

# Alex Yang

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## EDUCATION

### University of Illinois at Urbana-Champaign

May, 2026

*Bachelor of Science in Computer Science, Minor in Mathematics*

GPA: 4.0/4.0

- Relevant Coursework: Distributed Systems, Data Structures, Algorithms, System Programming, Database Systems, Computer Architecture, Probability & Statistics for CS, Combinatorics

## EXPERIENCE

### Software Engineer Intern, *Capital One*

Jun 2024 - Aug 2024

- Incorporated a model to predict optimal contact times into a Java SMS/Push fulfillment service, improving daily interactions for 600,000+ customers
- Designed and deployed a Python API to expose the prediction model, implementing auto-failover, multi-region deployment, and rollback deployment to ensure 99.9% uptime
- Created food location search website utilizing Next.js, Go, SQLite, and a GraphQL API to filter company options based on nutritional needs/dietary restrictions

### Software Engineer (API/Infra), *Reflections Projections*

Feb 2024 - Current

- Overseeing and managing the technical infrastructure for the Midwest's largest student run tech-conference, including registration, event management, notifications, newsletter distribution, and puzzle platforms
- Deployed API servers on an Linux-based EC2 instance with 0% downtime during updates by implementing a blue-green deployment strategy
- Developed a robust, custom CI/CD pipeline for the API using Code Deploy, Code Pipeline, and Github Actions
- Achieved 96.55% testing coverage, ensuring reliable, seamless CI/CD by developing testing framework using Jest

### Backend Developer (API), *HackIllinois*

Sep 2023 - Feb 2024

- Designed RESTful API endpoints used by 900+ participants, staff, and sponsors in UIUC's signature hackathon using TypeScript and Express
- Reduced costs by 98.5% by redesigning database schemas and transitioning from a microservices architecture to a monolith architecture
- Achieved a 99% reduction in bandwidth usage for storing/viewing applicants' resumes by developing a service to facilitate user-specific uploads/downloads to S3

### Lead Computer Science Instructor, *CoderDojo*

Mar 2022 - Apr 2023

- Taught a classroom of 15+ 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 | *MongoDB, Express, React, Node.js, Javascript*

- Created a full stack web application on a MERN stack to facilitate a live action game used by over 400 players/admin
- Saved tens of hours of labor by developing and implementing full automation, including signup, personalized email notifications, and game logic automation

### Grocery Deal Finder | *Python, Selenium, GeoPY, JavaScript, React, Next.js*

- Created website to find best grocery store deals near the user
- Leveraged Selenium to dynamically scrape weekly grocery deals, handling for a multitude of grocery website formats
- Utilized GeoPY and Google Maps API for location-based, personalized results

### AI Chinese Chess | *C++*

- Created a player vs computer, CLI version of Chinese Chess in C++
- Implemented the AI player using a minimax algorithm with alpha beta pruning on a game tree, and a Zobrist hashing based transposition table for increased performance

## TECHNICAL SKILLS

**Languages:** C, C++, Python, Java, JavaScript, TypeScript, HTML, CSS, Golang, SQL, GraphQL

**Technologies:** Node.js, React, Next.js, Express, Flask, MongoDB, AWS, Jest, Github Actions