SARAVANAPRABU G

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Vellore, Tamil Nadu

Summary

- Electronics and Communication Engineering graduate with strong hands-on expertise in embedded systems and firmware development. Proven ability to design, implement, and test microcontroller-based solutions—ranging from real-time clocks and voting machines to IoT-driven smart-home and ambulance-navigation systems—using PIC, ARM, Arduino, and ESP platforms. Experienced in PCB design, hardware diagnostics, and communication protocols (UART, I^2C, SPI), with a track record of improving process efficiency by 15% during industry internships. Award-winning project lead recognized at national symposiums for innovative radar-detection and Home360 smart-home ecosystems. Skilled in C/C++, Python, Linux, and version control (Git), ready to contribute to high-impact embedded and IoT projects.

Education

Thanthai Periyar Government Institute of Technology 2021-2025
Bachelor of Engineering in Electronics and Communication (GPA: 8.2 / 10) *Vellore, Tamilnadu*

Govt. Hr. Sec. School, Periyamanali 2020-2021
HSC BioMaths (Percentage: 87.21 / 100) *Namakkal, Tamilnadu*

Govt. Hr. Sec. School, Periyamanali 2019-2020
SSLC (Percentage: 83.8 / 100) *Namakkal, Tamilnadu*

Experience

SALCOMP Technologies Pvt. Ltd. Jul 2024 – Aug 2024
INTERNSHIP - Charger Manufacturing *Sriperumbudur, Tamilnadu*

* Assisted in the assembly, testing, and quality assurance of mobile chargers, contributing to a 15% improvement in process efficiency.
* Supported product development and troubleshooting activities, working closely with engineers to identify and resolve technical issues.

Certification

Embedded System-PIC Microcontroller Register Level Programming Jun 2024 – Sep 2024
Argyn Technologies

- Gained expertise in Embedded Systems and Microcontroller Programming with hands-on experience in PIC Microcontrollers. Expertise includes UART communication, RTC Modules for time display, numeric calculator simulation with keypads and LCDs, and schematic design using EasyEDA. Skilled in ADCs, PWM, Interrupt, Timers, I2C, SPI, and UART protocols. Proficient in Embedded C, Arduino programming, and datasheet analysis for microcontroller development.

Embedded Firmware Development using ARM MicroController Jan 2025 – Present
Argyn Technologies

Python Programming Mar 2024
Guvi

Linux Module Dec 2024
Udemy

Technical Skills

Programming Languages: C, C++, Python, Embedded C, Arduino
Microcontrollers: PIC (16F series), Arduino, ESP32, ESP8266, ARM Cortex-M4, Raspberry Pi
Communication Protocols: UART, I2C, SPI, RS-232
Embedded Development: Bare Metal Programming, Linker Scripts, Makefiles, Startup Files
IDEs & Tools: MPLAB X, Keil µVision 5, STM32 Cube IDE, Arduino IDE
Hardware Interfaces: LCDs, 7-segment displays, RTCs, ADCs, PWM, GPIO
Simulation & PCB Design: Proteus, LTSpice, EasyEDA, Altium Designer
Operating Systems: Linux (Basic System Administration)
Version Control: Git, GitHub

Achievements

Epulz Symposium - TPGIT 2024
Vellore, Tamil Nadu

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

Compcom Symposium - GCE 2025
Salem, Tamil Nadu

- I got first place for my Home360 project in the COMPCOM National Level Symposium conducted by Government College of Engineering, Salem.

Projects

Bluetooth-Controlled Smart Water Meter | *Arduino, MIT App Inventor, YF-S201 Flow Sensor* Nov 2023

- Developed a real-time water monitoring system using Arduino Uno and YF-S201 flow sensor with Bluetooth-enabled control through mobile app (MIT App Inventor)
- Implemented water flow limits (e.g., 50L, 100L) with automatic shutoff and live usage data display
- Handled hardware integration, firmware programming, and mobile interface development

IoT-Based Ambulance Navigation with Auto Green Signal Activation | *Arduino, GPS, GPRS* Apr 2024

- Designed system enabling ambulances to navigate traffic with auto-activated green signals
- Implemented real-time GPS tracking and GPRS-based hospital notifications to improve emergency response
- Managed hardware setup, Arduino programming, and integration of GPS/GPRS modules

Electronic Voting Machine (EVM) | *PIC16F887, Embedded C, MPLAB, Proteus* Sep 2024

- Developed EVM with authority-controlled voting and 16x2 LCD for real-time feedback
- Implemented secure vote storage in EEPROM with automated result display after polling
- Designed hardware interfacing and firmware in Embedded C, simulated with Proteus

Real Time Clock using PIC16F877A | *PIC Microcontroller, Proteus* Nov 2024

- Simulated 12-hour format real-time clock with AM/PM display in Proteus
- Implemented time and date display functionality with accurate clock synchronization
- Demonstrated embedded programming skills with PIC16F877A microcontroller

Home 360: Integrated IoT Smart Home Ecosystem | *Flutter, Firebase, ESP32CAM, IoT* Apr 2025

- Developed comprehensive smart home solution integrating appliance control, energy monitoring, live surveillance, anti-theft, and fitness tracking
- Implemented real-time control with 150ms latency and 100% scheduling success rate using Flutter and Firebase
- Designed security features with 98% alert success rate and 2-second feed access via ESP32CAM
- Created energy monitoring system with 95% accuracy and fitness tracking with high user satisfaction (3+ sessions/week)
- Developed vehicle management system with 97% accuracy and 1.5-second delay during peak usage
- Awarded first place in COMPCOM National Level Symposium at Government College of Engineering-Salem