

Reese Critchlow

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Software Development

Javascript	React	HTML/CSS	AWS
Python	React Native	HTTP	TensorFlow
Java	Arduino	Linux/UNIX	Git/GitHub
C++	SQL	MATLAB	ROS

Electrical

Circuit Design and Analysis
Soldering
Oscilloscopes

Education

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

Dean's List, Travel and Safety Officer on the UBC Nordic Ski Team

Technical Work Experience

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.
- Created and implemented an organizational tool in ClickUp to transition sales orders to the technical team.
- 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

Wikipedia Page Traverser

December 2021

- Implemented a breadth-first search algorithm, search tree, in conjunction with a Java Wikipedia API to identify the shortest path of links between one Wikipedia page to a chosen destination page.
- Created a finite-time, finite-space buffer to cache and process large amounts of data incoming from the Wiki API.

Key Skills Employed: Java

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

Travel 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.
- Organizing racing and training logistics for 23 athletes, including transportation, accommodations, and equipment management.
- Coordinating team first aid to ensure safety at all team practices and events.

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