

Jerry Hou-Liu

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EDUCATION

McGill University

Bachelor of Engineering in Computer Engineering

Sep. 2019 – May 2024

Montreal, QC

EXPERIENCE

Software Developer Intern

Hikvision Canada

May 2022 – Apr. 2023

Montreal, QC

- Developed features and bug fixes as a **full-stack developer** for two enterprise projects in an **agile** team of 12
- Helped **successfully ship** the first build of an enterprise big data project by implementing 5 major features and several smaller enhancements
- Produced responsive user interfaces using **JavaScript, HTML, CSS, React.js, and Vue.js** on a **Node.js** server, including an **interactive map** with dynamic graphics capable of displaying 100+ markers using OpenLayers
- Improved server backend and desktop projects using **C++, PostgreSQL, and Qt**, integrating them with the frontend using **REST APIs**
- Managed changes and pull requests using **Git with Sourcetree and Bitbucket** and **SVN with TortoiseSVN**
- Discussed ideas and kept track of progress using **Confluence** for technical documentation and **Jira** for tickets

PROJECTS

Concretize (Software Tool and Associated Paper) | *Node.js, Vue, Python, Flask*

May – Aug. 2024

- Worked in a group of 3 to develop a tool for generating scenarios for **autonomous vehicle testing** from specifications written in our **domain-specific language**
- Developed a **full-stack web application** to provide the tool with an easy-to-use interface
- Accepted as a submission to the **2024 ACM/IEEE MODELS Conference**

Smart RSS Reader (Personal Project) | *Node.js, Vue, Python, Flask, SQLite*

May 2024

- Independently devised and implemented a **full-stack** web application that **intelligently fetches, categorizes, and ranks** RSS stories
- Used **Natural Language Toolkit** to help **identify keywords** and perform **sentiment analysis**
- Applied **threading** and user interface design tricks to keep the program responsive, even with 100+ RSS sources

Fantasy Football Web App | *Node.js, React, Java, Springboot, PostgreSQL*

Jan. 2024 – Apr. 2024

- Developed a **full-stack web application** in a team of 10 as part of a software engineering practice course
- Applied **agile** and **scrum** practices to enhance collaboration, while using **automated testing of user stories** to validate work and guide implementation
- **Led the development** of a responsive frontend user interface using modern web technologies

AI-based Board Game Agent | *Python*

Nov. – Dec. 2023

- Developed an **artificial intelligence** agent in a group of 2 for a special in-class board game as the final project in an artificial intelligence course
- Applied **Monte Carlo tree search** to produce an agent that intelligently reacts to the opponent's moves

Truck Routing Program (CodeJam XI Hackathon) | *Python*

Feb. 2022

- Worked in a team of 3 in a span of **48 hours** to implement a program that plans out routes for truckers based on distance, cost, and profit
- Applied **simulated annealing** to approximate solutions to a difficult problem that could not be feasibly solved using brute force
- Won **Best Beginner Hack** and 3rd place in the **123Loadboard Challenge**

TECHNICAL SKILLS

Coding and Database: Java, Python, C/C++, C#, JavaScript, SQL, MongoDB

Web Development: Vue.js, Vuex, React, CSS, HTML

Developer Tools: Git, SVN, Jira, Confluence, VS Code, Visual Studio, Eclipse

Languages: English (fluent), Mandarin Chinese (fluent), French (intermediate), Japanese (basic)