

Allison Zhao

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EDUCATION

McMaster University

Sept. 2022 – May 2027

Bachelor of Applied Science in Computer Science with Co-op

4.0 GPA

Achievements: Deans' Honour List 2022-2025, McMaster University Award of Excellence

Relevant courses: Software Development, Software Testing, Operating Systems, Computer Architecture

Extracurriculars: Undergraduate Research Assistant, DeltaHacks VP Logistics, Google Developer Groups

McMaster Open Source Developer, McMaster Quantum Key Distribution Lead Software Developer

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript, Java, SQL (PostgreSQL, MySQL), HTML/CSS, Haskell, Elm

Frameworks: React, NextJS, Flask, OpenCV, YOLO, PyTorch, TensorFlow, Qiskit

Developer Tools: Git/GitHub, Linux, Bash Scripting, Windows PowerShell, REST APIs, Google Cloud Platform, Docker, Postman

EXPERIENCE

DevOps Engineer

May 2025 – Present

Huawei Technologies Canada

Markham, ON

- Automated on-demand benchmarking processes by developing robust **Bash scripts**, reducing test execution time by **40%**
- Designed and executed performance SQL benchmarking queries on GaussDB – an enterprise-grade distributed relational database, identifying optimal parameter configurations that improved query throughput by **15–20%**
- Implemented comprehensive regression test suites in **PostgreSQL** and robust unit tests in **C** for TaurusDB – a cloud-native relational database, ensuring feature stability and preventing performance regressions prior to production release

Undergraduate Research Assistant

May 2024 – Aug. 2024

McMaster University

Hamilton, ON

- Architected and implemented a RISC-V backend in **Haskell** by formally modeling the instruction set semantics from the official specification
- Ensured correctness through rigorous testing and optimization for performance, creating a functional compiler for a modern **Instruction Set Architecture**
- Achieved a **26%** speedup in compiled code performance by optimizing the RISC-V backend, outperforming previous implementations for IBM Z and POWER architectures developed in the same codebase

Coding Mentor

May 2024 – Aug. 2024

STaBL Foundation

Hamilton, ON

- Planned and hosted coding workshops in Elm (a domain-specific programming language for creating web browser-based graphical user interfaces) for **200+** students from local schools
- Delivered a curriculum that enabled **80%** of participants to successfully deploy their first creative coding project
- Secured a **85%** retention rate, with participants returning for advanced workshops and engaging in coding outside the sessions

PROJECTS

Rexflexion | Python, Flask, REST APIs, React, JavaScript, YOLO, OpenCV

Jan. 2024

- Developed a **Flask**-based **REST API** with 6 CORS-enabled endpoints for image processing and AI-powered content generation
- Implemented YOLO object recognition API using **Python**, **OpenCV**, and **Ultralytics YOLO** models to detect and classify **40+** object classes in images with **90%** accuracy
- Built a responsive **React** Single-Page Application (SPA) for 3-page navigation (Landing, Upload, Gallery), supporting **10+** concurrent users