

Aditya Gupta

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Objective

To leverage my expertise in embedded systems design, verification, and validation to contribute to the development of high-reliability solutions in cutting-edge industries. With a strong background in hardware-software integration, real-time systems, and compliance with industry standards, I aim to deliver innovative and robust solutions while driving continuous improvement in product quality and performance.

Experience

- Varchas Aerospace Pvt Ltd** 10 July 2023 - Current
Embedded Software Engineer
 - Project : Advanced Electro Magnetic Compatibility Unit (AEMCU)** The Advanced Electro Magnetic Compatibility Unit (AEMCU) of SU- 30 MKI aircraft is responsible for switching blanking and suppressing pulse streams when the various LRUs/Systems of the aircraft transmit signals.
 - Contributed to the development and testing of embedded software
 - Implemented Communication Protocol I2C, SPI and UART.
 - Collaborated with senior developers and Hardware Engineer to identify and resolve issue.
 - Participate in code review and documentation process to maintain code quality and project consistency
 - Project: Pylon Logic Controller(PLC)** The Pylon Logic Controller unit (PLC) is a critical component tailored for integration into the fixed-wing fighter platform, specifically the Yakovlev Yak-130. This advanced unit ensures robust control and operational reliability of the aircraft's Pylon systems.
 - Conducted requirement analysis and prepared verification strategies to ensure system compliance with design specifications.
 - Developed and executed test plans, test cases, and scripts for functional, integration, and system-level testing of PLC-based automation systems.
 - Performed hardware-in-the-loop (HIL) testing to verify PLC logic, ensuring seamless communication between hardware and software components.
 - Utilized simulation tools to validate control logic and system functionality under various operating conditions.
 - Identified and resolved bugs by conducting root cause analysis, enhancing system reliability and performance.
 - Ensured compliance with industry standards and project requirements through rigorous testing and documentation.
 - Collaborated with cross-functional teams to facilitate peer reviews and ensured deliverable quality at each stage of the development lifecycle.

Projects

- Synchronously Blinking Emergency Light**
The system is equipped with light sensor which senses ambient Light. If the intensity of light falls

below the level of visibility the Sensor, senses this and informs the system about it.

Platform: LDR Sensor,555 Timer IC,PCB and Breadboards

- **Load Shedding Time Management With Programmable Interface**

The Project is an automatic load operation system that controls Load operation, multiple numbers of times according to Programmed instruction.

Platform: 8051 Microcontroller,7 Segment Display, IC

Software used: Keil µVision IDE

MC Programming Language: Embedded C

- **Employee Attendance-Based System Using RFID**

This project is focused on developing a project to store the attendance of the employees in a file with date and timing.

- Developed I2C driver and implement a code to access the date and time from RTC.

- Developed UART driver and use UART protocol to scan a RFID Card taking the attendance and store it in a file on desktop.

- **Student Database**

This project involves creating a Student Database using a single linked list data Structure.

- Understanding the concept of linked-list, structures and file handing.

- Designed the program for student base record for performing different tasks

- Tasks include: - create new record, adding new record, delete record, modify record, search record, etc.

Training

- **Embedded System(Dec 2022-June 2023)**

Institute: Vector India Pvt. Ltd.

Technology: Gaining hands-on experience on C, C++, DSA, LPC2129(ARM7), Peripheral drivers

Skills

- Programming Language: C&C++,EmbeddedC, Linux, TCP/IP
- Microcontroller:LPC2129,TMS570LS1224,TM4C123GH6PGE
- Concept: DSA, Embedded System , Basic of LabView
- Protocol: UART, I2C, SPI, ADC, CAN
- IDE: Keil IDE, Code Composer Studio, Halcogen , Logic analyzer

Education

- **Sershash Engineering College Sasaram** 2022
B.tech(EEE)
- **Al-Kabir Polytechnic, Jamshedpur** 2018
Diploma(EE)
- **Model School Dalmiyanagar** 2015
Matriculation

Disclaimer

- I hereby declare that the information given by me is true to the best of my knowledge.

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