

Aditya Rao

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EDUCATION

McMaster University

B.Eng in Software Engineering (CO-OP)

Hamilton, ON

Sept 2023 – Apr 2028

- 3.99/4.00 CGPA - Dean's Honour List
- Relevant Coursework: Digital Systems, OOP, Discrete Math I & II, Intro to Software Design, DSA, Computer Architecture, Software Development Basics

EXPERIENCE

Software Developer Intern

IBM

May 2025 – Aug 2026

Markham, ON

- Developing WebSphere Application Server v8.5.5, v9.0, WebSphere Liberty, and OpenLiberty and the tools which support development.
- Re-engineered a suite of 4 internal legacy tools from scratch, modernizing the UX, standardizing Docker deployments, and establishing the first Unit/Integration testing pipelines to eliminate manual verification.
- Optimized the core data processing tool within this suite, replacing heavy framework overhead with custom API wrappers to reduce execution time by 99% (from 10 mins to ~4 secs).
- Refactored the critical Product Installation Verification Suite, migrating 20+ legacy FAT tests to a unified framework which enhanced debuggability and system reliability.

Full Stack Developer Intern

Medium AI

May 2024 – Aug 2024

Hamilton, ON

- Developed and maintained React and TypeScript code for Medium AI, contributing to 2 first-place and 1 second-place finishes in the McMaster Startup Survivor competition, and helping secure \$10,000 in funding.
- Implemented real-time speech transcription using Python, OpenAI Whisper, FFmpeg, and Socket.IO

PROJECTS

WebCraft | 🌐 | C++, CMake, Vcpkg, Asynchronous Programming, Github Actions

Apr 2025 – Sept 2025

- Developed an asynchronous runtime and programming library using C++ 23 features to allow developers who are used to Node.js, Python, and Java to write fast and simple async C++ code easily.
- Created coroutine abstractions, the async runtime, async streams, file and networking module abstractions over low level OS specific async library code to simplify cross-platform C++ development.
- Created CI/CD pipelines and created over 130+ tests to verify correctness using gtest, CTest, Vcpkg, and Github Actions to ensure code quality and reliability.
- Created a vcpkg port so developers can easily access it.

Resume Builder | 🌐 | Java, Spring Boot, Next.js, Typescript, Python, FastAPI, LangChain, Docker

Aug 2024 – Feb 2025

- Developed an AI-powered resume builder for automated resume creation, scoring, and real-time editing.
- Improved resume management by reducing manual effort in tailoring resumes for job applications.

FashioNova | 🌐 🌐 | Typescript, Next.js, Python, Socket.io, OpenCV, Cloudflare AI, Flask

Oct 2024 – Oct 2024

- Developed a virtual wardrobe and AI fashion advisor in 36 hours at Hack the Valley 9 at UoT Scarborough
- Created an OpenCV pipeline using Python Flask and Socket.io to fit virtual clothes onto users via live video feed
- Leveraged Cloudflare AI to suggest outfits based on the occasion, promoting sustainable fashion consumption.

Smart Study Buddy | 🌐 🌐 | Python, Flask, Wolfram Alpha API, OpenAI API, Next.js, Typescript

Oct 2024 – Oct 2024

- Developed a virtual wardrobe and AI fashion advisor in 36 hours at Hack the Valley 9 at UoT Scarborough
- Created an OpenCV pipeline using Python Flask and Socket.io to fit virtual clothes onto users via live video feed
- Leveraged Cloudflare AI to suggest outfits based on the occasion, promoting sustainable fashion consumption.

QuakeGuard | 🌐 🌐 | Next.js, Flask, Typescript, Python, TensorFlow, Keras, SciKit Learn, Pandas

Jan 2024 – Jan 2024

- Developed an earthquake prediction tool using ML models showcased at DeltaHacks X and GDSC McMaster
- Visualized global earthquake data and high-risk areas with Next.js and Python, Flask, SciKit Learn, and TensorFlow

EXTRA CURRICULARS

Sys-Admin and Fullstack Developer Executive

IEEE McMaster Student Branch

Nov 2024 – Present

Hamilton, ON

- Set up an RPi 3B+ Cluster for a server to handle up to 100 clients in an instant with a budget of \$5000
- Managed and provisioned a CI/CD pipeline which generates Docker images for our Kubernetes cluster
- Developing the website for the IEEE student branch and the admin dashboard for executives to manage

TECHNICAL SKILLS

Languages: Java, Python, SQL, .NET Framework, C, C++, JavaScript/TypeScript, Verilog

Frameworks: Spring Boot, Jakarta EE, MicroProfile, Hibernate, Express, Next.js, FastAPI, Flask, UWP

Developer Tools: VS Code, IBM Bob, Eclipse, AWS, GCP, Git, Github, Docker, OpenShift, Kubernetes, Databases

Libraries: Pandas, TensorFlow, OpenCV, SciKit Learn, JavaFX, Redux, JQuery, React, Mongoose

Hobbies: Sketching, Painting, Violin (Western and Carnatic), Badminton, Swimming, Chess

CERTIFICATIONS

Clean Code

September 2025

Udemy

IBM Agile Explorer

September 2025

IBM

The DevOps Essentials - The Handbook

September 2025

Udemy

Introduction to Containers, Kubernetes, and OpenShift

August 2025

IBM

Practical OpenShift for Developers - OpenShift 4

August 2025

Udemy

[NEW] Ultimate AWS Certified Cloud Practitioner CLF-C02 2025

February 2025

Udemy

Docker & Kubernetes: The Practical Guide [2025 Edition]

January 2025

Udemy