SRIDHAR M

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Technical skills

Languages : C, C++, Python

Controllers: Arduino,Pic,ESP32&ESP8266

Kernal: Linux,FreeRTOS.

Iot protocols: Mqtt(mosquitto,shiftr),GSM, LoRa

Communication protocol :UART, I2C, SPI, RS232,CAN, USB

Tools

Software Tools : Mplab,Keil Vision.

Simulation Tools: LT Spice, Xlinix,EasyEDA,Proteus

Hardware Design: PCB Design.

Responsibilities

Developed and Calibrated Autonomous Control Systems: Engineered control algorithms and integrated 15+ hardware components, achieving a 25% improvement in system efficiency through precise calibration

Led Comprehensive Testing and Optimization: Spearheaded functional, regression, and performance testing, enhancing system reliability by 30% and reducing testing time by 20% through optimized testing workflows

Collaborated for Efficient Issue Resolution: Collaborated with cross-functional teams to resolve 40+ system issues, maintaining rigorous records and achieving a 95% on-time resolution rate

Education

B.E. in Electronics and Communication Engineering (ECE)

Thanthai Periyar Government Institute of Technology, Vellore

Graduated: 2025 | CGPA: 7.5/10

Internships

Firmware Trainee Intern
Blackfox Embedded Solutions, Erode
May 2024 - August 2024

- Developed **MQTT-based communication modules** with **GSM** integration, achieving a 40% increase in data transmission reliability for IoT devices. Integrated **call and SMS synchronization** via an **external interrupt** on the GSM RI pin using a BC547 transistor.
- Optimized firmware for real-time data by reducing latency 25%, significantly enhancing responsiveness in critical embedded applications

Projects

1.Bluetooth Car with Metal Detector | Year: 2022

Developed a mobile-controlled car featuring metal detection, achieving 85% detection accuracy and reducing response time by 15% with Blynk connectivity.

Role: Oversaw firmware design and coding for hardware and Bluetooth communication, enhancing system responsiveness by 30% through testing and fine-tuning.

2.Garbage Detection and Bin Level Indication Year: 2023

Built an AI-powered waste management system utilizing ESP32, reaching 90% classification accuracy and automating 40% of waste sorting.

Role: Directed the integration of servo controls for waste classification based on AI data, and implemented bin level monitoring displayed in real-time on a web server.

3.Material Positioning Using IR Sensor | Year: 2024

Designed a positioning system with IR sensors, improving accuracy by 30% and reducing processing delays by 20% through real-time ESP32 streaming.

Role: Managed sensor calibration and ESP32 setup to ensure precise positioning and consistent monitoring.

4.Autonomous Robot with Object Avoidance and Event Display | Year: 2024

Created an autonomous robot with gesture recognition (95% accuracy) and object avoidance, improving navigation speed by 25%.

Role: Coordinated programming for handshake and object avoidance, and supervised integration of OLED displays, speakers, and Raspberry Pi for event display.

5. Real Time Clock using PIC16F877A | Year : 2024

Engineered and simulated a 12-hour format real-time clock with AM/PM display using the PIC16F877A microcontroller in Proteus. The project included time and date display functionality with accurate clock synchronization, showcasing skills in embedded programming and simulation tools.