Daniel Liu

Evanston, IL, 60201 | daniel-a-liu@outlook.com | linkedin.com/in/daniel-a-liu | danielliu.dev | github.com/dal-liu

EDUCATION

Northwestern University   Evanston, IL
B.S. Computer Science   *Sep. 2022 – Mar. 2025*
- Concentration: Programming Languages and Software Engineering
- GPA: 3.94
- Relevant coursework: Algorithms, Compiler Construction, Computer Networking, Databases, Distributed Systems, Machine Learning, Operating Systems
- Activities/Honors: Tau Beta Pi Engineering Honor Society

TECHNICAL SKILLS

Languages: C++, Python, JavaScript, Ruby, SQL, Go (Golang), TypeScript, HTML, CSS, Java, C, Rust
Frameworks/Libraries: React, Vue.js, Ruby on Rails, Node.js, Express, LLVM, React Native
Developer Tools: Git, Neovim, VS Code, JetBrains IDEs, Linux (Debian), AWS

EXPERIENCE

Software Engineer Intern   Jun. 2024 – Aug. 2024
CDK Global   *Hoffman Estates, IL*
- Developed a full-stack web application to allow customer support specialists to view and manage customer data
- Implemented a RESTful API in Ruby on Rails to allow users to retrieve customer logs stored in a PostgreSQL database
- Created a user-friendly interface using Vue.js and TypeScript for users to filter, search, and view customer logs
- Optimized the application by adding database indexes and rewriting ActiveRecord queries to reduce server load, resulting in a 90% decrease in initial load times

PROJECTS

DefinitelyTyped Contributions | *TypeScript, JavaScript*   Sep. 2024 – Present
- Contributed to DefinitelyTyped, a popular open-source repository by fixing errors in TypeScript type definitions for various JavaScript libraries
- Merged 8+ pull requests into DefinitelyTyped, improving type safety and correctness for users

Strava Wx | *Go, AWS Lambda, Amazon SQS, Amazon DynamoDB*   Jul. 2024
- Developed a serverless application written in Go that processes Strava activities and adds weather data using the OpenWeatherMap API
- Utilized AWS Lambda functions to process incoming Strava webhook events, store data in DynamoDB, and update activities
- Implemented a job queue using SQS and Lambda triggers to enable asynchronous processing of activities

Purple Hours | *React, Firebase*   Mar. 2024 – Apr. 2024
- Developed a web app that facilitates office hour scheduling between students and teaching assistants using React and Firebase
- Implemented a queue system using Firebase Realtime Database to allow students to join a session, TAs to accept students, and students to know when it is their turn
- Wrote unit tests using the Vitest testing framework to ensure code quality and reliability
- Utilized agile methodologies to iteratively develop and deploy features with a team of 7 developers

Almost-C Compiler | *C++*   Jan. 2024 – Mar. 2024
- Built a compiler from scratch in C++ that compiles a C-like language into Intel x86-64 assembly
- Used advanced register allocation and instruction selection techniques to generate performant code
- Implemented compiler optimizations including constant folding, constant propagation, and loop detection to further increase performance of compiled code
- Achieved 3rd place out of 18 participants in the end-of-quarter compiler performance competition