

Joshua Zhi-Chao Chen

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Summary

Computer Science and Business Dual Major at the University of Toronto with interest in artificial intelligence, systems programming and software design. Strong technical foundation in both systems programming and rapid prototyping. Passionate about bridging the gap between software and business.

Education

University of Toronto | September 2024 - June 2029 (expected)

Honours Bachelor of Science with Co-op (ASIP)

- Dual Major in Computer Science and Management with a Minor in Economics
- Focuses in Artificial Intelligence and Data Science
- Relevant coursework: Data Structures & Algorithms, Computer Organization, Software Engineering.

Experience

Director of Finance | UofT Student Team for Amateur Rocketry | August 2025 - Present

- Introduced financial frameworks for a newly started rocketry club, managing the budget and tracking membership fees for 30+ members using Airtable and Google Sheets.
- Secured team funding through fundraisers and sponsorships to budget for 3+ annual launches during the club's first year.

Course Instructor | Thunderbird Community Centre | September 2023 - December 2023

- Designed and taught an introductory web design course (HTML/CSS/JavaScript) to classes of 15 students, including 12 lesson plans, 6 course deliverables and projects.

Projects

Q Learning Movement Sandbox | LuaU, AI/ML | January 2026 - Ongoing

- Designed a Q learning based physics simulation on the ROBLOX engine using weighted nodes and state tables to determine optimal actions in maze/obstacle course solving, simulating a simple neural network on any device.
- Engineered an adaptive reward function utilizing raycasts and magnitude to train autonomous decisionmaking without the use of external libraries.
- Created a system to allow users to train unique instances of the model, offering an accessible introduction to machine learning.

Point Optimization Algorithm | JavaScript, Python, HTML | November 2025 - December 2025

- Developed a web scraper to extract 2,000+ items from various point redemption portals and identify comparable pricing using Selenium and search automation algorithms.
- Optimized compute speed and performance with parallel and progressive search algorithms.
- Identified outlier items with significantly user beneficial point redemption ratios (cents per point) using scraped data to allow for up to 150% more value per point.

Diglott Language Learning Software | Java, SOLID, Agile | April 2025 - August 2025

- Co-developed a desktop application in Java in a team of 4, utilizing Git for version control, Airtable for roadmapping and DeepL REST API for language translation.
- Demonstrated progressive translation / diglot weaving and its benefits in language learning as part of a course project for a Software Design course.

Skills and Interests

- **Languages:** Python, C, C++, Lua, Java, JavaScript, TypeScript, Bash, HTML/CSS.
- **Interests:** Embedded systems, artificial intelligence/machine learning, circuit design.