

Allan Wang

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EDUCATION

Bachelor of Science, Combined Major in Computer Science and Statistics

Sept 2022 - May 2027

University of British Columbia

Vancouver, BC

- Cumulative GPA: **4.33/4.33**; two times Dean's Honour List; Trek Excellence Scholarship recipient.

TECHNICAL SKILLS

Languages: C, Swift, C++, JavaScript, TypeScript, Java, Python, SQL, R, HTML, CSS

Technologies: React.js, Node.js, Next.js, Git, PostgreSQL, JUnit, Java Swing, GDB, Python pandas, Spring Boot, Zephyr OS, OpenThread API, SFML, Oracle Database, IoT, Express.js, Linux*,

Developer Tools: VS Code, Xcode, IntelliJ IDEA, CLion, Postman, Docker, nRF Connect, Vercel, Supabase, Vim

EXPERIENCES

Software Engineer, LED Smart Inc. | *Surrey, BC*

Dec 2024 – Present

- Designed and implemented embedded software on nRF54L15 using Zephyr RTOS and OpenThread in C; leveraged peripherals such as GPIO and UART to achieve control over LED states as a robust Thread network.
- Refined Thread device commissioning process by applying mutex locking and isolated a blocking function with **multithreading**, reducing main thread delay and improving system responsiveness during boot-up.
- Developed a **Python automation script** that standardized firmware flashing for mass production, reducing deployment time from ~120s to ~35s (70% improvement) while eliminating manual errors.
- Implemented and validated **networking protocols** using UDP with custom reliability mechanisms.
- Developed across multiple branches and executed manual test procedures to verify functionalities of modules.

Full-Stack Developer, UBC Cubing (Rubik's Cubes) Club | *Vancouver, BC*

Jan 2025 – Present

- Designed, developed, deployed an interactive [website](#) for the UBC Cubing Club to be used for weekly meetings.
- Built an intuitive UI using **React.js** with file-based routing in **Next.js (TypeScript)**. Created a custom timer with reliable submissions and enhanced UX using Cubing.js' scramble modeling, in response to beta testing **feedback**.
- Designed and managed a **PostgreSQL database** with Supabase, optimizing data storage for member profiles and meeting statistics; integrated **Supabase's** user authentication API and matched users to members of the club.
- Implemented anti-cheating mechanism with custom timer and automatic result insertion on suspicious activity.

Coding Instructor, Robokids Canada | *South Surrey, BC*

Aug 2024 – Nov 2024

- Assisted students with **LeetCode-style Python & Java** questions; reviewed work of students and **tested** them for bugs and provided insights for optimization and improvements. Led camps and maintained safe environment.

PROJECTS

Pet Management System | Full Stack, JavaScript (React, Node, Express), SQL, Database

Jan 2025 – Apr 2025

- Developed a web application using **React.js with JavaScript**, that allows users to perform **CRUD** operations on a pet shelter database enabled using **custom APIs** with structured routing.
- Designed, normalized, and implemented an Oracle Database schema to optimize data storage and efficiency.
- Built and executed dynamic **SQL queries** tailored to verified user inputs and displayed filtered query results.

Algorithm Visualizer | Swift, SwiftUI, Algorithms, iOS Development

Aug 2024 – Dec 2024

- Developed an algorithm visualizer that solves mazes in the form of a **multi-view** iOS application.
- Rendered customizable mazes using **SwiftUI**; updated the maze upon user inputs with quick edit features.
- Implemented **BFS and DFS** to solve the maze designed by the user, rendered the solution as stepped animations.

2D Platformer Game | C++, SFML, Type Hierarchy, CMake, Collision Testing

May 2024 – Aug 2024

- Developed a 2D platformer game in **C++** that keeps track of score, performs **collision testing**, and has dynamic difficulty, using object-oriented programming fundamentals.
- Implemented states using **type hierarchies** to switch between different states of the program.