


ALEXANDER MCCOLM

Software Developer

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SUMMARY

Highly motivated computer science student and aspiring software development professional seeking work-integrated learning opportunity. Passionate about technology and love learning through hands-on problem solving. Creative and love to collaborate and help my peers.

SKILLS

Languages: C, C++, Python, SQL, Javascript, CSS, HTML.

Technology: Software development, software testing, Linux, Windows, technical writing.

Professional: Communication, adaptation, time management, project management, problem solving.

EXPERIENCE

- 1/2025 - Present **Computer Science and Programming Tutor** VIU Computer Science Help Centre
- Assisting students in debugging their code and identifying logic and syntax problems in C++ and C code.
 - Providing guidance to enable students to discover their own mistakes and develop correct solutions to problems.
- 7/2024 - 7/2024 **Software Development Intern** HostelMatch
- Developed a web scraper to collect comprehensive hostel data for specified cities.
 - Implemented an efficient data extraction process capable of collecting detailed information including amenities, reviews, and GPS data for each property.
 - Optimized data collection by replacing some Selenium-based parsing with BS4 and implemented a task queue and worker threads, together leading to speed increases of 90%.
 - Made use of Python, Selenium WebDriver, BS4, SQLite and BASH.

PROJECTS

- 1/2025 - Present **Saltong68 - Tagalog Word Game Web App** <https://saltong68.vercel.app>
- Designed and implemented a data-driven, interactive web application using PostgreSQL, FastAPI, HTML, CSS, and React.
 - Used Git for version control and deployed to the web with Vercel.
- 8/2024 - 9/2024 **CHIP8 Emulator** <https://github.com/awmc000/chip-emu>
- Built an emulator for the CHIP8 virtual machine iteratively using C++ and SDL2 as an introduction to emulator development and to deepen my understanding of assembly language and computer architecture.
 - Implemented all 36 assembly-like instructions to work correctly and with keypad and display.
 - Built a second frontend with the Curses library so the emulator can be used in a terminal environment.
- 5/2024 - 6/2024 **Leetcode Badge Generator** <https://github.com/awmc000/leetcode-badge>
- Built a web app which pulls data about programming challenges completed by a user and generates a badge for them to share their progress.
 - Implemented a REST API in Python with the FastAPI library.
 - Wrote a basic frontend with Javascript, HTML, and CSS.
 - Used an internal SQLite database to cache data and reduce queries to Leetcode's GraphQL database to one per day per user.

EDUCATION

- 9/2022 - 12/2026 **Bachelor's of Science, Honours in Computer Science** Vancouver Island University
- GPA: 4.1
 - Dean's Honour Roll
 - Director of Communications for the Computer Science Club for 2024-2025

LANGUAGES

English - native, **Chinese** - intermediate (HSK4)