

# 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 MYSQL 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" - 6<sup>th</sup> 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.