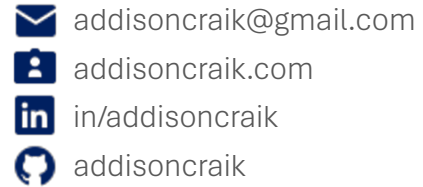


Addison Craik

UBC Engineering Physics



Profile

A hardworking and dedicated student, driven by a fascination with the underlying mechanisms of everyday objects and a constant desire to learn more. Possesses a strong work ethic, a vast array of teamwork skills, and creative problem-solving abilities. Eager to apply theoretical knowledge to practical challenges and gain valuable hands-on experience in a professional setting.

Education

University of British Columbia

Engineering Physics, BASc

Vancouver, BC

Sept. 2023 – Apr. 2028 (expected)

Technical Skill Set

Design and Fabrication

- SolidWorks (Modelling + FEA)
- Waterjet Cutting
- Laser Engraving/Cutting
- 3D Printing
- General Workshop Skills

Electrical

- Soldering
- Oscilloscope
- Arduino
- STM32
- Raspberry Pi

Computer

- MATLAB
- Excel
- Java, C, Python
- HTML, CSS, JavaScript
- Git/Github

Technical Experience

UBC Concrete Toboggan – SolidWorks, Problem Solving, Teamwork

Braking Sub Team

Vancouver, BC

Sept. 2023 – Present

- Previously, the braking team had outsourced the manufacturing of a hinge component due to the unique geometry. I developed a simple manufacturing procedure which allowed the team to manufacture the part in-house, leading to a significantly cheaper component.
- I created engineering drawings for various components. Using simple, easy to understand layouts I ensured a quick and easy manufacturing process.
- The 2023 braking design involved a large plate dropping into the snow to stop the toboggan. This design faced challenges of excessive weight. I helped rethink the braking mechanism by removing the large plate and instead dropping the chassis into the snow. This resulted in a lighter, more efficient braking design.

UBC Rocket – SolidWorks, FEA, Waterjet Cutting

Liquid Propulsion Sub Team

Vancouver, BC

Jan. 2023 – Present

- In a previous hot fire, the mounting bolts for the liquid rocket motor had been pulled through the mounting plate due to poor tolerances. After analyzing inventory, I designed a new motor mount using existing materials, I then conducted a Finite Element Analysis (FEA) to ensure the mount would withstand the forces of a hot fire. Finally, I precisely manufactured the component using waterjet cutting and milling equipment. The resulting mount withstood several hot fires with ease.

Technical Projects

Autonomous Claw – SolidWorks, Arduino, Rapid Prototyping

Vancouver, BC

Introduction to Engineering II

Feb. 2024

- I created various engineering drawings to showcase the design of the claw by carefully measuring the first claw and then using SolidWorks to produce detailed models and drawings. For redundancy my team decided on creating a second claw. My detailed engineering drawings allowed for a quick construction of a near identical second claw.
- Our claw needed an autonomous release system. By developing and implementing a precise control algorithm, I significantly reduced the need for manual oversight.

RC Drone Capstone – Soldering, STM32, Critical Thinking

Coquitlam, BC

Gr12 Independent Directed Studies

Apr. 2023

- The STM32 and gyroscope I had ordered for this project came without soldered header pins. I therefore needed to teach myself how to solder the header pins onto the boards and then how to solder the complete flight controller circuit onto a protoboard.
- When one of the speed controllers on the drone wasn't functioning as expected. I quickly determined it was an issue with the on-board timer. After digging through the STM32 datasheets, I found that I could try using different timer. After rewiring and reprogramming the drone, my improvisation paid off and I had a working drone.

Other Experience

Boathouse Restaurant – Leadership, Teamwork, Organization

Port Moody, BC

Line Cook, Prep Cook

Sept. 2021 – Aug. 2024

- Due to the fast-paced environment of a kitchen I needed to routinely communicate with other members of the kitchen staff. Having good communication skills resulted in smoother kitchen operations with faster bill times.
- As a station lead, I successfully ensured all food cooked and plated at the station met the restaurant standards, contributing to high customer satisfaction.
- By ensuring my station was organized, I ensured that operations were streamlined, and that onboarding new employees would take less time.

Awards

BC Governor General's Award

2023

BC Achievement Scholarship

2023