RICHARD S. ZHU

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EDUCATION

University of California, Berkeley — **Expected Graduation:** May 2023
B.A. Computer Science
Relevant Coursework: Structure of Computer Programs, Linear Algebra & Circuits

PROJECTS

Investment Portfolio Diversity Visualization Tool (Python)

✪ **Won the BlackRock API Prize at CalHacks 2019,** 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
- 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

EXPERIENCE

California PATH (Partners for Advanced Transportation Technology) — **Berkeley, CA**
Research Assistant — *Nov. 2018 — 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

Gateways Summer School — **San Diego, CA**
Teaching Assistant — *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

ACTIVITIES

Catalyst for Success — **San Diego, CA**
Treasurer, Senior Technology Mentor — *Sep. 2017 — Aug. 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

AWARDS

CalHacks 2019 — BlackRock API Prize Winner — *Oct. 2019*
Intuit Scholarship Program — Computer Science Scholar — *Apr. 2019*
Intuit George A. Hansen Program — Computer Science Scholar — *Apr. 2019*
SoCal Developmental Soccer League — Div. 1 Champion — *Dec. 2018*

SKILLS

Languages: Python, Java, SQL, HTML/CSS, JavaScript
Frameworks/Technologies: Git, Unix, Bootstrap, NumPy, MATLAB