

## Contact

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(LinkedIn)

## Top Skills

Full-Stack Development  
Amazon Web Services (AWS)  
Node.js

## Languages

Chinese (Full Professional)  
English (Native or Bilingual)  
Spanish (Professional Working)

# Alexander Zhu

15-210 Teaching Assistant | Information Systems & Computer  
Science @ Carnegie Mellon University  
Poughkeepsie, New York, United States

## Summary

Hello! My name is Alex, and I am a third year student at Carnegie Mellon University studying Information Systems and Computer Science. I am particularly interested in working to solve large-scale problems within distributed systems and infrastructure, as well as cybersecurity.

As a student and engineer, I look forward to taking opportunities in fields or situations I am inexperienced or uncomfortable, especially those that give me the most room to grow and learn from those around me. I am keen to find experiences that challenge me to not only become a better developer, but a better communicator, leader, and teammate.

I highly prioritize learning and gaining experience on all parts of the tech stack, as well as in all facets as a developer. In the past, I have worked both as a technical leader and manager of a software development team at Studyfind, as well as cooperating and coordinating across several teams at Roblox to develop a new web pipeline.

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## Experience

Mycelium Sports  
Founding Engineer  
January 2024 - Present (6 months)  
Pittsburgh, Pennsylvania, United States

Co-led design and development efforts of two major initial prototypes used by 2 initial pilot users to process over 20 hours of sports content in less than 20 minutes each week. Rapidly deployed two prototypes in less than 1.5 weeks.

Created a backend utilizing AWS EC2 to host a computer vision algorithm using pose detection, face detection, and entropy-based analysis to find

clips of interest, as well as AWS S3 to store videos and AWS DynamoDB to maintain metadata for user videos.

Carnegie Mellon University  
15-210 Teaching Assistant  
January 2024 - May 2024 (5 months)

Co-taught weekly 50-minute recitations on Parallel Algorithms topics including Trees, Randomized Algorithms, Graph Algorithms, and Dynamic Programming.

Hosted office hours for over 200 students to teach parallel algorithms proofs, code, and complexity analysis.

StudyFind  
1 year 10 months

Lead Backend Engineer  
May 2023 - February 2024 (10 months)

Led and coordinated a dynamic team of 8 software developers, orchestrating Scrum sprints and implementing a streamlined workflow for design and development processes across the company.

Spearheaded the proposal and design of a MongoDB-based database system for the startup, integrating over 6 diverse datasets for efficient querying by HR, Marketing, and Software Engineering teams.

Oversaw the execution of 5 pivotal projects, including scraping and analyzing reviews from Yelp, automated emailing to clinical researchers, generating newsletters using ChatGPT, and outreach to Non-Profit organizations.

Software Developer  
December 2022 - May 2023 (6 months)  
United States

- Working as a part of the Business Intelligence team to automate file-processing and emailing to expand the registry of researchers at Studyfind.

Jr Software Developer Intern  
May 2022 - December 2022 (8 months)

Created a cloud-docker application to further automate the emailing process and remove as much human interaction as possible from the process.

Created a file-processor library from scratch, that automates webscraping, splitting and emailing of files, and uploads, shares, and downloaded files from Google Drive.

Worked as a part of the Business Intelligence team to create automated solutions, such as automating webscraping and outreach emailing of over 3000 researchers conducting research in underrepresented communities.

## Roblox

### Software Engineer Intern (App Infrastructure)

May 2023 - August 2023 (4 months)

San Mateo, California, United States

Conducted in-depth research and presented a proposal for a new development pipeline for the Roblox Web, utilizing web components. Successfully orchestrated a high-impact initiative that engaged more than 5 internal teams, showcasing a commitment to innovation and cross-functional collaboration.

Led the project as an App Infrastructure intern, steering crucial design decisions. Established a comprehensive framework for the Roblox Web pipeline by creating a GitHub template, publishing 3 npm packages, and developing 4 essential components. This end-to-end solution was integrated into the production environment, marking a significant milestone.

Through rigorous experimentation, confirmed the absence of negative effects on users or performance. Shared compelling findings with 3 stakeholder/early-adopter teams, preparing for pipeline integration into Roblox Web by Q1 of 2024.

## Carnegie Mellon University

### CMU Computer Science Academy Outreach Team Member

May 2022 - September 2022 (5 months)

- Co-led Professional Development sessions alongside other CS Academy team members in which we taught the CS Academy curriculum and answered teachers' questions.
- Created creative tasks (projects) to be shared for Juneteenth and shared in the CS Academy curriculums.
- Created projects for teachers to use in classrooms (i.e. name-picker project) and potential exercises to be added to CS1.
- Handled helpdesk tickets and teacher account requests.

- Learned the entirety of CS0, CS1, CSP, and CS2 Python curriculums on CS Academy.
- Created Kahoot quizzes for CS2.

Carnegie Mellon University  
High School Spanish Teaching Assistant  
October 2021 - November 2021 (2 months)  
Alderdice High School

- Teaching assistant in Spanish 2, Spanish 3, Spanish 4, and AP Spanish 5 classrooms.
- Taught students 1-on-1 and in small groups to help them catch up with in-class lessons and homework.
- Helped teach students with learning/developmental disabilities.

Xylem  
Xylem Ignite Program Intern  
March 2020 - June 2021 (1 year 4 months)

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## Education

Carnegie Mellon University  
Bachelor's degree, Information Systems · (August 2021 - May 2025)

Spackenkill High School  
· (September 2017 - June 2021)