ALBERT YE | https://aly.sh/

Berkeley, CA

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EDUCATION

University of California, Berkeley — **Berkeley, CA**
Bachelor of Arts in Computer Science — *Class of 2025*

- **Cumulative GPA:** 3.95/4.0
- **Relevant Coursework:** Computer Architecture, Computer Security, Operating Systems, Compilers, Upper-Division Algorithms, Probability and Random Processes, Optimization Models
- **Activities:** Upsilon Pi Epsilon, Berkeley Math Tournament Test Organizer, CALICO Informatics Competition Officer, Open Computing Facility DeCal Head, ACM-ICPC Berkeley Gold (2022 PacNW)
- **Awards:** Dean's List, USACO Platinum (US Open 2021), 5x AIME Qualifier

WORK EXPERIENCE

Amazon – AGI Data Services — **Boston, MA**
Software Development Engineer Intern — *Jun 2024 – Aug 2024*

- Developed a metadata registry web app to enhance data accessibility and management within Alexa's data lake, streamlining infrastructure for data-driven analysis.
- Automated an internal data-search process into a scalable customer-facing tool using cloud services and integrating both backend and frontend components, resulting in reduction of response time from 2 days to seconds.

UC Berkeley — **Berkeley, CA**
Teaching Assistant — *Jan 2024 – Present*

- Held weekly discussion sections with 66 registered students, presenting concepts taught during lecture.
- Held multiple office hours a week, where I helped reinforce conceptual questions and debug coding projects.
- Analyzed multiple large codebases per office hours session, and worked with students to find and resolve bugs.

X-Camp Academy — **San Jose, CA**
Instructor — *Jan 2022 - Present*

- Taught data structures/algorithms topics such as binary search, graph traversals, and dynamic programming in preparation for USACO competitions.
- Facilitated student discussions to foster a collaborative and productive environment.

PROJECTS

MapReduce — *Nov 2024*

- Implemented a MapReduce coordinator in Rust to distribute map and reduce tasks to workers.
- Ensured thread and memory safety to allow for effective parallelization.

Physics Engine — *Dec 2023*

- Wrote a game based on the mechanics of Suika Game in Rust using the Bevy game engine.
- Created a physics engine from scratch to handle gravity and its effect on collisions between rigid circles of varying sizes inside of an enclosure.

Secure File Storage and Sharing System — *Oct – Nov 2023*

- Designed a secure file storage and sharing system in Go to ensure security in the presence of an untrusted server, using cryptography to protect against tampering and unauthorized access.
- Developed key features including user authentication, secure file storage/retrieval, file sharing via invitations, and access revocation, all while detecting data tampering and ensuring stateless, atomic operations.

SKILLS

Languages: C, C++, Java, Python, Rust, Go, Javascript, TypeScript, Assembly (RISC-V and x86)

Frameworks: React, AWS, Amazon CDK, Kubernetes, Docker