

# Ethan Darbourne

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## SKILLS

Languages: C#, C/C++, Python, SQL, JavaScript/TypeScript, HTML/CSS, Java, Scala

Technologies: Git, MySql, PostgreSQL, TailwindCSS, .NET, Spark, Hadoop, NATS, Google Cloud, Kubernetes, React, Node.js, Express

Concepts: Relational Databases, Unit Testing, Full-Stack, Backend, Agile

## EXPERIENCE

### Geotab Inc.

Waterloo, ON

#### Software Development Intern

May 2024-Dec 2024

- Led project to create a custom client to make API calls with an internal SDK, replacing an RPC client that improved reliability to 99% and increased robustness of our deployed service
- Created full testing suite for all calls, with nightly scheduled routines running all tests, allowing for quick identification of correctness issues
- Designed end to end solution for message passing between internal systems using NATS, replacing outdated file I/O system that allowed for better scalability and a total of 30 000 000 messages to be processed per second
- Received the highest co-op term rating of Outstanding in both terms

### Titanium Agency

Waterloo, ON

#### Software Engineer (Co-op)

Sept 2023-Dec 2023

- Created effective research tools, connected to a business partner's API, for campaign managers to view estimated statistics, increasing campaign efficiency.
- Led implementation of responsive layouts and optimizing UI for mobile users, providing campaign managers the flexibility to upload campaigns from anywhere.
- Received an Excellent co-op rating, the second highest available

### JaggedXY

Stratford, ON

#### Senior Developer

May 2022-Aug 2022

- Created a reusable web grid control for displaying and editing data. Written in TypeScript to connect to JaggedXY's custom API backend libraries. Replaced a commercial library and gave JaggedXY's UI the ability to display millions of rows efficiently
- Designed and implemented an enhanced data pruning routine, dramatically decreasing the chances of records being lost due to system integration failures. Also implemented historical tables to provide audit trails
- Created a performance dashboard for carriers to monitor statistics with charts. Customization of chart axis and aggregate functions added.

### JaggedXY

Stratford, ON

#### Junior Developer

Sept 2021-Jan 2022

- Created a wrapper library in C# to automate the generation of Excel reports for clients, including pivot charts and pivot tables. Researched and recommended the appropriate open-source libraries
- Extended functionality of JaggedXY's custom compiler by enhancing the grammar to compile SVGs, users, filters, and expressions. Quickly learned how a language compiler works
- Received the highest co-op term rating of Outstanding as well as a "Contribution and Performance Award", along with a cash bonus in both terms

## PROJECTS

### Microkernel

Completed

- Built a preemptive real-time microkernel in C for ARM architecture with message passing, priority scheduling, interrupt handling, and hardware I/O control, deployed on embedded systems

### Valorant Stats Tracker

In Progress

- Developed a full-stack Valorant stat tracker using React, Tailwind, TypeScript, and PostgreSQL, enabling users to study tournament games for deep performance analysis.

### Fantasy App

Completed

- Designed a multi-layered model using PyTorch libraries trained on thousands of rows of data that was capable of predicting scores within 2 points 79% of the time.

## EDUCATION

Bachelor Of Computer Science

September 2020-May 2025

University of Waterloo