Arham Ibne Hassan

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Work Experience:

Software Engineering Intern   *January 2024 – April 2024*
Sandvine Incorporated

- Developed and implemented features for the AppQoE testing portal using C++, enhancing usability for users and adding more tools for the testing stage. (Specific details of features limited by NDA)
- Optimized decision tree algorithms for AppQoE through model evaluations and modifications of various Python scripts. Increased the model accuracy with various tests, features per tree, and through exploring different model types.
- Leveraged WireShark for packet monitoring to understand caching behaviors in audio streaming platforms to better understand how to set training criteria and reduce any discrepancies while testing.

Battery and Electrical Systems Member   *September 2023 – Present*
University of Waterloo Formula Electric

- Designed, manufactured, and implemented a custom enclosure to monitor vehicle measurement points. Soldered HV, LV, and CAN DB9 connectors, tested them and installed proper insulation using Nomex lining and Silicone Seals to ensure it is IP-rated.
- Assembled the Electronics Box for the custom HV Battery housing various components such as a custom BMS, wired and installed HV components, designed mounts for said components, and created Nomex insulation lining. Achieved proper HV Battery Component Isolation/Insulation and desired IP rating.
- Designed and machined the cell fuse testing setup from Aluminum and Acrylic using SolidWorks and a Mill to achieve lower thermal mass, and to test at given current values reliably for custom fuses.
- Took responsibility for documentation of the battery pack for various competition requirements, ensuring all aspects of the custom 588V battery and its electronics were covered and complied with competition regulations and industry practices.

Projects:

Air Quality Measurement Device:

- Designed a compact device that measures air quality, temperature, and humidity and warns users of severe conditions through a buzzer and Red, Yellow, and Green LEDs.
- Used DHT-222, PMS5003 sensors, and an STM Microcontroller to accurately gauge all relevant parameters through provincial AQI calculation formulas programmed in STM32CubeIDE.

Education:

University of Waterloo:

- Received International Entrance Scholarship and President's Scholarship of Distinction (valued at 10,000 and 2,000 CAD respectively).

Skills:

Electrical:	Altium, Circuit Design, Batteries, Soldering, Wire Harnesses, Measuring Equipment
Software:	C++, Python, SQL, Git, Linux, LaTeX, Arduino
Mechanical:	Solidworks, Manual Machining Tools, AutoCAD