SUCHIR LADDA

LinkedIn| 416-826-4593 |suchirladda@gmail.com

SUMMARY

An aspiring electrical engineer with a strong passion for learning and innovation. Aim to leverage technical skills, creativity and apply diverse hands-on skills in creating efficient and reliable engineering solutions in a challenging environment.

SKILLS

KiCad, Soldering, Multimeters, Oscilloscopes, Wire crimping, Machining Equipment, Autodesk Inventor, Python, C, C++, MATLAB, Arduino, PCB Design, Altium, AutoCAD, ArcGIS, Electrical schematic design, Circuit Analysis, Verilog, VHDL, Microcontrollers, Simulink, Java, JavaScript, React, Embedded C, Rust, Assembly, Swift, SQL, GitHub, MS Office

RELEVANT EXPERIENCE

McMaster Rocketry Club – Controls Team Member **Sep 2024 – Present**

- Researched ceramic chip antennas and RF engineering concepts, created PCB footprint, and used impedance matching and control to optimize performance, reducing PCB mass by 15%.
- Created a custom board using KiCad responsible for instantaneous parachute deployment, leading to 7.5% decrease in potential payload damage.
- Collaborated with 5+ teams to 3D model concept designs using SolidWorks for an airbrake system. Also used Simulink to verify that the new system will bring the rocket 30% closer to the targeted apogee.
- Used a lathe and bandsaw to manufacture a coupler with 99% accuracy ensuring transition fit between the body tube and payload.

PROJECTS

Spatial Mapping LIDAR **March 2025**

- Developed a spatial mapping system using the MSP-EXP432E401Y microcontroller and a Time-of-Flight sensor, generating real-time 3D plots.
- Utilized MATLAB to parse serial data, convert polar coordinates to 3D Cartesian space, and dynamically generate interactive 3D plots representing spatial measurements.
- Wrote embedded C firmware to program GPIO interrupts and manage real-time data acquisition, taking measurements in 2.8 degree increments to enhance the quality of the 3D scan.

Prepifi – DeltaHacks XI Project **January 2025**

- Created a mock interview intelligent bot that allows the user to have a conversation with an interviewer for any job posting that they desire also capable of adapting to user's responses.
- Integrated OpenAI and Cohere APIs to enable real-time speech-to-text and text-to-speech interaction, achieving 95%+ transcription accuracy.

Circular Shift Register **October 2024**

- Implemented a circular shift register circuit with JK flip-flops, tested on an FPGA board using LEDs.
- Created block schematics and Verilog code to verify timing and operation with a 16 Hz clock, exploring output frequency relationships by increasing the clock frequency to maximize efficiency.

EDUCATION

Bachelor of Electrical Engineering - McMaster University, Hamilton **Sep 2023 – Apr. 2027**

- Designed logic-based circuits, demonstrated circuit theory by implementing and analysing circuits during labs and projects
- With strong passion for innovation, competed in McMaster SumoBot and RC car competitions