Elliott Yoon

elliottyoon.github.io ◇ elliottyoon@u.northwestern.edu

Education

Northwestern University Evanston, IL (September 2021 - June 2025)
B.A. Mathematics (3.81 GPA)

- Award for Excellence in Mathematics by a First Year Student
- 2024 ICPC Mid-Central Regional (3rd place); Qualified for 2024 ICPC NAC
- Teaching assistant for CS 339: Database Systems (Sp24, Fa24) & Math 220: Calculus (Fa22, Wi23, Fa23, Wi24)
- Relevant coursework:* Compilers, Database Systems, Data Structures & Algorithms, Operating Systems, Programming Languages, Systems Programming, Web Development

Employment

Software Engineer Intern — *Java* Washington, DC (June 2024 - August 2024)
Palantir Technologies

- Designed and implemented a low-latency algorithm to persist state updates in real-time distributed data systems, increasing the frequency of lossless data synchronizations in graphs of peered networks by 7200%.
- Built a parser to generate React component dependency graphs from Typescript monolith repositories; used to visualize and analyze graph properties of repository file structures for ease of navigation and refactoring.

Projects

RustyDB — *Rust* (August 2024 - October 2024)

- Designed and built a relational database management system for pedantic use in CS339 (Database Systems).
- Created internal SQL engine, planner, and optimizer for query execution with transactional concurrency control; built heap file storage engine to cache data persisted on disk to memory with a buffer pool manager.
- Stubbed out API implementations in select modules for students to complete; wrote project instruction docs.

Compiler — *C++* (January 2023 - March 2023)

- Generates x86 Intel Assembly from a C-based language. Used tiling methods for efficient instruction selection. Implemented liveness testing, graph coloring, and spilling algorithms for register allocation.

2048 Racer — *Go, React, Docker, Websockets* (June 2022 - August 2022)

- Web application for players to race each other in real-time to beat the game 2048. Developed minimax backtracking algorithm with alpha-beta pruning against which users can compete. (It's successfully beat the game!)

Languages

C/C++, Java, LaTeX, Python, Rust, SQL, Typescript

*4.00 GPA