

SEBASTIAN ZHAO

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Education

University of California, Berkeley

Bachelor of Arts in Computer Science and Data Science (GPA: 3.98)

May 2025

Berkeley, CA

Relevant Coursework

- Structure & Interpretation of Computer Programs, Data Structures, Discrete Math & Probability Theory, Designing Information Device & Systems I & II, Foundations of Data Science, Artificial Intelligence, Probability for Data Science, Machine Structures, Principles and Techniques of Data Science, Machine Learning, Optimization

Experience

Launchpad Project Leader

January 2023 - May 2023

Project Leader

Berkeley, CA

- Led a project integrating a novel transformer architecture with latent diffusion models for culinary uses.
- Built and deployed website hosting model inference using our custom model with React and Flask.
- Previously trained generative adversarial networks to image-to-image style transfer pets into a data-augmented Pokemon domain 50% faster and 50% more memory efficient than the previous state-of-the-art.

Computer Science Mentors Tech

November 2021 – Present

Software Developer

Berkeley, CA

- Implemented back-end in Django for word-of-the-day feature, decreasing time to take attendance by up to 5000%, enabling ability to track section attendance for 2000+ students.
- Analyzed 4 semesters' worth of student and mentor data using pandas to evaluate diversity and efficacy of DE&I efforts.

Berkeley Artificial Intelligence Research Undergraduate Researcher

September 2022 – Present

Undergraduate Researcher

Berkeley, CA

- Building package and pipeline to replicate and simulate human studies using large language models.
- Investigating strategies to provide a prior on target user demography through conditioning and fine-tuning.
- Creating the first comprehensive human studies benchmark with LLM performance on replication.

Case Western Reserve University Research Assistant

April 2022 – May 2023

Undergraduate Researcher

Cleveland, OH

- Publishing a convolutional neural network pruning paper building upon a previous ICLR submission, beating previous state-of-the-art pruning method's adversarial robustness and benign accuracy by up to 6% accuracy.
- Updated 5 previous high-impact structured pruning methods and developed an adversarial attack pipeline for benchmarking 10+ pruning methods against our state-of-the-art grouped kernel pruning method.

Projects

YouTube Recommender System Analysis | *Python, Node.js, Docker, NetworkX, pandas*

September 2022

- Scraped over 10,000,000 recommendations and videos using a distributed system, conducted exploratory data analysis and network analysis using networkX.
- Migrated scraping to AWS EC2 for scalability, tested scraper deployment on Berkeley's computing cluster with parallelization and load balancing.

Event Study of Tweets' Effects on Stock Market | *Python*

August 2021

- Conducted an event study on WRDS to determine whether Trump's Tweets on the U.S.-China trade war affected share price of U.S.-listed Chinese companies, finding statistical significance in the positive direction.
- Applied lexical-based sentiment analysis in Python to score Tweets as positive or negative and then determined correlation of sentiment with market movement.

Eleusis Bot | *Python*

June 2020

- Built an AI that optimizes playing the card game Eleusis with a group of students at Carnegie Mellon University.
- Spearheaded mathematical analysis of the game, created a bot that wins 89% of it's games, and developed novel insights of the optimal moves given limited information.

Technical Skills

Languages: Python, JavaScript, Java, C, C++, SQL, Scheme, RISC-V

Libraries/Frameworks: React, Django, Flask, PyTorch, NumPy, pandas, matplotlib, seaborn

Tools: Docker, Git, AWS