

Zachary Huang

2606 Fulton St Berkeley, CA 94704

zchhuang.github.io

(954) 536-2978

zach9040@berkeley.edu

EDUCATION

University of California, Berkeley | Berkeley, CA

Bachelor of Arts, Computer Science and Applied Mathematics

GPA: 3.52/4.00

Selected Coursework: Operating Systems, Intro. to Machine Learning, Machine Structures, Discrete Mathematics and Probability Theory, Efficient Algorithms, Databases, Computer Security, Compilers and Programming Languages

Expected May 2022

Generation Change Scholar

EXPERIENCE

Amazon, Remote, *Software Development Engineer Intern*

May 2021 - Aug 2021

- Designed and created an automatic SIM / JIRA crash ticket reporting system that automatically identifies and resolves similar crash tickets, reducing the number of manually resolved tickets by over **50%**, eliminating frequent alerts and increasing productivity
- Gathered hundreds of crash ticket entries and analyzed stack traces in order to produce an over **95%** accurate similarity score to compare tickets, using existing **Java** APIs.
- Constructed an external **Grafana** dashboard application integrated with a **PostgreSQL** database in order to mediate weekly operational meetings using **DocumentDB** crash data.

Amazon, Remote, *Software Development Engineer Intern*

May 2020 - Aug 2020

- Planned and implemented a new wire protocol opcode that acts as a compressible wrapper for commands and queries, lowering message sizes by **50%** using C++
- Lowered network bandwidth usage of DocumentDB queries by **45%** on average and decreased latency by **20%** on average when performing large queries by preventing network bandwidth bottlenecks.
- Built a comprehensive unit test and integration test suite for the new protocol using **Javascript**, and conducted extensive performance tests using 1000+ GB of **Python** generated JSON dummy data.

ISAACS, Berkeley, CA, *Student Researcher*

March 2021 - Present

- Improved line and waypoint collision for drone movement and addressed 10+ user bugs, reducing the rate of collisions by **20%**, improving the reliability of drone manipulation using **Unity** and **C#**

University of San Francisco, San Francisco, CA, *Student Researcher*

Sept, 2019 - Feb, 2020

- Added commands for phase shifting, baseline estimation, and metabolic quantification to adjust MRS data, which are used in over **90%** of cases for analysis
- Drafted an initial design for a 3D GUI for SIVIC, an open-source 3rd party MRS analysis application

PROJECTS

Pandemic Web

pandemic.meteorapp.com

- Coordinated between a team of four to design and develop a full stack online multiplayer board game, reminiscent of Pandemic, in **Javascript** using **React**, **MeteorJS**, and **MongoDB**
- Implemented **50%** of the player and game command API in the backend, integrating Meteor functionality with MongoDB in order to sync the players with the game state in the database
- Programmed and integrated **40%** of the frontend React UI logic with the Meteor backend functionality
- Operated as a pair to wireframe and create the gameplay and title screen UI using **React**, **CSS**, and **Figma**

Jiggie

- Built a puzzle solving application using Python's **OpenCV** library matching pieces with $\geq 85\%$ accuracy
- Improved puzzle piece detection by 40% using Harris Corner Detection to find the overall dimensions of the piece

SKILLS

- Programming:** Python, Java, C, C#, C++, Javascript, Golang, HTML5, CSS, R, Matlab, SQL
- Frameworks:** Node.js, React.js, MeteorJS, SciPy, Numpy, Django, J2EE, JUnit
- Tools:** AWS (EC2, RDS, DocumentDB, etc.), MongoDB, PostgreSQL, Figma, Grafana, Docker