Elliott Yoon

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Education

Northwestern University • Evanston, IL • *Expected June 2025*
MS: Computer Science (4.0/4.0 GPA) | **BA: Mathematics** (3.9/4.0 GPA)
- Award For Excellence in Mathematics by a First Year Student (May 2022)
- **Teaching Assistant** for MATH 220-1 (Differential Calculus) and CS 396 (Artificial Life)

Skills

Languages: C, C++, C#, Go (Golang), HTML/CSS, Javascript, Python, SQL
Tools: Azure, Docker, Flask, Git, Heroku, React, Scikit-learn, Unix, Vim

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Experience

Software Engineering Intern • May 2023 - Present • Union Home Mortgage • Strongsville, OH
- Develop a full-stack application with C# and React.js that utilizes the Azure DevOps API to build and track development team metrics and display them on a customizable dashboard.
- Created lightweight daily-running batch jobs with C# that ingest data from drop-off folders and load the data into custom tables to minimize manual work.
- Learned and utilized UHM unit testing framework to verify code robustness and quality.
- Explore code design tradeoffs to learn best practices for scalability and maintainability.
- Led group of IT interns in effort to identify and analyze fixed and variable per-loan costs of over 100 third party applications used in the Union Home Mortgage technology stack.

Data Engineering Intern • May 2022 - Aug 2022 • Union Home Mortgage • Strongsville, OH
- Saved over 100 hours of work defining table fields for database migration efforts by creating SQL functions and stored procedures within Microsoft SQL Server and Azure Data Factory.
- Automated over 90% of reporting workflow to improve data extraction, transformation, and load tasks within Azure cloud enterprise data lakes and data warehouses.
- Scripted Avro file type ingestion using Python to reduce manual pipeline work by over 80%.

Data Science Fellow • Feb 2021 - Aug 2021 • Correlation One (DS4A) • Remote
- Used Python to conduct regression analysis (scikit-learn), create visualizatons (matplotlib, seaborn, folium), and test for correlations (scipy) in aggregate data quantifying Amazon Rainforest deforestation and measures of Brazilian socio-economic health.
- Reported final analysis to an audience of over 1000 people through a live virtual presentation; displayed findings via interactive Tableau dashboard and written deliverable.

Projects

Most projects are on GitHub: https://github.com/elliottyoon. All others available upon request.

Compiler • Jan 2023 - Mar 2023 • C++, Assembly
- Built compiler in C++ that generates Intel x86 assembly code from modern C-based language.
- Implemented name binding, value encoding, array index error handling, and block generation in front-end; explicit control flow, instruction selection, and register allocation in back-end.

2048Racer • Jun 2022 - Aug 2022 • Javascript, Golang
- Built full-stack React web application that lets users race to beat the game 2048 in real time.
- Utilized Websockets for persistent client-server interactions, configured frontend CI/CD with Vercel and containerized Nginx reverse proxy with backend web server using Docker compose.
- Implemented 2048 AI using minimax + alpha-beta pruning, which successfully beat the game.

Pineapple Pics • Mar 2022 - Jun 2022 • Javascript, Python, SQL
- Developed full-stack Instagram clone with Flask, React, PostgreSQL, and Heroku.
- Built REST API endpoints to handle requests; authenticated users using cookies and JWT.