

B. SAIKUMAR REDDY

9392440644 boggulapallysaikumar@gmail.com ◇ LinkedIn: www.linkedin.com/in/boggulapally-saikumar-881856285

CAREER OBJECTIVE

Embedded Systems Engineer with hands-on experience in Embedded C and STM32 (ARM Cortex-M4). Skilled in peripheral interfacing (UART, SPI, I2C), debugging using GDB and ST-LINK, and developing real-time embedded applications. Familiar with Linux internals, IPC, multithreading, and system-level programming.

TECHNICAL SUMMARY

- Hands-on experience in embedded development using Embedded C on STM32 microcontrollers.
- Debugging experience with GDB and ST-LINK, SWD debugger.
- Embedded hardware interfacing and communication protocols (UART, SPI, I2C).
- We have done Uart by using of wifi (Esp32 on built on stm32f401rht6).
- knowledge on operating system concepts.
- *Multithreading, Synchronization, Linux Internals, IPC, Memory Management.*
- Hands-on experience in embedded using STM32 and Embedded C. Familiar with Linux internals, IPC mechanisms, and memory management. Knowledge of multithreading and synchronization
- Familiar with serial communication tools such as Docklight and Tera Term.

TECHNICAL SKILLS

Programming	: C, Embedded C, Assembly (8085), LSP, operating systems.
Microcontrollers	: STM32F401RBT6 (ARM Cortex-M4)
Tools	: Keil uVision, STM32CubeIDE, Arduino IDE, VS Code.
Debugging	: GDB, Valgrind.
Protocols	: UART, SPI, I2C.
Version Control	: Git.
Operating System	: Linux (basic internals, shell scripting).
Programming / OS Concepts	: Multithreading, Synchronization, IPC (pipes, message queues, shared memory).

EDUCATION

Kernel Masters, Hyderabad	2025-present
Embedded Systems internship with practical experience in STM32 microcontroller programming and peripheral interfacing. Skilled in Embedded C firmware development.	
St. Peters Engineering College, Hyderabad	<i>Nov 2021 - May 2025</i>
B.Tech in Electronics and Communication Engineering	CGPA: 8.32
Srigayathri Junior College, Hyderabad	<i>Jul 2019 - Mar 2021</i>
MPC Intermediate	Percentage: 93.4

PROJECTS

Designed and developed an embedded fire detection and alert system using the STM32F401RBTX microcontroller. The system continuously monitors fire hazards using a flame sensor and triggers real-time alerts when fire is detected. Upon detection, the microcontroller processes the signal and sends an emergency SMS notification via a SIM800 GSM Module using UART communication.

Key Features:

- Real-time fire detection using flame sensor
- SMS alert system using GSM communication
- Embedded programming on ARM Cortex-M4 (STM32)

Technologies Used:

Embedded C, STM32CubeIDE, UART Communication, GSM (AT Commands), Sensors Integration

Smart Weather Monitoring System using STM32 Controller

Designed and developed an Embedded C based Weather Monitoring System using STM32 (ARM Cortex-M4). Configured GPIO, ADC, and UART peripherals, implemented ADC sampling for LM35 sensor data, displayed values on LCD, and enabled remote monitoring via UART. Firmware developed in Keil IDE.