Ziqiang (Joe), Zhu

California, Davis
(669) 388-2399
ziqzhu@ucdavis.edu
Github Linkedin

EDUCATION

University of California, Davis

M.S. Computer Science — 2025 Sept. - Present

Machine Learning, Computer vision

B.S. Computer Science — 2021 Sept. - Aug. 2025

Minor in English — GPA 3.7/4.0

SKILLS

Programing language: C++; Python; R; Go; Java; Html; CSS; Chisel; CUSP; OpenCV; Mediapipe; UNIX

Language: English, Chinese (Mandarin)

EXPERIENCES

Research Assistant, CS Dept. UC Davis — 06/2024-present

- Developed algorithms count blocks transferred during Box and Block Test (BBT) with > 94% accuracy
- Trained custom keypoints/object detection algorithm used in the
- OpenCV, MediaPipe, and Python for video processing and hand tracking implementation.

Unitrans Driver, ASUCD — 06/2024-present

- Responsible for the safe and efficient operation of a heavy duty public transit bus carrying on average
- 50 customers per hour per vehicle
- Strong background in customer service particularly with seniors and customers with disabilities
- Acute awareness and training in time management
- Focused communications skills with public and colleagues including conflict resolution
- Member of a large team working collaborative

PROJECTS

Vision system, Robosub — 09/2024-present

- Developing vision system for Autonomous Underwater Vehicle
- Developed custom image labeling, training pipeline

Split-it, HackDavis — 09/2023-12/2023

- In this 24 hour hackathon we made a web app that help people split the bill from a receipt image
- The extracted text then sent to a LLM(Llama3) to peel off noise and output intended information in usable format

Deep Q-learner to play Pong, UC Davis — 09/2023-12/2023

- Using deep reinforcement learning to train an AI to play Atari game pong.
- After 1 million frames of training the model outperforms the hard-coded constantly with ~10 points leads

Deep learning foundation models, UC Davis — 09/2023-12/2023

- Tested and done ablation studies on MLP, CNN, RNN, GNN
- Trained text generation model based on RNN, explored LSTM and GRU architecture

Custom congestion control protocol, UC Davis — 09/2023-12/2023

- Congestion control protocol implemented in Python on top of UDP
- Outperformed TCP Reno by tuning the increase/decrease of cwnd based on packet loss

Data analysis, UC Davis — 04/2023-6/2023

- Used R to visualize the data, exclude outliers, and find parameters of the family using MM and MLE
- Reported the suitability of parametric families for approximating the population density for the dataset.

Subhunt, UC Davis — 09/2022-12/2022

- Emulation of the Atari game subhunt written in assembly language, running in CUSP
- The game over with an explosion text visual when the floating mines shot by the submarines hit the ship

Huffman Compression, UC Davis 04/2022-06/2021

Written in C++, file compress and decompress program using the optimal lossless structure

Traverse the tree in pre-order to output the structure/Huffman table for later decompression

AWARDS

Dean’s list Fall 21' Winter 22' Spring 22' Spring 24'

Edward Kraft Prize 06/2022