Zachary Huang

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EDUCATION

University of California, Berkeley | Berkeley, CA **Expected May 2022**
Bachelor of Arts, Computer Science **Generation Change Scholar**
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

EXPERIENCE

Amazon, Remote*, Software Development Engineer Intern* **May 2021- Aug 2021**

- Designed and created an automatic **SIM** 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 create an over **95%** accurate similarity score to compare tickets, using existing **Java** APIs.
- Designed and created an external **Grafana** dashboard application integrated with a **PostgreSQL** database in order to display DocumentDB crash data for weekly operational meetings.

Amazon, Remote*, Software Development Engineer Intern* **May 2020 - Aug 2020**

- Implemented OP_Compressed, a new wire protocol opcode that acts as a compressible wrapper for commands and queries (**C++**)
- Lowered network bandwidth usage of DocumentDB queries by **45%** on average and decreased latency significantly when performing large queries by reducing network bandwidth bottlenecks.
- Created a comprehensive unit test and integration test suite for the new protocol using **Javascript**, and conducted extensive performance tests using **Python** generated JSON dummy data.

ISAACS, Berkeley, CA, *Student Researcher* **March 2021- Present**

- Addressed **10+** user bugs and improved line and waypoint collision for drone movement, improving the reliability of drone manipulation, using **Unity** and **C#** primarily
- Developed and improved the augmented reality user interface for aerial drone usage

University of San Francisco, San Francisco, CA, *Student Researcher* **Sept, 2019 - Feb, 2020**

- Implemented features for SIVIC, an open source software framework and application suite based in **C++** to process and visualize MR Spectroscopy Data
- Added commands for phase shifting, baseline estimation, and metabolic quantification to adjust MRS data

PROJECTS

Pandemic Web **pandemic.meteorapp.com**

- Developed a full stack online multiplayer board game, reminiscent of Pandemic, in **Javascript** using **React, MeteorJS,** and **MongoDB**
- Implemented player commands in the backend, integrating Meteor functionality with MongoDB in order to sync the players with the game state in the database
- Integrated the frontend React UI logic with the Meteor-based backend functionality
- Designed and created gameplay and title screen UI using **Figma**

Jiggie

- Designed a puzzle solving application using Python's **OpenCV** library matching pieces with >= 85% accuracy
- Refined puzzle piece detection using Harris Corner Detection based on the area determined by corners

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