









Education

University of Waterloo • Bachelor of Computer Science Honors

Sept 2019 - April 2024

- Specialization in Artificial Intelligence, Minor in combinatorics and Optimization
- 96% Major Average, 90% Cumulative Average

Experience

Replit • Software Engineer

May 2022 - Aug 2022

- Created services to dynamically edit TOML and Nix files to enable the creation of visual interfaces and additional integration with Repl config files by leveraging **CST parsers** in **Rust** and **Golang**.
- Improve Github imports to use Nix Repls and optimized it to outperform competitors by 100%.

Huawei Technologies • Software Engineer

Sept 2021 - Dec 2021

- Supported the development of an LLVM based Bisheng C++ compiler and the SYCL framework.
- Improved loop vectorization on **SYCL** host devices for **AArch64** by hoisting and sinking atomic memory operations to increase performance by 5%.

Orbis Investments • Software Developer

Jan 2021 - April 2021

- Created a utility using **C#**, **.Net**, and **SQL Server** to automatically verify data within factsheets, reports, and the database enabling the automation of client report delivery and reduction of human error by 50%.
- Implemented a search utility using **Angular**, **Typescript**, and **ASP.NET** to filter reports and issues by meta-data and content to allow business teams to easily retrieve desired information.

Dragonsoft Digital • Software Engineer

May 2020 - Aug 2020

- Prototyped an Atlassian application using **React**, developed authenticated API routes using **NodeJS** and **ExpressJS**, and updated server logic to improve performance and handle hundreds of requests per second.
- Setup continuous deployment pipelines from a Bitbucket to an AWS EC2 instance increasing deployment velocity by 200%.

SET Foundation • Software Developer

Jan 2018 - Jan 2019

- Created, and maintained the SetHacks & website using **React** which regularly had 100+ views per day at its peak.
- Developed a basic electrical grid simulator using Python to evaluate the solutions for a design challenge

Projects

Decentralised Mahjong • Typescript, Zustand, Ethereum, Solidity, ThreadDB, 3ID

 Created a fully decentralised Mahjong application with betting using the Ethereum network and leverages peer to peer networks for in game communication.

OpenVtuber • Python, Typescript, Dlib, Pytorch, Three.js 🔗

- Designed and developed a full body tracking module for an open-source interactive virtual presence tool.
- Optimized back-end logic to improve performance and usability several fold for slower machines.

Lisp++ Interpreter • Rust 🔗

- Designed and implemented an interpreter for a Lisp like shell scripting language.
- Supports many standard features including variables, loops, lists, conditionals, functions, modules, and an stdlib.

Skills

- Languages: Python, Javascript, Rust, Go, C++, Haskell, C#
- Tools/Technologies: SQL, React, ExpressJS, LLVM, TensorFlow, AWS

Awards

- 2nd Place: Don Mills Programming Gala Gold Level: Local
- Tournament Champions: Vex Robotics Competition Terrebonne