

Aaron Loh

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EDUCATION

B.Eng in Software Engineering with Co-op

McMaster University · Hamilton, ON · Sep 2022 - May 2026 · 3.8

- Relevant Coursework: Databases, Software Design, Object-Oriented Programming, Data Structures and Algorithms, Requirements
- Awards: Dean's Excellence Entrance Scholarship, Engineering Research Experience Award
- Involvement: 3rd Year Software Engineering Society Representative and Events Executive, Peer Support/Discussion Group Host

SKILLS

Languages: Python, JavaScript, Java, HTML, CSS, SQL

Frameworks & Technologies: React, Node.js, MongoDB, React Native, Express.js, Flask, RESTful APIs

Tools & Platforms: Figma, Git, Linux, Docker

EXPERIENCE

Research Assistant Co-op

McSCert (McMaster Centre for Software Certification)

May 2023 - August 2023, Hamilton, ON

- Contributed to the development of **jPipe**, a **Java**-based tool for analyzing **CI/CD pipelines** in **GitHub Actions**, implementing a **domain-specific language** to streamline complex workflow analysis and enhance code change justification
- Architected an efficient system for analyzing **YAML file evolution** and generating dynamic pipeline diagrams, using object-oriented patterns such as the **Visitor Pattern**, while contributing to jPipe's **open-source** codebase
- Assisted in an extensive case study of **Docker Compose**, helping analyze approximately **50 commits** to trace the evolution of their GitHub Actions pipeline using jPipe, demonstrating the tool's practical application

PROJECTS

LureLore

Hack the North · September 2024

- Secured a **top 12 finalist** position out of **240+ projects** and **1000+ participants** at **Hack the North 2024**, Canada's largest hackathon, with **LureLore**: an innovative fishing companion app
- Developed a full-stack web application using **React**, **Three.js**, and **Express.js**, featuring a **3D virtual aquarium** UI and interactive map (LeafletJS API) for a unique user experience
- Implemented advanced features including **real-time catch location sharing**, efficient data management with **MongoDB**, and user authentication for enhanced community engagement
- Integrated **Google's Gemini AI API** for **image classification** and **dynamic story generation**, enabling **automated fish species identification** and personalized content creation

IBM Full Stack Software Development Certificate Projects

Coursera · July 2024 - September 2024

- Emotion Detection Web App: Developed a full-stack application using **Python (Flask)** backend and JavaScript frontend, integrating **IBM Watson NLP API** for sentiment analysis of user-input text
 - React Plant Store: Built a responsive e-commerce web application using **React**, implementing features such as product listing, shopping cart functionality, and state management with **Redux**
 - Book Reviews API: Created a **RESTful API** using **Express.js**, featuring user authentication with **JWT**, **CRUD operations** for book reviews, and search functionality by ISBN, author, and title
 - Currently developing a full-stack application for the IBM Full Stack Software Development Certificate capstone, integrating **Django**, **React**, **Node.js**, and **MongoDB** to create a **microservices-based** car dealership platform with **CI/CD pipeline** and **Kubernetes** deployment
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