Spencer Stice

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Education

University of California, Los Angeles (UCLA) - Henry Samueli School of Engineering — Los Angeles, CA
Bachelor of Science in Computer Engineering and Mathematics minor, GPA 3.894 — October 2020 - June 2024 (Expected)
Honors: IEEE-Eta Kappa Nu Honor Society Membership Chair (top 25% of class), Dean's Honor List
Relevant Coursework: Deep Learning 1 and 2, Computer Vision, NLP, AI Theory, Algorithms, Operating Systems

Skills

Programming Languages: Python (Experienced), C++/C (Experienced), SystemVerilog (Experienced), Java (Intermediate), JavaScript (Intermediate), Dart (Beginner)
Technologies/Concepts: Tensorflow, PyTorch, Transformers, LLMs, LSTM/RNNs, CNNs, GANs, VAEs, Diffusion Models, Genetic Algorithms, SIFT, Nvidia CUDA, Kalman Filters, Matplotlib, Numpy, Pandas, Git, Linux, Google Firebase, React, VS Code, Postman, Intel Quartus Prime, ModelSim, BERT, Oscilloscope

Research Experience

UCLA Large Scale Machine Learning Group (BigML) Lab — Los Angeles, CA
Skills: Fine-tuning LLMs, Nvidia CUDA — April 2024 to Present
-Researching techniques to prevent catastrophic forgetting (CF) while still learning from new data (a different distribution) in LLMs during fine tuning. Using LLM guardrails as a metric for CF.

Industry Experience

AI Research Intern: Perceptronics Solutions — El Segundo, CA
Skills: Tensorflow, Neural Networks, Control Theory (Kalman Filters), Research — June 2023 - September 2023
-Explored the practical applications and effectiveness of AI/ML solutions, including transformers, LSTMs, and particle filters in addressing critical challenges associated with positioning cards, while conducting a review of research papers
-Designed and implemented a NARX neural network utilizing Tensorflow to address a prominent issue in the system
-Performed simulations on the modified positioning system, demonstrating a 55% improvement over the original system

Software/Memory Engineer Intern: Intel Corporation — Folsom, CA
Skills: DDR5, Python, Genetic Algorithms, ReactJS, SQL — June 2022 - December 2022
-Developed a Python-based AI program utilizing genetic algorithms to optimize duty-cycle adjust settings, resulting in an 80% reduction in DDR5 memory validation times and the discovery of superior configurations
-Conducted over 13,000 setting distribution tests to assess the program's performance potential, leading to the submission of an invention disclosure form
-Initiated the overhaul of the Memory/IO team's outdated database website using ReactJS, FastAPI in Python, and SQL
-Developed a Python parser program for LPDDR5 memory, enabling the team to efficiently extract crucial information from the tested memory modules

Projects

Quill: ChatGPT-powered Chrome Extension
Skills/Technologies: OpenAI API, HTML/CSS/JS, Chrome Extension manifest.json files
- Led a team of 4 to create a Google Chrome extension that integrates ChatGPT into the web browser
- As CEO of our startup, pitched to co-founder of Google AdSense and other prominent LA VCs
- Attained over 700 users during early development; voted best pitch/idea by AdSense co-founder

Microsoft Phi-2 Language Model Fairness Experiments
Skills/Technologies: Language models, transformers, Google Cloud Compute
- Designed a test suite to evaluate the fairness of the Phi-2 transformer-based language model
- Used the Huggingface transformer library and Google Cloud compute to run inference and evaluate results

EEG 4-Class Motor Classification via Recurrent and Convolutional Networks
Skills/Technologies: PyTorch, Recurrent NNs, CNNs, Data Preprocessing
- Designed and implemented various NN architectures to classify EEG data into 4 classes of motor activity
- Performed hyperparameter tuning and experimentation with various architectures to optimize performance
- Achieved 69.3 % test accuracy using a convolutional network with L2 regularization