Steven Brown

Engineering Physics Co-op Student

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Skills

Programing:	Java, C/C++, Python, MATLAB, Qt GUI Design, Bash Scripting
Electrical:	Altium Designer, Oscilloscope, Analog & Digital Circuits, Soldering
Mechanical:	SolidWorks, Servomotor & Ultrasonic Sensor use, Prototyping, Hand Tools

Education

The University of British Columbia   **Sept 2019 – May 2024 (expected)**
- Engineering Physics, BASc
- Cumulative GPA: 4.00
- Deans Honour List & Trek Excellence Scholarship Recipient   **Sept 2019 – Current**

Work Experience

Electrical Hardware Team – UBC Formula Electric Design Team   **Sept 2021 – Current**
- Member of the team responsible for designing and testing electrical components of an electric formula racecar.
- Designing, testing, and soldering custom PCB schematics and layouts.
- Designed a Tractive System Active Light PCB using Altium Designer for the Formula Electric 2022 car.

Embedded Software Engineer Co-op – NZ Technologies, Vancouver   **Jan – Apr 2021**
- Developed embedded C++ applications for deployment on Windows & embedded Linux.
- Developed interactive GUIs using Qt, while managing software testing, stable build releases, and version control.
- Worked collaboratively in a team with experienced software engineers to diagnose, analyze and solve a variety of product performance issues.

Advanced Logger Application – NZ Technologies, Vancouver   **Jan – Feb 2021**
- Implemented a data logging system in C++ for different embedded touchless elevator devices.
- Kept track of sensed actions, errors, and sensor data, which was stored in a daily report and sent out automatically by email through bash scripts.
- Report included a version of the data in excel format where it could be further analyzed.
- Tracked the intension of the user and how the elevator device reacted. Looked at weather the reaction was correct or whether the user intended a different response.

Technical Projects – More projects available on website at top of this resume

Machine Learning Car Simulation – UBC, Vancouver   **Sept – Dec 2021**
- Developed an autonomous car that drives through a simulated environment, obeying traffic laws, and returns license plates and associated parking IDs using machine learning and computer vision.
- Google Colab was used to access python libraries such as OpenCV for computer vision and Tensorflow to design and train neural networks.
- Car was able to complete the full driving course and scan all 8 licenses plates correctly in 60 seconds.

Engineering Physics Robot Competition – UBC, Vancouver   **May – July 2021**
- Our team of four was tasked to build 4 fully autonomous robots lowered by a sky crane to find 6 cans on an 8' x 8' surface and place them in a wine case within 60 seconds.
- Prototyped different mechanical components from cardboard which were eventually designed in SolidWorks.
- Custom designed separate power and logic circuit boards using Altium Designer.
- Designed firmware in C++ for an STM32F3 MCU in a finite-state machine format including PID drive.

Interests

- Avid weightlifter & runner with combined training up to 5 times per week.
- Played senior basketball and continue to play in a men's league once per week.