# RICHARD S. ZHU





**Expected Graduation:** May 2023

**EDUCATION University of California, Berkeley** 

B.A. Computer Science

Relevant Coursework: Structure of Computer Programs, Information Devices and Systems

**SKILLS** Languages: Python, Java, SQL, HTML/CSS, JavaScript

Frameworks/Technologies: Git, Linux (Ubuntu), NumPy, Bootstrap

**PROJECTS** 

### Investment Portfolio Diversity Visualization Tool (Python, MatPlotLib, Git)

- ★ Winning Project of the CalHacks 2019 BlackRock API Prize
- A tool that visualizes the diversity of an investment portfolio given any applicable security attribute
- Leveraged BlackRock 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, Git)**

- An improved remake of the classic video game Bomberman that can be played on modern devices
- Fully recreated core gameplay functionalities, such as player action timers and random power-up drops
- Added an all-new local multiplayer mode, including dynamic player vs. player gameplay
- Utilized the Java Swing toolkit to design game menus and update graphical textures

## Scheme Language Interpreter (Python)

- An interpreter for the Scheme programming language (a dialect of Lisp), built using Python
- Implemented environments, lexical and dynamic scoping, exceptions, macros, special forms, and more
- Ensured correct recursive evaluation procedures for call expressions, special forms, and primitives

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

- · An interactive typing program that calculates typing speed and accuracy with every keystroke
- Built smart autocorrect feature that determines similarity between input and a base word
- Set up communication of clientside information to game servers for multiplayer "racing" integration

## Personal Website (HTML, CSS, JavaScript)

- Created a personal website from the ground up, adhering to a planned set of design principles
- Utilized the Bootstrap framework to organize page layout and specify element styling

#### **EXPERIENCE Gateways Summer School**

San Diego, CA

Teaching Aide

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

**Online Clothing Page** San Diego, CA

Self Employed

Jan. 2018 — May 2019

- Sold, packaged, and shipped clothing, cosmetics, books, and other items online
- Completed over 85 transactions, totalling a revenue of \$2,237.35

#### **ACTIVITIES Catalyst for Success**

San Diego, CA

Sep. 2017 - Aug. 2019

Treasurer, Senior Technology Mentor

- 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

#### **OTHER Awards**

- CalHacks 2019 BlackRock API Prize
- Intuit George A. Hansen Computer Science Scholar
- Southern California Developmental Soccer League Div. 1 Champion