

SOUJANYA RAVI NAIK

Embedded Engineer

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PROFESSIONAL SUMMARY

Embedded Engineer with hands-on experience in embedded C programming, microcontroller-based firmware development, and PCB design for IoT and hardware products. Experienced with STM32 and ESP32 microcontrollers, communication protocols including UART, I2C, and SPI, and PCB design tools such as KiCad and EasyEDA. Strong foundation in Electronics and Communication Engineering, with additional experience delivering technical training programs. Seeking to contribute embedded systems and hardware design expertise to a growth-focused engineering team.

CORE SKILLS

Programming Languages: C, Embedded C, Python

Microcontrollers and Boards: STM32F401RE, ESP32, Arduino Uno, NodeMCU

Communication Protocols: UART, I2C, SPI, GPIO, ADC, Timers/Counters

PCB and Hardware Design: KiCad, EasyEDA, Schematic Design, PCB Layout

Development Tools: STM32CubeIDE, Keil uVision, Arduino IDE, HAL Libraries, Turbo C, ISE Design, VS code, Arduino IDE

IoT and Sensors: Sensor Integration, Cloud Data Transmission, Real-Time Monitoring Systems

Other Skills: Technical Training and Mentoring, Teamwork, Project Management, Leadership, Adaptability

PROFESSIONAL EXPERIENCE

Embedded Engineer | DLithe | December 2025 - Present

- Design and develop embedded firmware for microcontroller-based products using STM32F401RE and ESP32 platforms.
- Create schematics and PCB layouts using KiCad and EasyEDA for embedded hardware designs.
- Develop a Water Level Monitoring System end-to-end, including firmware programming, schematic design, and PCB layout.
- Deliver embedded systems training sessions and train-the-trainer programs for student groups, building technical communication and mentoring skills.

Embedded Systems | DTRI, Mysore | February 2025 - November 2025

- Developed strong proficiency in C programming through hands-on, problem-solving-based projects.
- Configured and programmed STM32 microcontrollers using STM32CubeIDE and HAL libraries.
- Worked with GPIO, timers/counters, and ADC peripherals, and implemented UART, I2C, and SPI communication protocols.

Embedded Systems Intern - IoT Programming | Sirintel Technologies, Davanagere | 2023

- Worked with microcontrollers, sensors, and IoT modules to develop real-time applications.
- Gained practical experience in embedded programming and hardware-software integration.

PROJECTS

Water Level Monitoring System | DLithe | Ongoing

- Designing firmware and PCB (schematic and layout) for a real-time water level monitoring solution.

Dust Concentration Analysis Using NodeMCU | Academic Project | 2024

- Developed an IoT-enabled dust sensor system to detect particle concentration and transmit data to a cloud platform.
- Used NodeMCU to process sensor data and display results on an LCD interface.

Fingerprint-Based Authentication Access System | Academic Project | 2025

- Built a biometric authentication system using NodeMCU and Arduino Uno to enhance exam security.
- Integrated hardware components (Arduino Uno, NodeMCU, sensors) with Arduino IDE software for real-time authentication.

GUI Implementation of Stopwatch and Timer Applications | Academic Project | 2025

- Implemented stopwatch and timer functionality with interactive GUI elements including buttons and display labels.
- Built GUI applications in C using GTK libraries.

EDUCATION

B.Tech, Electronics and Communication Engineering | Government Engineering College, Haveri | 2021 - 2025
CGPA: 8.3

Pre-University College (PUC) | Shri Marikamba Pre-University College, Sirsi | 2019 - 2021
Percentage: 87.06%

SSLC | Shri Kalika Bhavani English Medium High School, Kansuru | 2016 - 2019
Percentage: 91.36%

CERTIFICATIONS

- Embedded Product Development, DTRI, Mysore (2025)
- Embedded System Programming with IoT, Sirintel Technologies (2023)

LANGUAGES

Kannada (Native), English, Hindi