

Maheshwari C

✉ Hyderabad, India

[✉mahimaheshwari321@gmail.com](mailto:mahimaheshwari321@gmail.com) | 📞 9866385855

PROFILE SUMMARY

Motivated Embedded Systems Engineer with over 2+ years of experience in firmware development, IoT systems, and real-time sensor-based applications. Skilled in **C, C++, ARM micro controllers, Linux, and Qt GUI**, with a strong focus on designing efficient and reliable embedded solutions. Experienced in cloud-integrated IoT projects using **AWS IoT Core, S3 storage**, and secure data communication protocols like **MQTT** and **TLS/SSL certificates**. Demonstrated ability to bridge hardware and intelligent software by implementing fault detection, environment monitoring, and scalable data pipelines. Passionate about delivering innovative products that enhance connectivity and automation across industries.

EDUCATION

Degree	Institution	Year
M.Tech in VLSI & Embedded Systems	Visvesvaraya Technological University	2021
B.Tech in Electronics & Communication Engineering	MNR College of Engineering and Technology, Affiliated to JNTU Hyderabad	2019

TRAINING

Degree	Institution	Period
Embedded Systems Training	Vijay's embedded Hub	Oct_2022 to Mar_2023

CORE SKILLS

Category	Details
Programming Languages	C, C++, Embedded C(basic)
Microcontrollers	ARM LPC2148, 8051, Raspberry Pi
Embedded Concepts	GPIO, Interrupts, Timers, ADC, PWM, UART, SPI, I2C, Bit-wise operations, RTOS basics, Memory management, Function pointers, Linux processes, Shared memory, CAN protocol.
Development Tools	Keil, GCC, Linux (Raspberry Pi)
RTOS	FreeRTOS (Basics)
Hardware Interfacing	Sensors, Communication Protocols
GUI Development	Qt (Cross-Platform GUI for Embedded Linux)
AWS IoT Core, MQTT, TLS/SSL, Amazon S3, AWS IAM, CloudWatch, QuickSight	Real-time sensor data acquisition, fault detection, environment monitoring

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SOFT SKILLS / COLLABORATION:

Good problem-solving, team player, strong communication, quick learner.

WORK EXPERIENCE

Role	Organization	Duration	Key Responsibilities & Technologies
Embedded Systems Engineer	Microsyslogic	April 2023 – Present	Firmware development using C/C++ for embedded systems and sensor integration ✓ Implemented MQTT-based secure communication with AWS IoT Core ✓ Designed data storage solutions using Amazon S3 and managed access with AWS IAM ✓ Worked with encryption protocols (TLS/SSL) and certificate management using OpenSSL ✓ Collaborated with hardware teams for debugging and optimization ✓ Maintained documentation and test reports for product development cycles
Assistant Professor	Sreenidhi Institute of Science and Technology, Hyderabad	Nov 2021 – June 2022	- Conducted lectures and practical sessions in Embedded Systems. - Guided students on hardware programming and interfacing techniques.

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PROJECTS

Project Title	Technologies Used	Description
Locker System with Qt GUI	Raspberry Pi, C++, Qt, SQLite, Shared Memory	<ul style="list-style-type: none">- Developed a Qt-based GUI on Raspberry Pi running Embedded Linux.- GUI handled user registration, locker selection, and real-time status display.- Used Qt signal-slot mechanism for user inputs and system events.- Integrated SQLite for storing user details.- Read locker access and face detection status from shared memory.- Displayed locker availability visually with responsive layout.- Collaborated with AI camera and hardware control teams.
Remote Child Health Monitoring and Personal Safety	Arduino Uno, ESP-01, RFID, Blynk Server	<ul style="list-style-type: none">- Developed a system for real-time health monitoring of children.- Integrated GPS tracking, temperature sensing, and emergency alerts.- Focused on child safety and remote monitoring.
Smart Home Automation	ESP8266, ATmega328 (Arduino), Fingerprint Sensor, PIR Sensor, Relay Module	<ul style="list-style-type: none">- Designed a home automation system with integrated security.- Used motion, temperature, fire, and noise sensors for monitoring.- Enabled IoT-based control and automation.
AWS IoT Powered Solar Analytics Platform	Python,MQTT,AWS IoT Core, AWS S3, AWS IAM, AWS Quick-sight,Cloud-watch, AWS IoT Test ClientPaho MQTT Client Library, Python Standard Libraries,Windows (for development/testing environment)	<p>Developed an IOT-based solution using Python and MQTT for real-time solar panel monitoring.</p> <p>Configured secure device communication with AWS IOT Core, using TLS/SSL certificates for authentication.</p> <p>Designed data pipelines to store and manage sensor data in Amazon S3, ensuring fault detection and system reliability.</p> <p>Implemented role-based access using AWS IAM, with permissions to securely store data and monitor device activity.</p> <p>Used JSON for structured data exchange and leveraged Cloud-watch and Quick-sight for monitoring and visualization.</p> <p>.</p>

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CERTIFICATIONS

Certification	Issued By	Year
Remote Child Health Monitoring and Personal Safety	IEEE (CSITSS)	2021

DECLARATION

I hereby declare that the above-furnished details are true to the best of my knowledge and belief.

(Maheshwari C)