

SAI PRASAD KANDULA

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Embedded Systems Engineer | Firmware & IoT Development

CAREER OBJECTIVE :

Embedded Systems Engineer trained in advanced firmware development for STM32 platforms, skilled in C programming, multithreading, and hardware-software integration. Proficient in communication protocols including I2C, SPI, CAN and UART. Seeking to apply technical expertise to deliver robust embedded solutions in a collaborative engineering environment.

CORE SKILLS :

- **Programming:** Embedded C, C++
 - **Microcontrollers:** STM32 (ARM Cortex-M) PIC, 8051
 - **Firmware Development:** Multithreaded systems, Peripheral interfacing, Master-Slave communication
 - **Communication Protocols:** UART, SPI, I2C, CAN
 - **Embedded OS:** FreeRTOS, RTOS concepts
 - **Debugging & Tools:** JTAG, DSO, Logic Analyzer
 - **IoT Integration:** Cloud connectivity, Sensor interfacing
 - **Hardware Concepts:** GPIO, Timers, Counters, Interrupts
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TECHNICAL TRAINING :

Emertxe Information Technologies – Bangalore

Advanced Embedded Systems Certification Program (ESSC Certified – Embedded Software Engineer QP ELE/Q1501)

- Developed real-time firmware on STM32 ARM Cortex-M4 and embedded Linux platforms
 - Implemented peripheral drivers, multithreading, and protocol handling
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PROJECTS :

Firmware for Car Black Box

PIC Microcontroller, EEPROM, Interrupts

- Designed embedded firmware to log vehicle events and sensor data
- Implemented real-time interrupts, master-slave data exchange, and LCD display interface

Image Steganography Tool

C, File I/O, Bitwise Operations

- Developed application to encode/decode secret data in BMP images
- Applied low-level file manipulation and memory optimization techniques

Academic IoT Project:

Automatic Accident Detection & Rescue | AT89S52, GPS, GSM

- Created IoT solution for real-time accident alerts with GPS location transmission
 - Integrated sensors and wireless modules for cloud-based monitoring
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EDUCATION :

B.Tech – Electronics & Communication Engineering | GIET College of Engineering | **2019–2022** | **68%**

Diploma – Electronics & Communication Engineering | GIET Polytechnic College | **2016–2019** | **73%**
