Reese Critchlow

Software Development

JavaScript	React	HTML/CSS	AWS
Python	React Native	SQL	TensorFlow
Java	Arduino	Linux/UNIX	Git/GitHub
C++	Common Lisp	MATLAB	ROS

Electrical/Mechanical

Circuit Design and Analysis
Soldering
Oscilloscopes
CAD Prototyping

Education

3rd Year Engineering Physics (BASc) Student | University of British Columbia, Vancouver

Dean's List, Club Lead of the UBC Nordic Ski Team

Technical Work Experience

Software Developer Co-Op, Processor Development | D-Wave   May 2023—Current

- Creating new features in a Common Lisp codebase responsible for controlling quantum processors.
- Interfacing with Jenkins CD in order to bring more descriptive and comprehensive testing results to developers and scientists.
- Working alongside physicists to bring new insights to processor development-related issues through software solutions.

Key Skills Employed: Common Lisp, Jenkins

Software Developer Co-Op | Brave Technology Coop   January—April 2022

- Developed an internal web app to streamline product provisioning with a comprehensive user interface in React.
- Interfaced with several APIs for services such as AWS, ClickUp, Twilio, and Particle IoT.
- Constructed endpoints in Express.js to communicate data to and from a PostgreSQL database.
- Contributed to the operations of the company through company-wide presentations, product provisioning, client support, and installations in supportive housing facilities across Greater Vancouver.

Key Skills Employed: JavaScript, React, HTML/CSS, SQL, HTTP, AWS, Express.js.

Technical Projects

License Plate Identifying Robot   September—December 2022

- Constructed control software for a simulated robot in a Gazebo environment using Python and ROS.
- Implemented a neural network in TensorFlow to classify on-robot camera images into driving action states in order to navigate a road network.
- Utilized OpenCV and techniques in computer vision to identify environmental features and reduce dimensionality of images for integration with neural networks.

Key Skills Employed: Python, ROS, TensorFlow, OpenCV, Linux/Unix

Treasure Collecting Robot   May—August 2022

- Worked in a team of four to build and design electrical, mechanical, and firmware systems for an autonomous treasure collecting robot, which finished 4th out of 16 teams in a class-wide competition.
- Developed state machine and sensor/actuator drivers for the robot in C++ to run on an STM32 microcontroller.
- Designed and fabricated an infrared signal filter/processing system, a reflectance sensor tape tracker, and a motor encoder guidance system to aid the microcontroller in navigating the competition surface.

Key Skills Employed: C++, Arduino, Circuit Design and Analysis, Soldering

Additional Work Experience

Fire Crew Member and Strike Team Leader | BC Wildfire Service · Summer 2021

- Worked in crews of 4-5 people to suppress and control wildfires in both the initial attack and sustained action phases of fire control, with fires ranging between sizes of 10m x 10m spot fires to hectare fires of note.
- Managed the objectives and operations of 5-12 contract wildfire fighters, 2 contract tree fallers, and heavy equipment in order to manage suppression efforts on a division of a 7000 hectare fire.
- Operated several pieces of specialized equipment for wildfire management such as chainsaws, pumps, trucks and ATVs.
- Created an Excel spreadsheet which calculated gear weights to fit within helicopter payload specifications, which was used by crews across the province.

Lifeguard and Instructor | Vancouver Parks Board · Summer 2019

- Maintained the safety of Vancouver's largest aquatic facility alongside a team of lifeguards.
- Supervised patrons, enforced safety procedures, and assisted with the upkeep of the facility.
- Delivered Canadian Red Cross swim lesson to children aged 4-12.

Activities and Involvement

Co-Club Lead and Safety Officer | UBC Nordic Ski Team · September 2022—Present

- Representing the UBC Thunderbirds as a cross-country skier, while also working as a team executive to build and maintain a cohesive, successful team and community.
- Overseeing and leading both a strong executive team and greater team of athletes in the development of a successful and inclusive team environment.
- Organizing racing and training logistics for 23 athletes, including transportation, accommodations, and equipment management.

Novice Team Member | UBC Rowing Team · September 2021—April 2022

- Trained and competed with the UBC Rowing team while taking on a full Engineering course load.
- Competed against Division 1 schools.

Certifications

- Emergency First Aid (CPR-C)
- WorkSafeBC Transportation Endorsement
- BC Forestry Council Power Saw Operator
- S-100 Basics of Wildfire Suppression
- S-270 Basic Air Operation Safety