THE UNIVERSITY OF BRITISH COLUMBIA

Engineering Co-op Program
Faculty of Applied Science
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Technical Skills

Tools: Oscilloscope • Signal Generator • Multimeter • Soldering Iron • Arduino • CircuitPython/MicroPython
Languages: C/C++ • Python • Dart/Flutter • JavaScript/Node.js • Java • MATLAB
Software: SOLIDWORKS • Inventor • Git • Linux • Vim

Academic & Co-op Status

Academic Program:
- Mechatronics Engineering; 5 of 8 academic terms completed;
- Anticipated date of graduation: May 2021

Co-op Status
- Completed 2/5 Work terms; available for 4 or 8 beginning January 2020

Co-op Work Experience

Sierra Wireless — May 2019 – August 2019
Integration Engineer Co-op
- Built and extended test infrastructure to streamline automatic and manual tests
- Dockerized test infrastructure so that it could be easily run in Jenkins
- Built a database to store and serve test metrics for individual firmware builds over a REST API

Precision Nanosystems — September 2018 – December 2018
Instrumentation Engineer Co-op
- Designed and built equipment to run experiments on microfluidics devices
- Wrote reports documenting the results of microfluidics experiments

Technical Projects

Low Waste Tangential Flow Filtration — November 2018 – December 2018
- Built a device similar to the KR2*i* TFF System
- Uses two syringe pumps connected directly to the filter instead of a peristaltic pump to reduce material lost due to tubing
- Each syringe pump is capable of determining the volume of fluid contained within a syringe and allows for a user to specify a specific concentration ratio.

ASDS 2.x Sea-based Landing Pad Scale Prototype — January 2018
- Working with a group of 6 other students, worked through a formal engineering design process to build a boat capable of balancing and transporting model rockets
- Implemented a battery monitoring system to limit throttle based on power output, improving stability by preventing motor brownouts that would cause the boat to rock
- Wrote a class to remap controller inputs to a more intuitive control scheme allowing for greater control.

BM Bot — January 2018
- Working with a group of 3 other friends, built a Discord bot using Node.js that would track user's League of Legends games
- Used the Riot Games API to detect when a user finished their game, and then would send messages to the user poking fun at them based on their performance

Student Teams

UBC Orbit - ADCS
September 2018 – Present

- Orbit is building a cubesat for the Canadian Satellite Design Challenge
- The Attitude Determination and Control subteam is designing a system that will allow the cubesat to localize itself while in orbit and reorient itself as necessary

UBC Rapid
October 2016 – Present

- Specializes in advancing rapid prototyping technologies, especially 3D printing
- Currently running cheapest 3D printing service on campus

Volunteer Work Experience

Richmond 19th
September 2012 – Present

Scout Leader

- Plan and run engaging programs every week for youth aged 8-10
- Teach survival and life skills at camping trips, fostering an appreciation for the outdoors

Education

The University of British Columbia
Expected May 2021

Bachelor of Applied Science – Mechanical Engineering

Udemy
2018

Certified Scratch Programmer

Activities and Interests

- Billiards – summer leagues
- Sports – Ultimate Frisbee, snowboarding