Christian Cho

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Technical Skills

Languages: C/C++, Python, HTML/CSS/JavaScript, English, French
Applications: Git, GitHub, VS Code, Microsoft Office, Google Suite, Adobe Creative Cloud, FL Studio
Soft Skills: Communication, Adaptability, Problem-solving, Time Management, Teamwork

Experience

Coding Instructor June 2024 – Sep. 2024
Science Al!ve — Faculty of Applied Sciences, Simon Fraser University *Burnaby, BC*

- Taught introductory programming concepts using Python to students in grades 1–8 through hands-on exercises and interactive problem-solving activities.
- Guided students through writing simple scripts, debugging code, and understanding core concepts such as variables, loops, conditionals, and functions.
- Adapted explanations and lesson pacing for different age groups and skill levels to ensure every student could follow and apply programming fundamentals.
- Maintained a safe and engaging classroom environment while managing group activities, equipment setup, and daily session flow.

Projects & Awards

Optical Wireless Communication System | *C++, OpenCV, JavaScript, Finite State Machines* Dec. 2025

- Designed and built a full-stack air-gapped file transfer system using a computer screen (PHY) and webcam receiver, implementing a custom networking protocol from scratch.
- Engineered a reliable Data Link Layer using Stop-and-Wait ARQ, CRC-8 error detection, and custom packet framing to ensure 100% data integrity over a noisy optical medium.
- Developed a high-performance C++ receiver using OpenCV for real-time signal processing, implementing a finite state machine to parse binary streams and handle synchronization.
- Optimized transmission protocols by analyzing Nyquist sampling limits and implementing robust handshake mechanisms to handle blocking I/O constraints.

Personal Portfolio Website | *React, TypeScript, Three.js, Framer Motion* May 2025

- Engineered a high-performance 3D portfolio site using Three.js to render interactive 3D models, demonstrating skills relevant to 3D data visualization and graphical interfaces.
- Implemented complex animations and smooth page transitions with Framer Motion, optimizing render loops to ensure 60 FPS performance across devices.
- Designed a modular component architecture in TypeScript, ensuring code scalability and maintainability for future feature additions.

CookCompass | *React, Spoonacular API, Google Cloud* Jan. 2025 – Apr. 2025

- Developed a recipe-finding web app that recommends meals from user-inputted ingredients using the Spoonacular API and cloud-hosted services.
- Implemented autocomplete search, nutritional info retrieval, and modal-based instruction flows with dynamic rendering for smoother interactions.
- Prioritized accessibility by enabling keyboard navigation, screen-reader labels, and mobile-friendly interfaces across all components.

Jake's Journey – Mountain Madness 2024 *(3rd Place out of 27 teams)* | *Unity, C#* Mar. 2024

- Collaborated in a multidisciplinary team to build a 3D puzzle game, designing mechanics that adjust player movement dynamically based on camera orientation.
- Programmed core systems including player control and interaction triggers, demonstrating strong C proficiency and real-time logic debugging.
- Created original sound effects and soundtrack using FL Studio, producing a cohesive audio environment under strict hackathon time constraints.

Education

Simon Fraser University Burnaby, BC
Bachelor of Applied Science in Computing Science *Sep. 2023 – Present*