

Steven Cao

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EDUCATION

University of Waterloo — *Honours Bachelor of Computer Science, AI specialization*

Sep 2022 — Apr 2027

- Relevant coursework: Algorithms, Data Structures, AI, ML, Multi-Agent Systems, Operating Systems, Cryptography, Compilers, Computer Organization and Design, Object-Oriented Software Development, Enumeration and Graph Theory
- Cumulative grade: **91% (4.0)**

EXPERIENCE

Mobile Developer · *Compass Digital*

May 2025 — Aug 2025

- Developed food ordering apps for Android/iOS/Web using **Flutter** enhancing food ordering experience of over **100k** guests.
- Implemented meal plan ordering workflow for **100+** universities, including QR code order verification to avoid food wastage.
- Enabled **15%** more users to pay on the platform by integrating Google Pay and Apple Pay JS API into Flutter on Web client.

Android Platform Software Developer · *Ford Motor Company*

Sep 2024 — Dec 2024

- Developed driver-assist software on multiple layers targeting Ford's next generation in-vehicle infotainment system (IVIN).
- Created real-time Hardware Abstraction Layer (HAL) services for towing, safety, HMI in **C++20** on Ford's embedded IVIN system, allowing userspace software to interface with vehicle network nodes.
- Implemented vehicle configuration UI and functionality using **Android SDK in Kotlin** and **Java** based on Figma designs.
- Worked closely with senior developers in code reviews to ensure excellent code quality and AUTOSAR compliance.
- Improved code coverage of core services to over 90% through writing unit tests with GMock and Mockito frameworks.

Fullstack Web Developer · *Caribou Contests*

Jan 2024 — Apr 2024

- Managed and enhanced online math contests platform catering to K-12 students worldwide, ensuring excellent user experience for over **50,000** participants.
- Utilized **MySQL** to interface with contest participant database and generate visualizations to monitor participation trends.
- Discovered vulnerabilities in API endpoint and implemented security measures against SQL injection attacks in **PHP** backend.
- Optimized website performance on weaker school hardware by writing interactive games with modern **JavaScript** practices.

PROJECTS

Minecraft Performance & Graphics Mods

- Developed and released Minecraft mods in **Java**, achieving over **20 million** total downloads on the Curseforge platform.
- Reduce client startup time by **41%** by optimizing Minecraft's loading process and resource parallelization.
- Improved graphics fidelity with shader packs by implementing dynamic resolution, texture upscaling and texture filtering.

Vm Editor

- Designed and developed Vm, a Vim-like editor in **C++20** from scratch capable of text manipulation, searching and undo actions.
- Leveraged modern C++ features to implement a flexible Vim motion parser inspired by functional programming.
- Utilized object-oriented programming, SOLID principles and MVC architecture to build a modular and extensible codebase.

LISP-like Interpreter

- Created an interspreter for LISP-like languages written in **Java**, utilizing **Spring Boot** framework as a REST API endpoint.
- Implemented expression parsing and evaluation in the backend, supporting variables, control flow and lambda functions.
- Designed a **React** frontend to interact with the interpreter, allowing users to evaluate code snippets and receive results.

Proxmox Self-Hosted Server

- Set up a self-hosted server with **Proxmox** to run VMs and LXC containers for media, web services, and games.
- Deployed **Llama.cpp** with CUDA GPU acceleration to run local LLMs for private AI applications.

SKILLS

Languages C, C++, Java, Kotlin, Python, Rust, Dart, JavaScript, TypeScript, Golang, PHP

Tools Linux, Unix Shell, Git, GitHub, Copilot, AWS, Docker, Ollama, Llama.cpp, PyTorch, Neovim

Frameworks Android SDK, Flutter, Node.js, React, Spring Boot, OpenGL