

Jason Hon

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EDUCATION

University of Waterloo

Bachelor of Computer Science, Artificial Intelligence Specialization

Waterloo, ON

Sep 2023 - Present

- **GPA: 3.95/4.0** (CAV: 91.5%, Candidate for Dean's Honors List)
- Courses: Algorithms, Data Structures, Object Oriented Programming, Compilers, Computer Architecture
- Awards: CS Intl. Upper Year Scholarship, Presidential Scholarship of Distinction (Totaled CAD \$8000)

EXPERIENCE

Software Engineer Intern

Jan 2025 - Apr 2025

Huawei Canada

Markham, ON

- Designed and introduced an **MLIR** compiler pass in **C++** to annotate computation graphs with sharding metadata, improving parallel computing performance on GPU and NPUs significantly
- Implemented and researched constraint-driven optimizations to guide parallelization plan generation for deep learning training, achieving up to **3.5x** speedup over state of the art solutions on various **LLM** models
- Resolved a critical issue in MLIR's **mesh dialect** during **SPMD** transformations by improving support for certain sharding configurations, improving computation time by **50%** by enabling better parallelization plans generation

Software Developer

Sep 2024 - Present

University of Waterloo, Computer Science Club

Waterloo, ON

- Developed and maintained CodeyBot, a feature-rich Discord bot, leveraging **TypeScript**, **Docker**, **SQLite**, **Discord.js**, and **Sapphire**, to deliver features such as mock interview scheduling, auto-mod and minigames
- Collaborated with a **team of 11**, conducting code reviews and weekly Scrum meetings to drive innovative features, resulting in CodeyBot's successful deployment to a server with **over 4,500 members**

Undergraduate Teaching Assistant

Sep 2024 - Dec 2024

University of Waterloo, School of Statistics and Actuarial Science

Waterloo, ON

- Coordinate with Professor Faisal Al-Faisal to evaluate assignments and exams for a second-year probability course with **150 students**, ensuring accurate and timely feedback

Software Developer

Jun 2023 - Aug 2023

Bonumcare

Remote, Freelance

- Engineered and deployed a **GPT-3.5** based "Conversation Buddy" chatbot designed for the elderly on **AWS EC2**, enabling seamless daily interactions by engineering scalable **RESTful APIs** on an **Express** server
- Redesigned the chatbot user interface using **React**, **HTML**, and **CSS**, resulting in a **90% satisfaction rate** from elderly users, and enhancing usability and accessibility by streamlining interactive design principles

PROJECTS

UWCompass - Course Planner 🧭

Aug 2024 - Present

- Built a **React** web application that streamlines the course planning process for Waterloo students by analyzing transcripts to identify required courses for degree completion, scraping and organizing data for **5,000+** courses and programs using **BeautifulSoup**

Chess Engine ♟️

Jun 2024 - Aug 2024

- Designed and developed a Chess engine in **C++** with **AI** opponents of varying difficulty, using an evaluation algorithm based on piece weights and strategic factors, while adhering to **Object-Oriented Design** principles and design patterns (MVC, Observer, Factory) to ensure a maintainable and scalable codebase

SLMod - Minecraft Mod 🎮

May 2021 - Dec 2023

- Maintained and developed a portable Java game modification used by over **40 daily users**, and deployed a **Flask**-based user-tracking system on **AWS EC2** with **MongoDB**, successfully managing and visualizing over **6,800 user log-ins** on an online dashboard

SUMMARY

Languages: C/C++, Java, JavaScript/TypeScript, Python, SQL, HTML/CSS, Scala, Racket

Frameworks: React, NodeJS, Angular, NextJS, Flask, Express, Tailwind, LLVM/MLIR, GraphQL, Sapphire

Technologies: Git, Docker, AWS, MongoDB, MySQL, Unix/Linux, Bash, Valgrind

Extracurriculars: Hack The North Hacker, UWCSA Marketing Executive, YouTube Channel (20k+ subscribers)