Alex Yang

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EDUCATION

University of Illinois Urbana-Champaign | Grainger College of Engineering   *May 2026*
- *Bachelor of Science in Computer Science*   *GPA: 4.0/4.0*
- <u>Relevant Coursework</u>: Data Structures, System Programming, Distributed Systems, Database Systems, Algorithms, Computer Architecture, Probability & Statistics for CS, Combinatorics
- <u>Awards</u>**:** 2023 Susquehanna International Group (SIG) x UIUC algorithmic coding challenge, 2nd place

TECHNICAL SKILLS

Languages: C, C++, Python, Java, JavaScript/TypeScript, HTML, CSS, Golang, SQL, GraphQL
Technologies: Node.js, React, Next.js, Express.js, Flask, MongoDB, AWS, Jest, Github Actions

WORK EXPERIENCE

Capital One   McLean*, VA*
Software Engineer Intern   *Jun 2024 - Aug 2024*
- Implemented a robust data processing pipeline using Python-based **AWS Lambda** functions to stream data from **S3** to **DynamoDB**, enabling efficient processing and storage of large files without overwhelming the system
- Engineered a data synchronization and visualization framework utilizing **DynamoDB** and **OpenSearch**, providing rich visualizations and dashboard for data analysts
- TBD

Reflections Projections | Github   Champaign*, IL*
Software Engineer (API / Infra)   *Feb 2024 - current*
- Deployed API servers on **EC2** with **ZERO** downtime during updates by implementing a blue-green deployment strategy
- Developed robust CI/CD pipelines for the API using **Code Deploy**, **Code Pipeline**, and **Github Actions**
- Achieved **96.55%** branch coverage, ensuring reliable, seamless CI/CD by developing testing framework using Jest

HackIllinois | Github   Champaign*, IL*
Backend Developer (API)   *Sep 2023 - Feb 2024*
- Redesigned API endpoints used by 900+ users/staff in UIUC's signature hackathon using Express.js and Node.js
- Reduced costs by **98.5%** by redesigning database schemas, building CI/CD pipelines, and streamlining internal test suites
- Achieved a **99%** reduction in bandwidth usage for storing/viewing applicants' resumes by developing a service to facilitate user-specific uploads/downloads to **S3**

CoderDojo   Hinsdale*, IL*
Lead Computer Science Instructor   *Mar 2022 - Apr 2023*
- Taught students the fundamentals of programming, problem solving, and algorithm design
- Guided students in building their own applications/projects using Scratch and Python

PROJECTS

Senior Assassins Web Application | Github | Demo
- Created a full stack web application to facilitate a live action game
- Saved tens of hours of labor by developing and implementing full automation, including signup, personalized email notifications, and game logic automation
- Utilized **MongoDB** for data storage, including player profiles, game data, and player statistics
- Smoothly connected front-end and back-end by implementing a **RESTful API** using **Express.js** and **MongoDB**

File Hosting Application | Github
- Developed a TCP based client-server application in **C** allowing users to host files on a public server
- Implemented a custom text-based protocol to validate requests and handle bad/malicious requests from clients

AI Chinese Chess | Github
- Created a player vs computer, console-based version of Chinese Chess in C++
- Implemented the AI player using **alpha beta pruning** on a **game tree**, and a **Zobrist Hashing** based transposition table for maximum efficiency