

ALLEN GU

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Education

BS University of California, Berkeley, Electrical Engineering and Computer Science

Berkeley, California, USA

Work Experience

Workday, Software Engineering Intern (Site Reliability)

2023 to 2024

- Created automation tooling for development workflow and continuous integration through a Go AWS Lambda bot.
- Led the migration of a repository with 100+ developers to integrate the bot by defining and coding requested features.
- Improved observability through Cloudwatch metric monitoring and Prometheus alarming, deployed on AWS EKS cluster.
- Built AWS, Prometheus, and Kubernetes architecture with infrastructure as code (IaC) tool Terraform.

UC Berkeley Department of EECS, 20-hour Undergraduate Student Instructor (uGSI)

2023 to 2024

- Taught weekly discussion and lab sections, review sessions, and office hours for courses totaling 2500+ students.
- Created and edited course content to enhance learning (worksheets, video walkthroughs, and study guides).
- uGSI/Teaching Assistant for CS 61B (Java/Data Structures) and CS 70 (Discrete Math/Probability).

Berkeley Codeology, Director of Technology

2023 to 2024

- Coordinated 5 internal and 2 contract projects, providing tech exploration opportunities for 60 students.
- Guided and supported a 15-member committee in brainstorming project ideas, developing curriculums, and debugging.
- Mentored a team of 5 student developers in FlapPy, a self-created project utilizing Pygame, neural networks, and genetic algorithms to train artificial intelligence to play Flappy Bird.

Avanti, Software Developer

2023 to 2024

- Built a React Native mobile app from scratch that connects K-12 students with local tutors in various subjects.
- Led the implementation of various features including user authentication, organizing sessions, and real-time messaging.
- Utilized the Sharetribe API and React contexts to manage tutoring sessions and user data.

Projects

Gitlet Java | Java

- Engineered a custom version control system based on Git.
- Supported basic methods (init, add, remove, commit, status, log), branching, and remote repositories.
- Implemented search algorithms and data structures to merge branches and track files across commits.

Spotify Collab | HTML, CSS, Javascript, React.js, Node.js, PostgreSQL, SocketIO

- React.js website for collaborating on playlists, connecting users, and joining listening rooms using Spotify's API.
- Implemented synchronized listening and playback state with web sockets and a PostgreSQL database.
- Designed a frontend with React.js and created a Node.js backend for authenticating users and interacting with Spotify.

ClassifAI | Swift, Python, Flask

- iOS app that allows users to build training datasets and classify images from their phone camera or photo gallery.
- Designed the UI in Figma, built the iOS frontend with SwiftUI, and set up a Flask server to interact with AWS services.
- Integrated AWS S3 to store training image files and AWS SageMaker to train the image classification model.

Skills

Languages: Python, Java, Golang, SQL, HTML/CSS, Javascript, Swift, C/C++, Bash, RISC-V Assembly

Technologies: Amazon Web Services (AWS), Terraform, Kubernetes, Docker, Prometheus, Git, React.js, React Native, Node.js, Firebase, Flask, Numpy, Pandas, Matplotlib, PyTorch