MOGHANAPRIYA M

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Objective

Highly motivated and detail-oriented engineer, proficient in C, C++ and embedded C with strong understanding in microcontroller architecture seeking to leverage my technical skills through utilising my passion toward embedded system in reputed organisation's goal while gaining valuable industry experience.

TECHNICAL SKILLS

- Skilled in C programming especially in concepts like operators, bit manipulations, structure, union and dynamic memory allocations etc., and familiar with programming language like C++, Embedded C, and Python.
- Gained hands-on experience with microcontrollers such as 8051, PIC16F877A, STM32F401RE, Arduino UNO, Arduino Nano, and ESP32 through academic projects and internship programmes.
- Basic understanding of how communication protocols like SPI, UART, and I2C are used to connect devices.
- Hands-on exposure to MPLAB, Keil, STM32CubeIDE and Arduino IDE for developing simple applications on microcontroller platforms.
- Practiced handling test equipment such as Oscilloscope, Function generator and Multimeter during academic coursework.
- Basic Understanding in RTOS principles, including process, thread, and task scheduling etc.
- Familiar with key digital electronics topics and analog electronics topics.

Education

S A ENGINEERING COLLEGE - BE-ECE — AUG 2019 – May 2023

- CGPA: 9.3

RAMAKRISHNA VIDHYA NIKETAN HR.SEC.SCHOOL-XII — JUNE 2018 – MAY 2019

- PERCENTAGE: 85

RAMAKRISHNA VIDHYA NIKETAN HR.SEC.SCHOOL-X — JUNE 2016 – MAY 2017

- PERCENTAGE: 95

Experience

EMBEDDED ENGINEER INTERN, PUMO TECH — SEP 2024 - MAR 2025

- Developed and tested embedded software for microcontroller-based systems using C and Embedded C in compilers like MPLAB, KEIL, stm32cubeIDE.
- Assisted in circuit design, hardware debugging, and troubleshooting using tools like Proteus.
- Collaborated with cross-functional teams on project development and implementation.
- Established communication between the devices in embedded system using various communication protocols like UART, I2C and SPI.
- Developed conceptual understanding of PCB design principles such as schematic to layout conversion, component placement, and routing etc.

EMBEDDED DEVELOPER INTERN, SAVEETHA ENGINEERING COLLEGE. — JUNE 2025 - PRESENT

- Developed and tested code using programming language like python and Embedded C for various projects.
- Mentored students in implementing, debugging, and refining their embedded systems projects.
- Practiced basic soldering techniques as part of circuit assembly tasks.
- Established communication between the microcontrollers and other pheripharal devices using various communication protocols like UART, I2C and SPI.
- Developed many projects related to embedded system by interfacing microcontrollers with hardwares like sensors, motors, motor drivers, LCD display etc.

Projects

AN IMPROVED PICTURE BASED PREDICTION METHOD OF PM2.5 CONCENTRATION

- The Proposed Work deals with developing a deep - learning based image model to predicting PM2.5.
- This model determined the concentration of the particulate matter in atmospheric air.
- It is proposed to prevent the adverse health effect caused by the heavy concentration of particulate matter in the air by machine learning and to predict the concentration of particulate matter using various algorithms.
- It discovered that saturation map is sensitive to air quality, showing completely distinct appearances under high and low PM2.5 concentration.

INFRARED ROBOCAR

- The objective of the Smart Robotic Car with IR Sensor is to design and develop an autonomous vehicle that can detect obstacles using infrared sensors and navigate safely without human intervention.
- The project aims to enhance automation, improve obstacle detection accuracy, and demonstrate the application of IR sensor technology in intelligent robotic systems for real-world use such as surveillance, transportation, and industrial automation.

SMART ROBOS

- The objective of this project is to design and implement a wireless robotic control system using LoRa communication modules.
- The system enables the transmission of movement commands such as forward and reverse from a transmitter unit to a receiver unit with long-range, low-power communication.
- This project aims to demonstrate reliable remote control, efficient command transfer, and the potential of LoRa technology for robotics applications.

Certification

TYPEWRITING: Completed junior grade Typewriting certification, demonstrating proficiency in English typing.

HOBBIES

- Designing the circuits using tinkercad, Proteus etc.
- Reverse engineering old gadgets to study circuit design and embedded firmware.
- Appreciate spending time with friends to balance work and social well-being.
- Cooking.
- Listening to music.

DECLARATION

I hereby declare that the information provided above is true to the best of my knowledge and belief

SIGNATURE

(MOGHANAPRIYA M)