

Saikumar Mandaji

Firmware Lead | IoT & Embedded Systems Engineer

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Summary Innovative Firmware & IoT Systems Engineer with 5+ years of experience architecting embedded solutions for medical devices, industrial controllers, smart wearables, and large-scale IoT products. Strong background in real-time systems, wireless communication, embedded Linux, and ML integration on edge devices. Proven record of delivering production-grade firmware, enhancing system reliability, and collaborating across hardware, cloud, and data teams. Adept at transforming ideas into robust, scalable embedded solutions.

Skills	MCU & SoC Platforms STM32 ESP32 RP2040 AVR BGM220 nRF52840 DA14531	Programming: C++, Python, Embedded C, MicroPython, HTML CSS and JavaScript.	Wired & Wireless Protocols: UART, RS-485, SPI, I2C, Xbee, LoRa, Bluetooth, Wi-Fi, MQTT and HTTP.	Circuit Designing: KiCad, and EasyEDA Pro.	Debugging Tools: JTAG, SWD, GDB, Logic Analyzers, Oscilloscopes
	Simulation tools: LTspice, EasyEDA and PuTTY	Sensors & Actuators	Free-RTOS		

Experience	Caropet Technologies Pvt Ltd Firmware Developer <ul style="list-style-type: none">Leading firmware for medical devices, pediatric wearables, and industrial PLCs.Developed reliable real-time data acquisition and safety-critical firmware.Created modular drivers, improved stability, and optimized performance.Collaborated with hardware/cloud teams for end-to-end IoT delivery.	Apr 2024 – Present Hyderabad
	Niltech pvt.ltd IOT Developer <ul style="list-style-type: none">Built IoT products using ESP32, STM32, Raspberry Pi & ARM SoCs.Improved system reliability (+35%) and scalability (+50%).Integrated ML models on edge devices (TF Lite, PyTorch, MediaPipe).Automated testing with Python; reduced manual effort by 40%.Developed firmware for 2500+ Smart Card Payphones.	Apr 2020 – Apr 2024
	Niltech pvt.ltd Embedded Software Engineer(Internship) <ul style="list-style-type: none">Supported firmware development, debugging, and IoT prototyping.Assisted multi-sensor integration and early-stage R&D.	8/2019-4/2020

Education	Jyothishmathi Institute Of Technology ELECTRONICS AND COMMUNICATION ENGINEERING	6/2013-3/2016 Diploma
	Guru Nanak college of engineering ELECTRONICS AND COMMUNICATION ENGINEERING	6/2016-3/2019 B.Tech

Languages **English** **Telugu** **Hindi**