



# RICHARD S. ZHU

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<b>EDUCATION</b>	<b>University of California, Berkeley</b> B.A. Computer Science <i>Coursework:</i> Data Structures & Algorithms, Structure of Computer Programs, Linear Algebra & Circuits	<b>GPA 3.90</b>
<b>EXPERIENCE</b>	<b>California PATH (Partners for Advanced Transportation Technology)</b> <i>Research Assistant</i> <ul style="list-style-type: none"><li>Helped evaluate potential safety impacts of the Caltrans-proposed "Yellow Alert" highway message system by automating portions of the data collection and analysis process</li><li>Synced positional, sensor, and behavioral data collected from driving simulation experiments</li><li>Wrote Python scripts to extract key points from trial data sets, utilizing Python statistics libraries</li><li>Worked with thousands of data points from over 40 unique driver trials</li></ul>	<b>Berkeley, CA</b> Oct. 2019 — Present
	<b>UC Berkeley College of Engineering</b> <i>Academic Intern</i> <ul style="list-style-type: none"><li>Assist in lab sections for The Structure and Interpretation of Computer Programs (CS 61A)</li><li>Teach fundamental computer science concepts to a section of ~25 students</li><li>Help students with understanding, writing, and debugging lab programming assignments</li></ul>	<b>Berkeley, CA</b> Jan. 2020 — Present
<b>PROJECTS</b>	<b>Investment Portfolio Diversity Visualizer (Python)</b> <ul style="list-style-type: none"><li><u>Won the BlackRock API Prize at Cal Hacks 6.0</u>, the largest collegiate hackathon in the world</li><li>Built a tool that helps users gain insight into the diversity of an investment portfolio in relation to any applicable security data attribute (e.g., sector, asset type, or country)</li><li>Leveraged BlackRock's API to compile, sort, and categorize security data from a set of stock tickers</li><li>Integrated Matplotlib to visualize calculated diversity data and to create a GUI for portfolio input</li></ul> <b>Bomberman Remastered (Java)</b> <ul style="list-style-type: none"><li>Created an improved remake of the game Bomberman that runs on modern operating systems</li><li>Devised a completely new and original "competitive mode", featuring dynamic multiplayer gameplay</li><li>Utilized the Java Swing toolkit to design game menus, handle controls, and execute game events</li><li>Played extensively by peers and voted in the top 3 when presented at a school project fair</li></ul> <b>Personal Website (HTML, CSS, JavaScript)</b> <ul style="list-style-type: none"><li>Designed and built a personal website from scratch, utilizing the Bootstrap front end framework</li><li>Incorporated jQuery for site animations and the Google Fonts API for global typeface compatibility</li><li>Hosted page files remotely on UC Berkeley Open Computing Facility servers, via SSH File Transfer</li></ul> <b>Scheme Language Interpreter (Python)</b> <ul style="list-style-type: none"><li>Constructed an interpreter for the Scheme functional programming language (a dialect of Lisp)</li><li>Ensured correct evaluation procedures for exceptions, macros, and short-circuiting special forms</li><li>Optimized memory by implementing tail recursion, environments, and lexical/dynamic scoping</li></ul>	
<b>ACTIVITIES</b>	<b>Catalyst for Success</b> <i>Treasurer, Senior Technology Mentor</i> <ul style="list-style-type: none"><li>Taught programming and circuitry at the library to over 200 students (Python, Javascript, Arduino)</li><li>Worked with library officials to organize regular weekly workshops and week-long summer camps</li></ul>	<b>San Diego, CA</b> Sep. 2017 — Aug. 2019
<b>AWARDS</b>	<b>Winner</b> , CalHacks 6.0 BlackRock API Prize <b>Computer Science Scholar</b> , Intuit Scholarship Program <b>Computer Science Scholar</b> , Intuit George A. Hansen Program <b>Champion</b> , Southern California Developmental Soccer League Div. 1	Oct. 2019 Apr. 2019 Apr. 2019 Dec. 2018
<b>SKILLS</b>	<b>Languages:</b> Python, Java, SQL, HTML/CSS, JavaScript <b>Frameworks/Technologies:</b> Git, Unix, Bootstrap, NumPy, MATLAB	