ianchen3@illinois.edu
(650) 505-6879

Ian Chen

Github
LinkedIn

Education

University of Illinois Urbana-Champaign, College of Liberal Arts and Sciences — Aug 2024 - Present
Major in Statistics & Computer Science — Cumulative GPA: 3.98 / 4.00

Henry M. Gunn High School Palo Alto, California — Aug 2019 - May 2023
Cumulative GPA: 4.33 / 4.00

Technical Skills

Programming Languages; Tools
Python, C++, C#, Rust, Bash, SQL; Git, LaTeX

Work Experience

University of Illinois

Computer Architecture Course Assistant — Aug 2024 - Present
- TBD

Physics Mechanics Learning Assistant — Jan 2024 - May 2024
- Designed laboratory experiments modeling real world scenarios according to ISLE guidelines.
- Mentored introductory physics lab classes at scale (75+ students)

Maven Optronics — May 2024 - Aug 2024
Software Engineer Intern
- Implemented Manufacturing Execution System (MES) materials traceability modules — populated mySQL tables to link raw material barcode IDs (with photo records) to assembled MiniLED boards.
- Developed automatic deployment of software releases via win32 installer (.msi) through administrative installation across NAS server.
- Developed Windows Desktop applications to automatically create Certificate of Analysis reports with syndicated IPQC & FQC inspection data.

Projects

Directle: NLP-enabled linguistics game — Jan 2024 - May 2024
- Collaborated with three team members to build a full-stack website hosting an English word game. The game guides players to guess a secret word through one-word semantic clues.
- Implemented a word2vec NLP model using the top 10M wikipedia articles which projected vocabulary into low-dimensional embeddings, allowing for quantification of word similarities.
- Developed and deployed a backend REST API to query word vectors stored in a Postgres database and integrated with frontend React server.

IVFish: Tetris AI $\gg$ Human (`https://github.com/ivfish/bot`) — Jun 2021 - Aug 2023
- Collaborated with two team members to develop an AI bot to compete in multiplayer Tetris on TETR.IO server with over 4 million players. This bot successfully defeated a top 10 ranked player in the server
- Implemented massive graph (30M+ nodes) parallel searching algorithms with specialized heuristics to search for optimal next moves within milliseconds.
- Achieved 10x performance improvement in the graph search algorithm by optimizing code at the microarchitecture level through Intel hardware intrinsics.
- Established websocket network protocol for communication with TETR.IO multiplayer Tetris server.

Relevant Coursework

Computer Science *Computer Architecture*; *Systems Programming*; *Data Structures*; *Algorithms*
Statistics & Math *Probability I & II*; *Linear Algebra*; *Differential Equations*;
Physics *Mechanics*; *E&M*; *Thermodynamics*; *Quantum Physics*