

# SUAD BADUSHA VM

FIRMWARE DEVELOPER

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## SUMMARY

Experienced Firmware Developer with one year of expertise in embedded systems. Proficient in C/C++ and adept at designing reliable firmware for IoT devices. Strong team player with a focus on delivering quality solutions within deadlines.

## EXPERIENCE

### OPULANCE TECHNOLOGIES PVT LTD (May 2023–present)

#### Firmware Developer

- Research, design, and plan software/hardware solutions tailored to client requirements.
- Develop and implement embedded software for IIoT devices, ensuring seamless integration and efficient data protocols.
- Utilize advanced C++ skills to debug and create reusable code for ESP32.
- Integrate industrial sensors with ESP32 via UART, SPI, and I2C for enhanced device capabilities; connect devices to frontend/backend systems using APIs, MQTT, or HTTP protocols. Maintain comprehensive documentation.

## PROJECTS

### LIVE WEATHER MONITORING SYSTEM

- Developed a sophisticated weather monitoring system for the Center for Water Resources Developments Management (CWRDM), a Government of Kerala research center.
- Rainfall sensor, Temperature sensor, Designed an intuitive frontend interface to display real-time readings and graphs providing valuable insights for research and resource management.

### IRRIGATION BASED AUTOMATION PROJECT

- Pioneered an advanced automation solution for agriculture, specifically tailored for greenhouse farming.
- Soil Moisture sensors, Temperature sensors, NPK Soil integrated sensors, Integrated a sophisticated frontend interface displaying crucial information such as moisture levels and other key values.

## SKILLS

- C/C++ programming
- ESP32, Arduino Microcontrollers
- MQTT, HTTP communications
- Real-time operating systems (Free RTOS)
- UART, SPI, I2C, I2S, JTAG, RS485 communications protocols
- Debugging and troubleshooting
- Frontend Development (HTML, CSS, JavaScript)

## EDUCATION

2020–2023	<b>COLLAGE OF APPLIED SCIENCE</b> Bachelor of Science in Electronics	<b>GPA 6.8</b>
2018–2020	<b>RAHMANIA HSS, MEDICAL COLLAGE</b> Computer Science – Higher Secondary	<b>78%</b>