Name: Madhusudhan
Designation: Embedded Engineer
Experience: 1.5 years
Specialization: IoT and Embedded Systems
Contact Information: madhusudhan@dlithe.com

Professional Summary:

Dedicated and versatile IoT Engineer with 1.5 years of experience in end-to-end product development for IoT solutions. Proven expertise in embedded systems programming, sensor integration, and data communication protocols. Possesses a strong foundation in Computer Science principles and is adept at contributing to the full lifecycle of IoT products, from hardware interfacing to cloud platform integration and application development

Key Skills:

IoT Architecture Design: Ability to understand and design IoT system architectures (e.g., 3-layer, 5-layer models).

Embedded Firmware Development: Proficient in writing and debugging embedded C/C++ code for microcontrollers.

Microcontroller Programming: Hands-on experience with Arduino (Uno/Mega), ESP8266/ESP32, and Raspberry Pi platforms.

Sensor & Actuator Interfacing: Expertise in connecting, programming, and utilizing various digital/analog sensors and actuators (e.g., DHT11, PIR, Relays, Servos).

IoT Communication Protocols (HTTP/MQTT): Strong grasp of standard IoT data exchange protocols for efficient device-to-cloud communication.

Wireless Communication Technologies: Skilled in implementing Wi-Fi, Bluetooth, Zigbee, LoRa, and Cellular (2G/3G) solutions for IoT connectivity.

Peripheral Communication (UART/I2C/SPI): Proficient in low-level serial communication protocols for inter-device connectivity.

IoT Cloud Platform Integration: Experience connecting devices and managing data on IoT cloud platforms like Thingspeak and Blynk.

IoT Data Visualization: Capable of creating dashboards and interpreting sensor data on cloud platforms and custom web interfaces.

IoT Data Analytics (Python): Aptitude for analyzing and cleaning IoT datasets using Python for deriving insights.

Embedded Web Server Development: Ability to host and configure basic web servers directly on microcontrollers for device control and data display.

IoT Security Principles: Understanding of attack/defense mechanisms, authentication, and privacy in IoT systems.

IoT Project Management: Experience in the full IoT project lifecycle, from requirement definition to prototyping and deployment.

OS & Driver Experience: Familiarity with operating systems and drivers for end-device programming in embedded contexts.

Data Integration (Telegram/Google Sheets): Skill in integrating IoT data streams with popular tools like Telegram for alerts and Google Sheets for logging.

Work Experience:

Embedded Engineer (1.5+ years)

2024-Present

As an IoT Engineer, I drove end-to-end product development for cutting-edge IoT solutions, leveraging 1.5 years of hands-on experience. Specializing in embedded systems, I designed and implemented real-time applications integrating automation robotics and PLC control systems. My responsibilities encompassed PCB design, robust hardware-software co-development, and seamless cloud integration. I consistently delivered innovative, deployable solutions, bridging the gap between physical systems and data-driven insights.

Education:

Bachelor of Technology (B. Tech) in ECE, SDM Institute of Technology, Ujire.