

# Zachary Brandt

✉ zbrandt@berkeley.edu    zacharypbrandt    zbrandt

## Education

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### B.A. University of California, Berkeley

Economics, Computer Science

- GPA: 3.9/4.0
- Awards: Dean's Honors List – College of Letters & Science

Berkeley, CA

Aug 2023 – June 2027

## Experience

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### Stanford, Department of Economics

Research Assistant

Palo Alto, CA

Feb 2024 – Aug 2024

- Conducted econometric analysis and reserach on cross-sector firm market power
- Led data wrangling, EDA, and visualization on national employment datasets
- Contributed insights to burgeoning literature on industrial organization

### Blockchain at Berkeley

Project Manager

Berkeley, CA

Sept 2023 – present

- Led teams in developing solutions for blockchain-native firms and others like FIFA
- Oversaw project management, deliverables, and communication with our clients
- Built prize-winning applications and industry networking at global hackathons

### ΑΓΩ, Beta Chapter

Vice President

Berkeley, CA

Aug 2024 – present

- Resurrected chapter from just two active members to 18 living in-house
- Budgeted, managed over \$70,000 in expenses, deposits, and savings each semester

### FRC 8, Paly Robotics

Subteam Captain

Palo Alto, CA

Sept 2019 – June 2023

- Created mobile & web apps to collect competition data for creating match strategies

## Projects

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### Machine Learning

Nov 2025

Neural networks in RISC-V assembly code to classify digits, language

- Implemented non-linear activation functions and matrix multiplication in assembly
- Optimized convolutional networks via SIMD and multi-threaded parallelization in C

### Computer Architecture

Nov 2025

Built a piplined CPU that supports RISC-V instructions

- Designed ALU, RegFile, and Immediates in Logisim for executing instructions
- Pipelined datapath into multiple stages while handling control and data hazards

### Reinforcement Learning

Oct 2025

Implemented value iteration and Q-learning agents with robot controller

- Created an MDP and feature extractor for testing agents in learning environments

## Skills

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**Programming:** C/C++, Linux, MATLAB, Python, Java, JavaScript, R, RISC-V, Scheme, Solidity, SQL

**Mathematics:** Optimization, discrete, probability, linear algebra, differential equations, multivariable, statistics

**Languages:** English, German (C2 proficiency certified), Ancient Greek