Gary Huang

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Seeking Summer 2024 **4 month** internship

Skills

Languages: C++, Python, JavaScript, HTML, CSS
Tools: OpenCV, SDL2, AWS, MySQL, Valgrind, Git

Experience

Ford | Software Engineer   Sept 2023 - Dec 2023
- Reduced serialised data size via **struct packing**, increasing data transfer speed by **30%**.
- Implemented **dynamic array** and **iterator pattern** to increase code reuse.

Genellipse | Data Scientist   May 2022 - Aug 2022
- Extracted client information from insurance claim forms with **98% accuracy** by applying a **BERT** machine learning model with **OpenCV**.
- Developed core information requesting server to automate client's annuity claims using **Python**, deployed on **AWS Lambda** and **MySQL** server.
- Verified server's functionality specification through **Fuzzing Testing** technique.

Projects

Chess Engine   https://github.com/garyhhj/chess-engine-v2
- Built a chess engine with **minimax algorithm** and **alpha-beta pruning** to increase search depth in the decision tree by **2.5** times using C++.
- Increased chess engine speed by over **500** times through the use of **zobrist hashing**, **transposition tables**, and **bit manipulation**.
- Boosted chess.com account to over **1500 elo** with over **90%** win rate.

Pathfinding Visualizer   https://github.com/garyhhj/pathfinding-visualizer
- A pathfinding visualizer to visualize **Dijkstra** and **A*** pathfinding algorithms on a maze generator using **prim's** algorithm in Javascript, HTML, and CSS.

Sorting Visualizer   https://github.com/garyhhj/sorting-visualizer
- A sorting visualizer to visualize **bubble sort**, **quick sort**, **merge sort**, and **heap sort** algorithms in JavaScript, HTML, CSS.

Chip8 Emulator   github.com/garyhhj/chip8
- Implemented cross platform **CHIP-8 emulator virtual machine** using C++.
- Simulated **CPU and video graphics** to execute games written in CHIP-8 Lang using **SDL2.**

Award

- University of Waterloo Software Engineering 2026 Hackathon Winner of Best Code
- **Top 10%** in Euclid, Fermat, Cayley, and Pascal Math contest from University of Waterloo from 2018 - 2021

Education

University of Waterloo   Sept 2021 - April 2026
Bachelor of Software Engineering, Honours (BSE)