

# Siyuan Zhai

[sizhai@berkeley.edu](mailto:sizhai@berkeley.edu) — [GitHub](#) — [LinkedIn](#) — [Portfolio](#)

## EDUCATION

### University of California, Berkeley

B.S. in Electrical Engineering & Computer Sciences (EECS)

Berkeley, CA

Expected: Dec 2025

*Relevant Coursework:* Data Structures, Designing Information Devices and Systems I & II, Optimization Models in Engineering, Discrete Mathematics and Probability Theory, Foundations of Data Science, Introduction to Robotics, Introduction to Computer Vision and Computational Photography

## TECHNICAL SKILLS

- **Languages:** JavaScript (ES6+), Python, C++, Java, HTML/CSS
- **Front-End:** React, Redux, WebRTC, WebSockets
- **Back-End:** Node.js, Express, Flask
- **Databases:** MySQL, PostgreSQL, Firebase, SQLite
- **Cloud & Tools:** Docker, Google Cloud (Cloud Run, Pub/Sub), Git, TDD, Agile

## EXPERIENCE

### Software Engineer Intern

Jan 2024 – May 2024

*Ochy, Remote*

- Built a video creation service using **Remotion** and **React**, automating social media content for enhanced user engagement.
- Integrated **Google Pub/Sub** and Firebase to streamline upload processes, cutting manual overhead by 40%.
- Containerized microservices with **Docker** for scalable deployment on **Google Cloud Run**, reducing deployment time significantly.
- Collaborated in Agile sprints, performing code reviews and optimizing system resilience.

### Student Consultant, Software Development

Sep 2023 – Nov 2023

*Open Avenues Career Pathways, Remote*

- Developed a **Virtual Office** project to improve remote communication using React, Redux, and Node.js.
- Implemented **WebRTC** for real-time video calls and **WebSockets** for dynamic participant positioning.
- Increased user engagement by creating an interactive UI that updates participants' positions automatically in real time.

### Data Analysis Intern

Jun 2023 – Aug 2023

*Lawrence Berkeley National Laboratory, Berkeley, CA*

- Developed automated pipelines to collect and process sensor data (1M+ records/day), improving data accessibility by 40%.
- Designed **Power BI** dashboards for real-time KPI tracking, enabling data-driven decisions by senior engineers.
- Optimized complex **SQL** queries, reducing response times by 30% on large datasets.
- Deployed **TensorFlow** and **Scikit-learn** for predictive maintenance, cutting equipment downtime by 15%.

## PROJECTS

### To-Do List Web Application

[Live Demo](#) — [GitHub](#)

- Built a Flask-based **CRUD** web app with **SQLite** for multi-user task management.
- Secured user data with **Flask-Bcrypt** and **Flask-Login**, improving overall application reliability.

### Lyft Back-End Engineering Job Simulation

Dec 2023

- Took over development of an unfinished back-end project, refactoring a legacy codebase using **TDD**.
- Drafted a UML class diagram representing a reorganized architecture, reducing technical debt and improving clarity.

### J.P. Morgan Software Engineering Virtual Experience

Dec 2023

- Fixed broken repository files, ensuring correct web app output and data flow.
- Used **Perspective** library to generate a live, visually appealing trader data feed.

## ADDITIONAL EXPERIENCE

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### Computer Science Tutor & Teaching Assistant

*City College of San Francisco, CA*

Aug 2022 – May 2023

- Provided guidance in Python, C++, and Java to 100+ students, achieving a 90% pass rate.
- Conducted weekly workshops to reinforce concepts, increasing student comprehension by 20%.