Gordon Zhou

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Education

University of British Columbia   Vancouver, BC
Bachelor of Science, Combined Major in Computer Science and Mathematics   *Sep. 2023 - Ex. May 2028*
- **Cumulative Average:** 92.0%
- **Relevant Coursework:** Relational Databases (SQL), Computer Systems (C, Java), Data Structures and Algorithms (C++), Linear Algebra, Software Construction (Java, UML)

Technical Projects

Memora @Hack The North 2024 | *React, FastAPI, MongoDB*   September 2024
- A voice-powered journaling app built with a RAG retrieval system to summarize, analyze and gain insights from your journal entries
- Integrated Cohere's Command Model for embedding entries into high-dim vectors, enabling semantic searches to pull contextually relevant results beyond keyword matching.
- Built a transcription layer using Google's Speech API to produce accurate speech-to-text conversion while retaining user intent

MelonBoy | *Rust, JavaScript, HTML/CSS*   January 2024 - March 2024
- Engineered a Gameboy(DMG) + Gameboy Color(CGB) emulator which supports cycle-accurate execution of various DMG/CGB ROMs including Pokemon Crystal, Zelda Link's Awakening, and Shantae
- Modeled the Game Boy's 8-bit Sharp-like CPU, Picture Processing Unit, 8-bit Audio Unit in Rust using original hardware documentation
- Compiled Rust source code to WebAssembly (WASM) and integrated a frontend using JavaScript and HTML/CSS, enabling smooth, in-browser gameplay with zero setup required
- Integrated automated tests of popular DMG/CGB test suites including Blargg's Tests, cgb-acid2, dmg-acid2, and majority of Mooneye's Test Suite

MoodPlay | *React, TensorFlow, Vercel, Spotify API*   January 2023 – June 2023
- Developed a full-stack web application using React as the Front-End and Vercel serving a REST API with as the Back-End
- Custom-trained an face emotion/drowsiness detection AI model using TensorFlow that changes the user's music based on their facial expression
- Incorporated Spotify Embed API for the in-app music player and Spotify OAuth for authentication to allow users to log in via their Spotify and customize their playlists

Relevant Experience

Teaching Assistant – CPSC 121: Models of Computation   September 2024 – Present
University of British Columbia   *Vancouver, BC*
- Taught and guided 500+ students in UBC's introductory computer science course, leading lab sections for 180+ students and instructing them in circuit design and simulation

VT Coding Club President   September 2021 – September 2023
Vancouver Technical Secondary   *Vancouver, BC*
- Produced and hosted educational workshops for our club's 50+ members, based on various topics in CS including Web Development, Competitive Programming and Game Design
- Collaborated with a team of programmers and designers to develop our club's website using HTML/CSS and JavaScript

Technical Skills

Languages C, C++, JavaScript, Rust, SQL, Python, Java, PHP, Typescript, R, HTML/CSS
Tools/Frameworks VSCode, IntelliJ, Visual Studio, Pycharm, Git, MongoDB, FastAPI, Flask, Firebase, JUnit
Libraries React, Scikit-learn, Axios, OpenCV