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EDUCATION

Bachelor of Science in Computer Science   Expected graduation date June 2025

Minor in English

University of California, Davis GPA 3.8/4.0

SKILLS

Programing language: C++/python/go

Language: English, Chinese (Mandarin), Conversational Japanese

PROJECT

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
- Receipt image is cropped and perspective restored by the python script and output a scanned receipt
- Text then get extracted from the scan using tesseract
- 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.
- Used replay buffer to store every 100,000 frames played
- Update the model parameters by using sampled states and next states from the replay buffer.
- 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

- Used Pytorch API
- 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
- Dynamic cwnd increase/decrease in every round, depending on the previous cwnd

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

- Collaborated with 2 other group members to investigate 3 families of distribution
- 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 game subhunt written in assembly language, running in CUSP
- The ship freely moves horizontally and drops mines to destroy the submarines then receives the points
- A number of different-points-submarines enter the screen at random times and locations at each Level
- 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
- Construct Huffman tree to obtain code table for converting files into compressed size
- Traverse the tree in pre-order to output the structure/Huffman table for later decompression

AWARDS

3x Dean's list   9/2021-6/2022

Edward Kraft Prize   6/2022