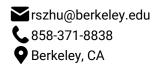
# RICHARD S. ZHU





#### **EDUCATION** University of California, Berkeley

**B.A.** Computer Science

Relevant Coursework: Data Structures, Structure of Computer Programs, Linear Algebra & Circuits

# TEACHING/ **TUTORING**

# **Catalyst for Success**

San Diego, CA

**GPA:** 3.90

Treasurer, Senior Technology Mentor

Aug. 2017 — Jul. 2019

- Taught programming and circuitry at the library to over 200 students (Python, Javascript, Arduino)
- Worked with library officials to organize regular weekly workshops and week-long summer camps
- Received the Catalyst Gold Award for outstanding commitment to the club

### **Momentum Physics Tutoring and Outreach**

San Diego, CA

President, Senior Mentor

Sep. 2017 - Jul. 2019

- Collaborated with high school physics faculty to organize afterschool peer tutoring sessions
- Expanded club schedule and recruited mentors to accommodate a growing number of physics students
- Mentored peers one on one with AP Physics C, AP Physics 1-2, and Physics 1-2 Material

### **Gateways Summer School**

San Diego, CA

Teaching Assistant (Paid)

Jul. 2018 — Aug. 2018

- Aided Architecture & Engineering teacher with giving lessons and explaining provided examples
- Guided 30 students on their projects and supervised them during break, learning, and work times

#### **EXPERIENCE**

# California PATH (Partners for Advanced Transportation Technology)

Berkeley, CA

Research Assistant

Oct. 2019 - Present

- Evaluated effectiveness of the Caltrans-proposed "Yellow Alert" intelligent transportation system
- Synced positional, sensor, and behavioral data collected from driving simulation test trials
- Wrote Python scripts to automate trial data analysis, utilizing SciPy, NumPy, and H5Py

## **PROJECTS**

# **Investment Portfolio Diversity Visualization Tool (Python)**

- Won the BlackRock API Prize at CalHacks 6.0, the largest collegiate hackathon in the world
- Built a tool that visualizes the diversity of an investment portfolio given any applicable security attribute
- Leveraged BlackRock's API to compile, sort, and categorize security data from an array of stock symbols
- Integrated MatPlotLib to visualize calculated diversity data and to create a GUI for user portfolio input

# **Bomberman Remastered (Java)**

- Created an improved remake of the classic game Bomberman that runs on modern operating systems
- Devised a completely original "competitive mode", featuring dynamic, real time multiplayer gameplay
- Utilized the Java Swing toolkit to design game menus, handle player controls, and execute game events

#### Personal Website (HTML, CSS, JavaScript)

- Designed and built a personal website from the ground up, utilizing the Bootstrap frontend framework
- Incorporated jQuery for site animations and the Google Fonts API for global typeface compatibility
- Hosted page files remotely on UC Berkeley Open Computing Facility servers, via SSH File Transfer

# Scheme Language Interpreter (Python)

- Constructed an interpreter for the Scheme programming language (a dialect of Lisp)
- Implemented environments, lexical and dynamic scoping, exceptions, macros, and special forms

#### **Smart Typing Practice Program (Python)**

- Developed interactive typing program that calculates typing speed and accuracy with every keystroke
- Programmed smart autocorrect feature that determines similarity between input and a base word

#### **AWARDS**

Winner, CalHacks 6.0 BlackRock API Prize Oct. 2019

Computer Science Scholar, Intuit Scholarship Program Apr. 2019 Computer Science Scholar, Intuit George A. Hansen Program Apr. 2019

Dec. 2018

Champion, SoCal Developmental Soccer League Div. 1