xavier Engineering College, India
CGPA: 8.10 (Final, across 8 semesters)

HSC – Rosemary Matric Higher Secondary School, India ***2020 – 2021***
Percentage: 82.6