CHRISTIAN ZHOU
Software Developer Intern

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Highlight of Qualifications

- Currently enrolled in the Bachelor of Science Computer Science Co-op program at McMaster University, eligible for a 4-12 month co-op internship starting in September 2024.
- Hands-on experience in developing web applications through various personal and hackathon projects, showcasing ability to quickly learn and adapt new frameworks and programming tools.
- Proficient in web programming languages and tools such as HTML/CSS, JavaScript, the React framework and Tailwind, having utilized these in personal projects and competitions.
- Strong understanding of core programming and computer science concepts, with knowledge of HTTP, the DOM, MVC architectures, REST architecture and Web APIs.
- Proven time management and problem-solving skills in fast-paced, high-pressure environments.
- Strong understanding of OOP(object-oriented programming) languages such as Java, the software development process (Agile, Scrum) and experience with Git/GitHub version control.
- Experience with complex SQL queries and UML diagrams, with an eagerness to learn and grow in a dynamic team setting.
- Brings a multicultural perspective and values diverse viewpoints and opinions in the workplace.

Skills

Technical: Python, HTML/CSS, JavaScript, Tailwind, React, Git/GitHub, Bash, Linux, C, C++, Java, Haskell, SQL, ELM
Language: Mandarin Chinese (native), English (bilingual native)

Education

Bachelor of Science, Computer Science Co-op   **Sep 2022 - April 2026 (Expected)**
McMaster University, Hamilton, ON

Relevant Courses

Algorithms and Software Design   **Jan 2023 - April 2023**
Data structures (arrays, linked lists, trees, graphs) and algorithms (sorting, graph searching) in python and jupyter notebook, including quick sort, bubble sort, Dijkstra's, and A*. Group projects on bench testing and analyzing various graph search algorithms on the London subway system data, with GitHub version control.

Concurrent Systems   **Jan 2023 - April 2023**
Concurrency: processes, synchronization and FSP; safety, liveness and starvation; resource management and sharing. Model design and analysis: temporal logic, petri nets, structure diagram.

Automata and Computability   **Jan 2023 - April 2023**
Finite state machines, push down automata and turing machines. Regular, context-free and recursive/r.e. languages. CYK algorithm, pumping lemma, CFL grammar and regular expression.

Databases   **Jan 2023 - April 2023**
SQL, relational algebra, ER diagram. Practical applications of SQL query, including execution on linux server. Dependency theory, normal form (BCNF, 3NF) and query optimization.

Competition Submissions

[Shuttletrak](#)   **Jan 2024**
DeltaHacks X, Hamilton, ON
Frameworks and Tools: Flutter, HTML/CSS

- Collaborated as a team of 3 front-end and back-end developers to work on Shuttletrak, a web-based map app developed in Flutter.
- Contributed to front-end development using Flutter, HTML/CSS, created a university-coherent theme and designed an intuitive user interface.
- Worked towards integrating real-time tracking and providing comprehensive campus information.
- Contributed in motivating continuous progress and allocating time to back-end development.

ClearSky Travelytics (category-winning)   **Jan 2023**
DeltaHacks IX, Hamilton, ON
Frameworks and Tools: HTML/CSS, Google Firebase, Google Maps API
- Collaborated as a key member of the winning team in the Google Sustainability Category.
- Leveraged knowledge of Google Web technologies, HTML, and CSS to contribute to the development of a Google Maps-integrated web app designed to monitor greenhouse gas emissions and calorie consumption, providing eco-friendly and healthy trip planning.
- Boosted productivity by conducting research and gathering data for the carbon tracking feature.
- Helped optimizing time efficiency, ensuring the successful and timely completion of the project.

Projects

TuneSphere   **May 2024 - Present**
- Collaborated on a project that uses Spotify account information to display analytics, including users' top tracks. Implemented Spotify authorization and fetching of user's Spotify analysis.
- Currently working on the "Wrapped" feature and a "Sphere" map based on the geographic information of the user's favorite artists.

Personal Website   **May 2024 - Present**
- Designed and coded a portfolio website using React, JavaScript, Tailwind and HTML/CSS, showcasing personal overview and current projects, hosted with Vercel. Focused on creating a modern, responsive, and creative front-end design.
- Currently working on refining the front-end design and adding scrolling-based animations using external libraries.

Audio Equalizer Plugin   **June 2024 - Present**
- An equalizer VST3 and standalone plugin in C++ using the JUCE framework, which can be loaded in a DAW or audio plugin host to process audio signals.
- Currently working on refining the parameter behaviour and plan to create a GUI with spectrum analysis.

Other Work Experience

Assistant Greenskeeper   **June 2023 - Aug 2023**
Seaside Lawn Bowling Club, Saint John, NB
- Ensured optimal playing conditions by maintaining the surface through mowing, watering, pest control, and repairs.
- Prepared and maintained the greens for a welcoming member experience.
- Demonstrated dedication by managing security, gates, refurbishments, and upkeep for lasting club appeal.