Edwin Zhang

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Education

University of California, Santa Barbara, California September 2019 – June 2022
Bachelor of Science Computer Science
GPA: 3.96
Graduated top of class at age 19
Regents Scholar (top 2.5% of school), College of Engineering Honors Student
Relevant coursework: Game Theory, Statistical Machine Learning, Intro to Data Science, Convex Optimization, Intro to Deep Learning, Special Topics in Deep Learning

Palomar Community College, San Marcos, California September 2018 – June 2019
GPA: 4.00
Concurrent enrollment with Westview High School.
Relevant coursework: Multivariable Calculus and Differential Geometry, Linear Algebra

Westview High School, San Diego, California September 2018 – June 2019
GPA: 4.00
Graduated top of class at age 16

Research Interests

- RL for Social Good
- Principles of Intelligence
- Generalizability in RL and AI Alignment

Research Experience

Language augmented diffusion models in RL (Professor Amy Zhang, Yujie Lu, Professor William Wang) July 2022 – Present
First author

- Proposed extension of diffusion RL models with language to enable generalization
- Currently in progress as part of Meta internship, will submit to ICLR 2023 or ICML 2023

Improving Training Stability and Asymptotic Performance in Offline Reinforcement Learning (Jiachen Li, Professor William Wang) Sept 2021 – May 2022
Co-first author

- Designed rigorous alternative method for solving policy improvement in closed form through Taylor Approximation
- Led technical implementation and experiment running, creating a multiprocess RL research framework with over 15000 lines of Python designed for quick iteration, highly performant training, and painless maintainability
- Submitted to NeurIPS 2022

Biometric authentication with EEG brainwaves (Yi Ding, Professor Tobias Hollerer) March 2020 – Sept 2020
Second author

- Inspired by the high discriminative capability of EEG, created a new variant of leave one out validation for binary classification with event-related potentials
- Wrote experiments building on top of existing multimodal CNN models to empirically validate performance. Achieved 99% classification accuracy
- Preprint

Accessible Sexuality Education (Professor John Baldwin) October 2019 – March 2020

Backend developer and Webmaster

- Lead developer for homepage, topics page, search bar, and FAQ page, working closely with content team to bring sexual education to disadvantaged individuals who may not traditionally have had access to such information
- Reduced load times by 80% by enabling server and client side caching, increasing monthly viewership by 30% from 40,000 to 53,000

Employment History

Meta

Research Intern June 2022 – Present

Plato Systems

Computer Vision and Software Engineering Intern June 2021 – June 2022

- Developed multiple view calibration pipeline through planar homographies and OpenCV.
- Created set up process and capture script for NVIDIA Jetson platform with multiple third party imaging providers.
- Designed and led benchmarking of several potential imaging candidates in low light, high light, and no light settings.
- Refactored and contributed to the primary user-facing web application, utilizing VueJS and Express.

Allthenticate

Lead Fullstack Engineer/First Hire Jan 2020 – June 2021

- Led development on cloud platform in early stage startup, architecting scalable and flexible REST API from scratch.
- Taught advanced Vue JS by taking complete responsibility at each step of the development phase – delivered a full web application while teaching and leading two other interns working on the same project.
- Built and deployed python backend with over 27000 lines to use Elastic Beanstalk, implementing dockerized development process to speed up iteration cycles by 25%.
- Gained experience with emerging web technologies such as JWT, ProtoBuf, and Nuxt.js

Yaitea (self-employed)

Business Owner August 2018 – September 2019

- Assessed a need for tutoring code and critical thinking to children in San Diego, as programming skills arose in demand and traditional tutoring services struggled to keep up
- Gained comprehensive experience with Google Cloud, Nginx, WordPress, and Frontend Web Dev through creating the tutoring business' website
- Collaborated with several students and parents to create lasting relationships
- Applied ability to learn rapidly and on the fly through the picking up and application of basic marketing to give sales pitches on the tutoring service
- Organized an extensive programming curriculum of 24 lessons
- Taught over 200 hours of coding and critical thinking to students

Awards and Honors

- First out of 16 in React Category at SBhacks, 2022
- Distinction in the Major: Research Track, 2022
- First out of 78 in Startup Category at SDhacks, 2021
- Best use of Google Cloud out of 71 at SBhacks, 2021
- First out of 70 in Database Category at SBhacks, 2020
- First overall out of 6 at Santa Barbara Startup Weekend, 2019
- Second out of 85 in AI classification competiton at UCSB, 2020
- Regents Scholar UCSB, 2019
- AP Scholar with Distinction, 2019
- USA Computing Olympiad Gold League, 2018

Professional Skills

Advanced

- **Pytorch**
- **Technical Communication** (Explaining Code)
- OpenAI Gym
- Vue JS (Frontend Web Dev)

Intermediate

- **React JS**
- Bash Scripting
- Flutter
- Keras

Numpy/Pandas