

# ELLIOTT YOON

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## Skills

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<b>Websites</b>	Github ( <a href="#">elliottyoong</a> ) — Visual Portfolio ( <a href="https://elliotts-portfolio.vercel.app">https://elliotts-portfolio.vercel.app</a> )
<b>Languages</b>	C, C++, C#, CUDA, Golang, Javascript, Java, Python, Racket, SQL, x86 Assembly
<b>Certifications</b>	Machine Learning ( <a href="#">Coursera</a> ), DS4A Honors ( <a href="#">Correlation One</a> )

## Education

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### Northwestern University

Evanston, IL (September 2021 - Expected June 2025)

B.A. Computer Science

- **GPA:** 4.00 Major/3.80 Overall. [Award for Excellence in Mathematics by a First-Year Student 2022](#).
- **Relevant coursework:** Computer Systems, Compiler Construction, Data Structures & Algorithms, Honors Real Analysis, Probability & Stochastic Processes, Parallel Processing with GPUs, Introduction to Web Development
- **Teaching Assistant:** Math 220-1 Differential Calculus (Fall 2022), CS 396 Artificial Life (Winter 2023)
- Sound & Video Technician for [Concerts @ Bienen](#) (Fall 2021 - ), Division III Club Ice Hockey (Fall 2021 - )

## Experience

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### Union Home Mortgage

Strongsville, OH (May 2022 - August 2022)

Data Engineering Intern

- Scripted Avro file ingestion using Python in Databricks to reduce manual pipeline work by over 80%.
- Created SQL functions to save over 100 hours of work defining table fields for database migration efforts.
- Improved data extraction, transformation, and load tasks by creating, testing, refactoring, and deprecating SQL stored procedures, C# REST API endpoints, and Azure Data Factory pipelines to automate 90% of reporting workflow within scalable Azure cloud enterprise data lakes and data warehouses.

### Correlation One (DS4A)

Remote (February - August 2021)

Data Science Fellow

- Conducted regression analysis, hypothesis testing, and visualization of correlations between Amazon rainforest deforestation and quantifiers of economic health in Brazil.
- Coordinated meetings as team lead for group of 5. Reported final analysis to an audience of over 1000 people.
- Cleaned, visualized, and analyzed data using Jupyter, Numpy, Pandas, Scikit-learn, Scipy, SQL, and Tableau.

## Personal Projects

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### Compiler — C++, x86 Assembly

(January 2023 - Present)

- Building compiler that generates Intel x86 assembly machine code from modern C-based language.
  - Implemented liveness testing, graph coloring, and spilling algorithms for register allocation.
  - Used modern C++ to create compiler, parser, and code generator, which successfully generates x86 assembly code from an intermediate language with variables and assembly syntax abstractions.

### 2048 Racer — Javascript, Go, HTML/CSS

(June 2022 - August 2022)

- Built React web application that lets users race each another in real time in the popular game 2048.
  - Implemented minimax backtracking algorithm with alpha-beta pruning which successfully beat the game.
  - Utilized Websockets for persistent client-server interactions, Vercel for front-end CI/CD, and Docker for composing + containerizing Nginx reverse proxy with back-end web server.

### Pineapple Pics — Javascript, Python, SQL, HTML/CSS

(March 2022 - June 2022)

- Developed full-stack RESTful Instagram clone built with Flask and React using an MVC design pattern.
  - Built REST API endpoints on a Flask web server to handle requests. Utilized React to render data from a PostgreSQL database via the API endpoints. Authenticated users using cookies and JSON web tokens.