SARAVANAPRABU GOVINDARAJ

Emerging Embedded Systems Engineer

Bridging Software and Hardware Excellence

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SARAVANAPRABU G | LinkedIn

Profile

Dedicated Embedded Systems Engineer skilled in Python, C, and Embedded C programming for microcontroller-based systems like Arduino, ESP32, and PIC. Proficient in firmware development, hardware interface design, and communication protocols (UART, I2C, SPI). Experienced in PCB design, debugging, and testing electronics hardware. Recognized for innovative IoT and automation projects with a strong focus on hardware-software integration. Passionate about delivering efficient embedded solutions with a problem-solving and team-oriented approach.

Education

2021-2025 –present
Vellore,TamilNadu.

B.E (ELECTRONICS & COMMUNICATION)
Thanthai Periyar Government Institute of Technology
CGPA: 8.01/10

2020-2021
Namakkal,TamilNadu.

Higher Secondary Certificate (HSC)
Govt.Hr.Sec.School,Periyamanali-Namakkal.
Percentage-87.21%

2018-2019
Namakkal,TamilNadu.

Secondary School Leaving Certificate(SSLC)
Govt.Hr.Sec.School,Periyamanali-Namakkal.
Percentage-83.8%

Professional Experience

2024/07 – 2024/08
Sriperumbudur, India

INTERNSHIP - Charger Manufacturing
SALCOMP Technologies Pvt. Ltd.

- As an intern at Salcomp Technologies Pvt. Ltd., I gained valuable experience in **mobile charger manufacturing**. I assisted with the **assembly, testing, and quality assurance** of mobile chargers, contributing to process optimization and efficiency improvements. Working closely with engineers, I supported product development and **troubleshooting**, and documented technical processes to aid in continuous improvement.

Technical Skills

- **Programming Languages**: **Python, HTML(Basics)** and Proficient in **C** for firmware and embedded systems development.
- **Embedded System Design**: Expertise in firmware development for **microcontrollers**, including **Arduino**, **ESP32**, and **PIC**, utilizing tools like **Arduino IDE**, **MPLAB IDE**, and **KEIL uVision**.
- **Communication Protocols:** Skilled in implementing **UART**, **I2C**, and **SPI** for device interfacing.
- **Hardware Prototyping and Interface Design**: Experienced in **PCB design**, electronic hardware testing, and debugging.
- **Peripheral Interfaces:** Knowledgeable in configuring and operating **LCDs**, **7-segment displays**, **ADCs**, and **PWM** for various applications.
- **Linux** basics

Tools

- **SoftwareTools**: Mplab,KeilVision,ArduinoIDE.
- **SimulationTools**: LTSpice,EasyEDA,Proteus

Certificates

EMBEDDED SYSTEM-PIC Microcontroller Register Level Programming
(05/2024 - Present)-ARGYN TECHNOLOGIES

- Certified in **Embedded Systems and Microcontroller Register level Programming**, with hands-on experience in working on various projects using **PIC Microcontrollers**. These include implementing **UART**-based communication for message transmission, integrating **RTC Modules** for accurate time and date display, and simulating a numeric calculator interface using keypads and **16x2 Liquid Crystal Displays**. Proficient in **schematic design using EasyEDA**, working with **Analog to Digital Converters,** and utilizing **Pulse Width Modulation** and Timers for diverse applications. Well-versed in communication protocols such as **I2C, SPI, and UART**. Skilled in **Embedded C and Arduino programming**, with a strong ability to **analyze datasheets** for microcontroller development.
- **Python Programming** - Guvi (03/2024)
  ID:m1176q8708Gu11n8Y8
- **Linux Modules** - Udemy (12/2024)

Awards & Achievements

- I got **Second place** for my **Radar Detector project** in the **EPULZ** National Level Symposium conducted by Thanthai Periyar Government Institute of Technology

Projects

2023/11

- **Bluetooth-Controlled Smart Water Meter**

WORKING: Developed a real-time water monitoring system using an Arduino Uno and YF-S201 flow sensor, with Bluetooth-enabled control through a mobile app (MIT App Inventor). Users can set water flow limits (e.g., 50L, 100L) with automatic shutoff and receive live usage data.
-During this project, my role involved hardware integration, firmware programming, and mobile interface development

2024/04

- **IoT-Based Ambulance Navigation with Auto Green Signal Activation**

WORKING: Designed a system enabling ambulances to navigate traffic with auto-activated green signals, real-time GPS tracking, and GPRS-based hospital notifications to improve emergency response times.
-During this project, my role led hardware setup, Arduino programming, and integration of GPS and GPRS modules for location tracking and data transmission.

2024/09

- **Electronic Voting Machine (EVM)**

WORKING: Designed an EVM using a PIC16F887 microcontroller, authority-controlled voting, and a 16x2 LCD for real-time feedback. Votes are stored in EEPROM for secure data retention, with automated result display after polling.
-During this project, my role Implemented hardware interfacing, firmware design in Embedded C using MPLAB IDE, and circuit simulation with Proteus for testing and debugging.

2024/10

- **Snake Game Implementation on Console**

WORKING: Developed a console-based Snake Game in C, featuring real-time rendering, keyboard-driven navigation, and collision detection. Incorporated food generation and scoring mechanisms with life tracking.
During this project, my role Implemented movement logic using kbhit() and getch(), real-time rendering with SetConsoleCursorPosition(), and gameplay mechanics like food generation and border collision handling.

Declaration

I hereby declare that the information provided in this CV is accurate and true to the best of my knowledge and belief.

G. Saravana Prabu.

Vellore