

Caleb Bourbonnais

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EDUCATION

University of Calgary

Bachelor of Science in Software Engineering, Minor in Entrepreneurship and Enterprise development

Bachelor of Commerce in Finance, Minor in Data Science

- Dean's Honour List; Cumulative GPA: 3.5/4.0

Calgary, AB

Sep 2022 – Apr 2027

Sep 2021 – Sep 2022

SKILLS

Programming Languages

Python | C++ | C | Java | TypeScript | R

Technologies

AWS Amplify, EC2, S3, EBS | Docker | React.js | React Native | Expo | Jira | Qt | SQL | Git

EXPERIENCE

OGL Engineering

Calgary, AB

Geomatics Engineering Intern

May 2023 – Sep 2023

- Operation of Teledyne Galaxy LiDAR sensors in an aircraft. Created weather logging scripts with **python** to aid in the efficiency of survey lines chosen for production, decreasing point cloud classification time by **~10%**.
- Backend development of a **React Native** flight crew utility app. Utilizing **Node.js** and **SQL** to centralize flight reports and track progress of survey crews, increasing the efficiency of the flight data gathering process by more than **50%**.
- LiDAR data processing. Performed classification of LiDAR point clouds using Terrascan, improving the accuracy of terrain models.

Halton Tool & Fabricators

Burlington, ON

Machinist Millwright Apprentice

Feb 2018 – Apr 2020

- Manufacturing and installation of assembly line equipment. Utilized excel to track and analyze production data to identify and eliminate bottlenecks in the manufacturing process of different projects.
- Development of CNC code for manufacturing projects using BobCAD software. Imported design decisions and notes into excel to aid in the design process for similar parts, resulting in a decrease in future project design time by **~25%**.

Loblaws

Calgary, AB

Department Supervisor

May 2017 – Feb 2018

Grocery Clerk

Aug 2015 – May

2017

- Managed operations for a grocery department, overseeing team performance and inventory. Fostered a culture of teamwork and accountability, resulting in consistent quarterly increases in department profitability and customer satisfaction.

EXTRACURRICULAR

University of Calgary Solar Car Team

Calgary, AB

Software Team Lead

Aug 2023 – Present

Telemetry Team Member

Oct 2022 – Aug 2023

- Leading a team of 26 in the development of "Schulich Helios" - 6th generation Solar MOV. Optimized our teams' planning and assignment of tasks using **Jira** and **Confluence**, increasing output by **~20%** in accordance with **Agile** development practices.
- Backend development of an onboard data processing tool using **C++** and **Qt**. Converting bitstream data into JSON format, supplying data to the telemetry site and vehicles gauge cluster via **MQTT**.
- Full Stack development of a Telemetry site utilizing **React.js** with **TypeScript** and **Tailwind.css** to display live vehicle data. Oversee and maintain the team's **AWS EBS** and **EC2** instances to ensure application reliability and scalability.

NOTABLE PROJECTS

PuckJourney

Jan 2024 – July 2024

Full Stack web application

- Ice hockey trivia game where the user guesses which teams NHL players have played for. Built using **JavaScript** with a **Python Flask** back end, utilizing the NHL API to provide content to **~30** daily users.
- Migrated to **React Native** with **Expo** and hosted using **AWS amplify** to greatly improve product scalability.

CT Survivor

Feb 2023 – Apr 2024

Mobile handheld game in C

- Development of a handheld game for first-year engineering design class. Built using an **Arduino** Mega and TFT color display. Made use of Arduinos EEPROM memory to create efficient saved games and user progress for players, achieving the title of the **best** designed game.

AutoGarden

Jan 2023 – Feb 2023

Embedded Programming

- An automated 3d printed garden box designed in **Solidworks** and controlled by an **Arduino** development board. Able to maintain a small herb garden using UV light strips and an Adafruit soil sensor to detect soil moisture levels.