

## Technical Skills

**Languages:** Python, JavaScript, TypeScript, C, C++, Java, React.js, React Native, HTML, CSS, SQL, LaTeX, Bash

**Technologies:** Git, Linux, MongoDB, Node.js, Express.js, MobX PostgreSQL, SQLite, MySQL, OpenCV, Keras

## Work Experience

### Later – Software Engineering Intern

May - Aug 2021, Vancouver BC

### Intel – Software Engineering Intern

May - Dec 2020, Vancouver BC

*Python, JavaScript, SQL, SQLite, Flask, HTML, CSS, Bash, Linux Operating System*

- Developed a telemetry query application, organizing over 5 million data entries, using **SQLite** to query a relational database, **Python** and **Flask** for the backend, and **JavaScript**, **HTML**, and **CSS** for the frontend.
- Took initiative to optimize, automate, and add to Intel's **Python** workflows, libraries, documentation, and APIs.
- Awarded over \$200 via the Intel Recognition Program for quality, completeness, and detail of work.

### TRIUMF (Particle Accelerator) – Beta-Decay Researcher & Developer

Jan - Apr 2019, Vancouver BC

*C++, MATLAB, Camera Software Development Kit, Linux Operating System*

- Increased camera's frame rate by over 300%, using the camera's software development kit and **C++** to implement dynamic memory allocation and multithreading – crucial for capturing quickly decaying atoms.
- Corrected errors, inconsistencies, and contradictions missed by the research team for over 6 years.
- Authored a work term report now published on TRIUMF's website and included in TRIUMF's publication library.

## Education

### University of British Columbia

2016 - 2022 (Expected), Vancouver BC

### Engineering Physics & Computer Science, Bachelor of Applied Science

GPA: 80%

- **Coursework:** Software Engineering (94%), Data Structures & Algorithms (82%), Machine Learning Competition (93%), Robot Competition (82%), Science One (enriched 1<sup>st</sup> year science; 87%), Relational Databases (In Progress)
- **Involvements:** Orbit: Satellite Design Team, Math & Physics Teaching Assistant, JumpStart Orientation Leader

## Achievements

**Dean's Honour List** (80%+ GPA, 27+ credits), **1<sup>st</sup> Place** UBC 2020 Software Engineering Competition (28 teams, 100+ participants), **4<sup>th</sup> Place** Machine Learning Competition (20 teams), **Honourable Mention** nwHacks 2021 (Western Canada's Largest Hackathon; 197 teams, 776 participants), **Intel Recognition Program** (\$200+)

## Technical Projects

### 3D-O (Web Application) – In Progress (Personal Project)

Winter 2021

*React.js, MobX, Three.js, Node, Express, JavaScript, HTML, CSS*

- Mission: to combat COVID19 by sharing my creative, lifelong hobby, 3d-origami, to promote social distancing.
- 3D project-modelling interface via Three.js; Paint-by-pixel interface via React, MobX State Tree.

### Daily Dash (Mobile Application) – 1<sup>st</sup> / 28 Teams (Course Project, Team of 4)

Fall 2020

*React Native, MobX, Node, Express, JavaScript, TypeScript, Firebase, Docker, MongoDB, AWS, Jest, Travis, Android*

- Mission: to empower users across all walks of life to achieve their life goals via regular, repeated efforts.
- Dynamic forms via React Native, MobX State Tree; Push notifications, user authentication via Google Firebase.

### Machine Learning Robot Competition – 4<sup>th</sup> / 20 Teams (Course Project, Partnership)

Fall 2019

*Python, OpenCV, Keras, Robot Operating System, Gazebo Simulator, Linux Operating System*

- Mission: to program a simulated robot for a Robot Operating System machine learning competition.
- Autonomous navigation via OpenCV, reinforcement learning, and image processing tools in Python.
- Convolutional neural network, implemented with Keras, identifies alphanumeric characters with 99% accuracy.

### Robot Competition – Top 3 / 16 Teams, Time Trials (Course Project, Team of 4)

Summer 2019

*C++, Arduino Integrated Development Environment, STM32 Blue Pill Microcontroller*

- Mission: To prototype and build a tape-following, stone-collecting robot for a student competition.
- Accurate PID control algorithm and C++ state machine enable autonomous navigation and functionality.