

# Timothy Macphail

Calgary, AB

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## EDUCATION

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**Bachelor of Science, Computer Science** | University of Calgary

📅 Sept 2020 – April 2024

- Cumulative GPA: **3.95/4.00**
- Awards: Louise McKinney Scholarship (for outstanding academic merit), Dean's List, U of C Entrance Scholarship
- Courses: Data Structures, Design and Analysis of Algorithms, Object-Oriented Programming, Computer Networks

## EXPERIENCE

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**Project Manager** | Tech Start UCalgary

📍 Calgary, AB 📅 Sept 2022 – Present

- Received **over 200 project member applications** during first 8 days of recruitment for the 7-month project
- Cemented a focus on accessibility by applying a task centered system design approach in the early requirements gathering phase

**Software Developer** | Schulich Ignite

📍 Calgary, AB 📅 Feb 2021 – Present

- Owned the design and implementation of an automation solution for a spreadsheet system, using the **Google Apps Script** API, saving club executives **1.5+ hours** of manual data entry per week
- Addressed bugs to maintain the custom Spark library, enabling students to draw in **Python** with minimal code

**Undergraduate Research Assistant** | Mount Royal University

📍 Calgary, AB 📅 May 2022 – Aug 2022

- Created, analysed, and simulated in **C++** a set of novel randomized scheduling **algorithms** that improved the asymptotic tail of job response times by up to 16% compared to a first-come-first-served algorithm
- Visualized simulation outputs by coding user-friendly Matplotlib **Python** scripts, allowing fellow researchers to understand **100-million-line** simulator outputs in seconds

**Frontend Developer** | Relectric Car Team

📍 Calgary, AB 📅 Oct 2021 – Sept 2022

- Worked closely with an interdisciplinary team of students converting a 1966 Volvo into a modern electric vehicle
- Created the car's infotainment and dashboard user interfaces using Ionic **React**, meeting feature goals and collaborating with the sensors team in an **Agile** environment

**Coding Mentor** | Schulich Ignite

📍 Calgary, AB 📅 Feb 2021 – Oct 2021

- Guided groups of 3-6 high school students in learning **Python** by assisting them create their own games
- Leveraged Discord to create an inclusive online learning environment, leading to increased student engagement

## PROJECTS

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**Password Manager** | University Project

📅 April 2022

- Developed a fully functional and secure web-based password manager using the **MERN** stack
- Organized the team by coordinating weekly meetings and keeping track of tasks and their timelines, leading to the successful completion of the project on time and an **A+ grade**

**Point Tracker** | Volunteer Project

📅 July 2021

- Made a series of scripts in **TypeScript** to create, configure, and update spreadsheets for Schulich Ignite using the **Google Apps Script API**, eliminating the need to manually configure the sheets and transfer data

**River-Surf-Conditions** | Personal Project

📅 June 2022

- Used a **TensorFlow.js** machine learning model to predict the quality of river waves based on open-source data provided by Alberta Environment and Parks, presented on a **React** front-end

## TECHNICAL SKILLS

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**Languages:** Python, C++, Java, JavaScript, TypeScript, SQL, Bash, HTML5, CSS3, LaTeX

**Frameworks:** React, Express, JUnit, MapReduce, Google Apps Script, MongoDB, TensorFlow.js

**Tools:** Git, Linux, Docker, Figma