

Aravindhan

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CAREER OBJECTIVE

Aspiring Embedded Software Engineer with strong foundations in Embedded C, microcontrollers, and IoT systems. Skilled in developing and debugging real-time embedded applications, with hands-on experience in UART, SPI, I²C and sensor integration. Passionate about contributing to automotive and embedded product development while continuously enhancing technical expertise.

EDUCATION

BE -Electronics and Communication Engineering Vel Tech Multi Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Avadi, Chennai	7.54 GPA	2021 - 2025
Higher Secondary Education Jeeva Velu Matriculation Higher Secondary School, Tiruvannamalai	83.3%	2019- 2021
Secondary Education Jeeva Velu International School Tiruvannamalai	66.6%	2017 - 2019

PROJECT

Smart Medicine Reminder Box | PIC16F877A, DS3231 RTC, EEPROM

- Built medicine reminder system using RTC scheduling with LED and buzzer alerts.
- Stored scheduled medicine information securely into internal EEPROM for reliable non-volatile storage.
- Ensured consistent system performance by preserving reminder data during power-off conditions.
- Proposed upgrade with web dashboard enabling remote healthcare monitoring and timely notifications.

IoT-Based Smart Fan System Using ESP32 and ThingSpeak | ESP-32

- Developed a smart fan system using ESP32 and a temperature sensor for automatic speed regulation.
- Integrated ThingSpeak IoT platform for real-time data monitoring, visualization, and analysis.
- Implemented remote monitoring and control for enhanced user accessibility.

IR Sensor Monitoring System using | PIC | ESP-32

- Built a real-time monitoring system using PIC16F877A and IR sensor for obstacle detection.
- Implemented UART communication between PIC and ESP32 to transmit sensor data efficiently.
- Integrated ESP32 with ThingSpeak IoT platform to visualize detection events remotely in graphical format.

Automatic Water Level Controller | 8051, Ultrasonic Sensor

- Designed ultrasonic-based system for water level measurement and automatic motor control.
- Automated motor ON/OFF operation preventing overflow and optimizing household water usage.
- Enhanced resource efficiency by reducing manual intervention and avoiding water wastage.

SKILLS

Programming Languages: C, C++ (Basics), Python, SQL, HTML, CSS

Protocols: UART, SPI, I²C

Microcontrollers & Platforms: 8051, PIC16F877A, ESP-32, Arduino, EEPROM, RTC

Development Tools: Keil, MPLAB X IDE, Proteus, Arduino IDE, VS Code, GitHub

Core Strengths: Debugging, Problem-Solving, Real-Time Applications, DSA, OOPs

ACHIEVEMENTS

- Secured 2nd place in the Codethon – a college-level coding competition; awarded cash prize
- Completed multiple self-initiated projects and published on GitHub