

Alexander Carvalho

(905) 600 2026 alexcarvalho@alvx.ca alvx.ca linkedin.com/in/alvx github.com/alvxck Mississauga, ON

Student & Software Developer with industry experience building, testing, and deploying user focused applications. Interested in concurrent systems and finance technology; passionate about collaborative engineering and simplicity.

Education

Sheridan College

Expected Graduation: April 2025

Bachelor of Computer Science — BCS | GPA: 3.76

Relevant Coursework Data Structures & Algorithms, C/C++ Program Design, Distributed & Parallel Computing

Extra-curricular President of Sheridan Computer Science Club

Professional Experience

Geotab — Software Developer Intern

Sep 2023 — Dec 2023

Full stack web development in the Citizens Insights codebase

- Facilitated integration and testing of web mapping features within various container registry pipelines
- Reduced API response times by 50% with parallel task processing for vehicle location and route retrieval
- Optimized client-side data fetching during geospatial queries with web workers; improved site initialization performance by 70% (4800 ms → 1400 ms) and decreased bounce rates by 25%
- Utilized Jest to build unit tests for numerous UI components exceeding 90% repository-wide coverage
- Learned about asynchronous web applications (TypeScript, RxJS, Redux, Multithreading, Event Handling)

Ansys — Software Engineer Intern

May 2023 — Aug 2023

Computational Fluid Dynamics R&D Engineering in the Ansys monorepo

- Supported implementation, testing, and release of various simulation-based features across 5 Ansys repositories
- Accelerated microservice deployments by 30% through refactoring batch scripts, Dockerfiles, and CI workflows
- Spearheaded the development and launch of ansys/pyansys-units (400+ weekly downloads) a Python package for units, unit systems, and unit conversions; enhanced community adoption by 15%
- Achieved a 40% reduction setup and teardown overhead by integrating Pytest fixtures within module tests
- Learned about trunk-based development (Python, Pytest, Docker, CI/CD, GitHub Actions)

Other Experience

Sheridan CMI Lab / USARs Data Processing — Undergraduate Research Developer

Jan 2023 — Aug 2023

Machine learning analysis of road surface conditions

- Collaborated on LYNX Computer Vision, analyzing road conditions via dashcam using Python, OpenCV, and YOLOv5
- Built an interface to demo road debris detection using TypeScript, SvelteKit, and Express

Amazon — L1 Operations

Feb 2020 — Jan 2023

Operations at YYZ2

- Led a team of 25 associates, implementing optimal performance strategies to achieve daily shipment targets

Skills

Programming Languages Python, JavaScript, TypeScript, Ruby, C, C++, \LaTeX

Frameworks & Tools React, Node, Express, GraphQL, Jest, Rails, FastAPI, Pytest

Datastores AWS (S3, RDS, DynamoDB), MySQL, MongoDB, Hadoop (HDFS, MapReduce)

DevOps Docker, Git, GitHub, AWS (EC2, Lambda, VPC), CI/CD, Bash

Projects & Open-Source
