

Education

Bachelor of Computer Science and Minor in Mathematics

Expected June 2025

University of Toronto St. George

Dean's List Scholar Award, GPA of **3.94/4.00**, **\$2000** UofT Entrance Scholarship, and Recipient of Dorothy Helen McRobb Scholarship Award for Academic Excellence (**<20** awarded each year).

Experience

Software Development Engineer Intern @ Amazon

May 2023 - Aug 2023 // Toronto, ON

query-tool Developed a React console in the FBA org that allows seller support to query shipping services, massively **reducing** query tickets raised by support members to SDEs. Presented to stakeholders and engineers.

Implemented an exception handler enabling standard error responses from our API, based on [RFC 7807](#). Wrote a library of wrapper components around Amazon's UI library Cloudscape for **react-hook-form**.

patching-cli Designed and distributed an internal command-line **binary crate** that patches changes in a file across multiple files in **Rust** with the choice of `patch(1)` or `diff-match-patch` as used in Google Docs. Wrote a generic concurrent runner that runs async **tokio** jobs on files allowing developers to easily implement new strategies.

Greatly **reduced** our org's efforts of manually copying changes from shipping service config files to other files.

Technologies: TypeScript, Rust, Java, React, React Query, React Hook Form, Zod, Spring, AWS S3, tree-sitter

Software Engineer Intern @ Oracle

May 2022 - Apr 2023 // Toronto, ON

Deployed features and fixed bugs in an email editor, enabling businesses to write mass emails to their user base. Rewrote CCA components into functional React components and wrote integration tests with **react-testing-library**.

Redesigned a dynamic form for creating accounts that **eliminated** rendering issues such as flickering. Rewrote text highlighter component to properly handle **UTF-16** encoded text with surrogate pairs, allowing support for multiple languages as well as emojis. **Halved** weekly bug ticket count through incremental sprint work.

Technologies: TypeScript, Preact/React, Selenium WebDriver, React Testing Library, Chai

Embedded Software Developer Intern @ Ciena

Jan 2022 - Apr 2022 // Ottawa, ON

internal-validation-tool Wrote numerous contributions to a large codebase for a tool designed to test nodes on our network and triage failures, cutting down previously manual outreach. **Parallelized** execution reducing total round trip time by a factor of **~5** through **multiprocessing** and **multithreading**.

Improved user experience of our stats page by reducing time to first byte from **≥2min** down to **~100ms**, processing **40 million** rows from disk in **less than a second** through a memory-mapped data frame, exposed with a non-blocking **gRPC** service. Used caching to reduce docker image build time from **3min** to **5s**.

documentation-rework Proposed and implemented an automated documentation grabber of our internal tools with **Hugo**, improving developer experience and leading to migration of our Confluence documentation.

Discovered a "maximum call stack size exceeded" exception in Hugo docs ([#738](#)) that resulted in an unhandled `RangeError` when many pages (≥ 5000) are added to the Hugo site, addressing the fix in [#739](#).

Technologies: Python, Lua, React, Jinja, gRPC, Flask, MongoDB, MySQL, pandas, Hugo, PyTest, Docker Compose

Projects

Speedrun.com Data Inquiry ↗

Produced a report on **29,000** games and **30,000** speed runs scraped from speedrun.com using Python and PostgreSQL. Designed a DDL schema that eliminates nullables and redundancy based on functional dependency with BCNF decomposition. Asserted **cross-table constraints** in Python to validate data.

gitdown ↗

Built a command-line tool in **Rust** to download **specific** files from a GitHub repository for developer convenience. Sends a buffered, **concurrent** stream of HTTP requests to download files using tokio.

cmp-cargo

A neovim source for nvim-cmp that autocompletes cargo crates and its versions, written in **Lua**. The source is only active within a `Cargo.toml` file.