

Alexander Chen

778-712-2885 | aca343@sfu.ca |  alexchen817 |  alexchen817

TECHNICAL SKILLS

Languages: JavaScript, C, C++, HTML, CSS

Frameworks/Libraries/Tools: React.js, React Native, Expo, Firebase, Git, GitHub, Vercel, WSL, VS Code

Miscellaneous: Bash scripting, PROS API, VEXcode Pro

EXPERIENCE


Software Developer | VEX U TNTN Robotics |    Feb. 2025 – Present

- Utilized advanced autonomous navigation algorithms in **C++** for the Robot Skills Challenge and placed **1st Place Globally** in the Robot Skills Challenge at the 2025 VEX U World Championship
- Integrated an optical tracking odometry sensor to achieve **high-precision positioning** and **rapid autonomous movements**, enhancing robot performance under competition constraints
- Contributed to team's achievement of the **Excellence Award** and **1st Place World Championship Award** at the VEX U 2025 World Championship
- Featured on **CBC News** for innovative robotics solutions and global competition success, highlighting impact and technical leadership

Piano Teacher & Robotics Tutor Jan. 2020 - Present

- Personalized piano and robotics lessons, adapting methods to support student growth and skill development
- Mentored students in VEX IQ and V5 robotics, focusing on mechanical design, programming, and problem-solving
- Monitored student progress and provided structured feedback to parents to support skill development

PROJECTS

FlowSense |  Feb. 2025 - Present

- Developing a mobile application using **React Native** and Expo to measure freshwater consumption in collaboration with Oceanwise
- Building a dynamic dashboard to visualize usage in real-time, enabling users to observe patterns (in progress)
- Implemented **Firebase Authentication** to handle user login and account management, enabling secure authentication via email/password
- Implementing a NoSQL database using Firebase to store and manage historical sensor data, and fun facts to enhance user engagement (in progress)




SystemsHacks Website | *HTML, CSS, JavaScript* Jan. - Feb. 2025

- Developed the SystemsHacks website using HTML, CSS, and JavaScript, creating an intuitive and responsive platform for event information and registration.
- Implemented a modern UI/UX design, optimizing accessibility and user engagement through structured layouts and interactive elements.
- Collaborated with a team to enhance website functionality, ensuring cross-browser compatibility and efficient performance.

Music Playlist Manager | *C++* Sep. 2024 - Oct. 2024

- Developed a linked list-based playlist system in C++ to simulate song management, leveraging pointers and dynamic memory allocation for efficient insertion and deletion
- Optimized **data structure** operations by implementing algorithms for swapping adjacent songs and deleting duplicates, ensuring memory integrity

ORGANIZATION

Website Developer | SFU Software Systems Student Society |    Sep. 2024 - Present

- Developed SystemsHacks website using HTML, CSS, and JavaScript to support a **200+** participant hackathon
- Reviewed **10+** GitHub Issues, merged pull requests, and maintained version control to ensure smooth collaboration and project progress

EDUCATION

Simon Fraser University Burnaby, BC

Bachelor of Science in Computer Science; Software Systems

May 2028

- Relevant Coursework: Object-Oriented Programming, Data Structures and Algorithms, Systems Programming