

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.
- Executive of UBC Cubing Club: Treasurer & full-stack developer; managed club funds and developed website.

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, Linux, Python pandas, Spring Boot, Zephyr OS, OpenThread API, SFML, Oracle Database, IoT, Express.js

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 real-time firmware on nRF54L15 SoC using Zephyr and OpenThread in C; leveraged GPIO, PWM, UART, and Modbus over RS485 to achieve control over LED states as a robust Thread network.
- Designed, implemented, and validated **networking protocols** using the OpenThread API and UDP; Built custom reliability mechanisms (**acks & retries**) to compensate for UDP's lack of guarantees.
- Developed and executed manual test procedures to check functionalities of modules; used Git for version control.
- Improved and stabilized success rate of Thread network initialization on modules from **~80% to ~100%**.

Full-Stack Developer, UBC Cubing Club | *Vancouver, BC*

Jan 2025 – Present

- Designed, developed, and directed the creation of an interactive website for the UBC Cubing Club.
- Built responsive UI and structured routing using **Next.js** with **TypeScript**, ensuring an intuitive user experience.
- Designed and managed a **PostgreSQL database** with Supabase, optimizing data storage for member profiles and competition results; integrated Supabase's user authentication API.
- Implemented query restrictions depending on the type of user and displayed detailed result history of members.

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 and sanitized user inputs.

Algorithm Visualizer | Swift, SwiftUI, Algorithms, Mobile Development

Aug 2024 – Dec 2024

- Developed an algorithm visualizer that solves mazes in the form of a **multi-view** iOS application.
- Rendered customizable mazes with **SwiftUI**, updated the maze upon user inputs and enabled additional features such as editing the individual cells of the maze and generating a randomized maze.
- 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.
- Utilized **SFML** library for visualization and animating sprites in the window upon user inputs and clock ticks.
- Implemented states using **type hierarchies** to switch between different states of the program.

Session	Degr/Catg	Year	Term	Course	#	Credits	Description	Grade
2025S	DEGR	3	2	STAT_V	306	0	Finding Relationships in Data	
2025S	DEGR	3	1-2	CPSC_V	299	0	Co-operative Work Placement II	
2024W	DEGR	3	2	CPSC_V	298	0	Co-operative Work Placement I	
2024W	DEGR	3	2	CPSC_V	304	3	Introduction to Relational Databases	A+
2024S	DEGR	3	2	STAT_V	301	3	Statistical Modelling for Data Science	A
2023W	DEGR	2	2	CNTO_V	311	3	Basic Cantonese for Mandarin Speakers	A+
2023W	DEGR	2	2	MATH_V	221	3	Matrix Algebra	A
2023W	DEGR	2	2	STAT_V	200	3	Elementary Statistics for Applications	A+
2023W	DEGR	2	2	STAT_V	201	3	Statistical Inference for Data Science	A+
2023W	DEGR	2	2	STAT_V	302	3	Introduction to Probability	A-
2023W	DEGR	2	1	CPSC_V	213	4	Introduction to Computer Systems	A+
2023W	DEGR	2	1	CPSC_V	221	4	Basic Algorithms and Data Structures	A+
2023W	DEGR	2	1	MATH_V	200	3	Calculus III	A-
2023W	DEGR	2	1	PHIL_V	120	3	Introduction to Critical Thinking	A+
2023S	DEGR	1	2	CPSC_V	210	4	Software Construction	A+
2023S	DEGR	1	1	WRDS_V	150	3	Writing and Research in the Disciplines	A
2022W	DEGR	1	2	ASTR_V	102	3	Introduction to Stars and Galaxies	A+
2022W	DEGR	1	2	CPSC_V	121	4	Models of Computation	A+
2022W	DEGR	1	2	DSCI_V	100	3	Introduction to Data Science	A
2022W	DEGR	1	2	MATH_V	101	3	Integral Calculus with Applications	A+
2022W	DEGR	1	2	PHYS_V	131	3	Energy and Waves (Lecture)	A+
2022W	DEGR	1	1	CPSC_V	110	4	Computation, Programs, and Programming	A+
2022W	DEGR	1	1	MATH_V	100	3	Differential Calculus with Applications	A
2022W	DEGR	1	1	PHYS_V	117	3	Dynamics and Waves	A+
2022W	DEGR	1	1	SCIE_V	113	3	First-Year Seminar in Science	A-