Sk Anisuddin Ahmed
Embedded Software Engineer

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SUMMARY

Embedded Software Engineer with 3 years of experience in embedded systems. Proficient in Embedded C, C++, microcontroller development, and communication protocols. Strong analytical, debugging, and problem-solving skills.

EXPERIENCE

Livguard   **Embedded Software Engineer**
Sept 2022 - Current   *Bangalore, Karnataka*

Motor Controller Firmware Development -

- Developed driver and application-level software for microcontrollers in motor controllers for electric vehicles, enhancing functionality and performance.
- Implemented communication routines for EV displays, ensuring seamless integration and reliability.
- Wrote control loops, performed debugging, optimization, and software testing on motor controller boards to ensure robust performance.
- Independently developed a dsPIC33 bootloader with a Python GUI for flashing hex files via CAN/UART.
- Ported and modularized software for improved reusability and maintainability, and prepared technical documentation.

EV Battery Charger Development -

- Developed an LCD-based calibration card for motor controllers and EV chargers, managing software, hardware, and calibration processes.
- Developed a C++ terminal tool for manual calibration, complementing the LCD-based tool to enable flexible and precise calibration workflows.

EDUCATION

PES University   May 2020 - Aug 2022
M.Tech in Electrical and Electronics Engineering
(Major in Embedded Systems)   *GPA: 7.53/10*
Bangalore, Karnataka

West Bengal University of Technology   May 2015 - Dec 2019
B.Tech in Electrical and Electronics Engineering   *GPA: 7.13/10*
Kolkata, West Bengal

COURSES

Advanced C Programming Course   *Udemy*
A comprehensive exploration of advanced C concepts, real-world applications, object-oriented programming, data structures and algorithms, and advanced pointers.

C++ Data Structures & Algorithms   *Udemy*
This course offered a deep dive into fundamental concepts such as Big O notation, arrays, linked lists, stacks, queues, trees, hash tables, graphs, and various sorting and searching algorithms.

CAN Protocol and Physical Layer Basics   *Microchip*
An overview of the fundamentals of the CAN protocol and CAN frames, detailing system, application, and hardware-level responsibilities.

SKILLS

Software	C, C++, Python Scripting
Hardware	Electronics, Schematics, Oscilloscope, Logic Analyzer
Communication Protocols	UART, I2C, SPI, CAN, CAN DBC

OOPs in C++, Data Structures & Algorithms

Embedded C, Embedded Systems, Embedded Low-Level Software Development

Microprocessor & Microcontroller

Embedded Software Development, PIC Microcontroller, MPLAB X IDE, Arduino, ST, ARM

Software Analysis & Debugging, Operating System Concepts

Bare Metal Programming & Embedded Peripheral Programming- (CAN, UART, ADC, PWM, etc.)

Hardware & Software Co-design, Technical Documentation

Soft Skills	Problem-Solving, Teamwork

LEARNING

Embedded Linux (Basics)
Device Drivers (Basics)
Firmware Development
AUTOSAR, MCAL
RTOS Concepts(FreeRTOS)
Data Structures & Algorithms(C++)
C++ Multithreading
Python (Basics)

LANGUAGES

- English (Proficient)
- Hindi (Proficient)