

Alex Yang

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EDUCATION

B.S. in Computer Science, University of Illinois at Urbana-Champaign

May 2026

- **GPA:** 4.0
- **Relevant Coursework:** Distributed Systems, Data Structures, Algorithms, System Programming, Database Systems, Operating Systems, Computer Architecture, Probability & Statistics for CS, Combinatorics

EXPERIENCE

Course Assistant (System Programming), UIUC

Aug 2024 - Current

- Providing individualized guidance on topics including memory allocation, multithreading, networking, and file systems
- Conducting weekly office hours and assisting in lab sessions to reinforce course concepts and troubleshoot coding issues

Software Engineer Intern, Capital One

Jun 2024 - Aug 2024

- Integrated a predictive model for optimal contact times into a Java SMS/Push fulfillment service, enhancing daily interactions for over 600,000 customers
- Designed and deployed a Python API to expose the prediction model, implementing features such as auto-failover, multi-region deployment, and rollback capabilities, achieving 99.9% uptime
- Developed a food location search website utilizing Next.js, Go, SQLite, and a GraphQL API to filter company food options based on users' nutritional needs and dietary restrictions

Computer Science Instructor, CoderDojo

Mar 2022 - Apr 2023

- Instructed a classroom of 15+ students in the fundamentals of programming, problem solving, and algorithm design
- Guided students in building their own applications and projects using Scratch and Python

LEADERSHIP AND ACTIVITIES

Software Developer - API Lead, HackIllinois

Sep 2023 - Current

- Leading a team of 4 developers in building a TypeScript API for HackIllinois (UIUC's signature student-run hackathon)
- Reduced annual costs by 98.5% by redesigning database schemas and transitioning from a microservices architecture to a monolith architecture
- Achieved a 94% reduction in bandwidth by utilizing presigned S3 URLs for uploading/downloading applicants' resumes

Software Engineer - Infrastructure, Reflections Projections

Feb 2024 - Sep 2024

- Oversaw and managed infrastructure for the Midwest's largest student-run tech-conference
- Deployed API servers on a Linux EC2 instance with 0% downtime during updates by leveraging blue-green deployment
- Developed a robust, custom API CI/CD pipeline using AWS Code Deploy, AWS Code Pipeline, and Github Actions
- Achieved 96.55% testing coverage, ensuring reliable, seamless CI/CD by developing testing framework using Jest

PROJECTS

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

- Developed a comprehensive web application to help users discover the best grocery store deals in their area
- Leveraged Selenium to dynamically scrape weekly grocery deals, handling for a multitude of grocery website formats
- Integrated GeoPY and the Google Maps API to deliver personalized, location-based results

Senior Assassins | *MongoDB, Express, React, Node.js, Javascript*

- Developed a full stack web application on a MERN stack to facilitate a live action game used by over 400 players/admin
- Implemented full automation, including signup, personalized email notifications, and real-time game logic

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, Spring Boot, Numpy, Pandas, OpenCV, Flask, Valgrind, GDB, Docker