Alan Zhou

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Education

University of California, Berkeley — Berkeley, CA
B.A. Computer Science/B.A. Cognitive Science (GPA: 3.59) — Expected Graduation: Fall 2021

Relevant Coursework: Deep Learning (CS182), Machine Learning (CS189), Artificial Intelligence (CS188), Linguistics (LING 100), Language and Thought (LING C142), Algorithms (CS170), Linear Algebra (MATH 110), Optimization Models (EECS 127), Biological Psychology (PSYCH 110), Cognitive Science (COGSCI N1)

Experience

Berkeley Speech and Computation Lab — Berkeley, CA
Undergraduate Research Assistant | PI: Gašper Beguš — November 2020 to Present

- Created visualizations of intermediate layers of GANs trained on speech data
- Performed latent vector recovery of recorded stimuli in audio GANs to compare GAN representations with the auditory brainstem response
- Preprints:
  - Beguš, G., & **Zhou, A.** (2021). Interpreting intermediate convolutional layers of CNNs trained on raw speech. arXiv, 2104.09489.
  - Beguš, G., & **Zhou, A.** (2021). Interpreting intermediate convolutional layers in unsupervised acoustic word classification. arXiv, 2110.02375.

Berkeley Division of Data Science — Berkeley, CA
Research Apprentice | Mentor: Taka'aki Taira — January 2019 to January 2020

- Recovered underlying stress fields from earthquake data using a weighted least squares inversion scheme
- Debugged existing code and adapted an existing algorithm for larger datasets
- Created scripts to calculate and visualize information about the faulting regime, stress orientation, and confidence level of stress fields across Northern California

Projects

F-ZERO Reinforcement Learning Agent
A reinforcement learning agent trained to play the SNES racing game F-ZERO
https://github.com/azhou314/SNES-DeepRL-Project

- Utilized socket programming to allow an emulator with Lua scripting capabilities to interface with Python and PyTorch
- Used deep Q-learning to create an agent capable of racing in a 3D environment given only screen input

Markov Boi
A Discord bot that creates Markov chains out of user messages in order to simulate text.
https://github.com/azhou314/MarkovBoi

- Implemented a general-order Markov chain using Java and SQL
- Developed a means to construct Markov chains for individual users, and to generate novel sentences using constructed chains

Skills

Programming Languages:	Java, Python, C, MATLAB, R, Lua, SQL
Tools:	PyTorch, NumPy, Tensorflow, Keras, matplotlib Jupyter, Git, Gradle/Maven
Operating Systems:	Windows, Mac OS, Linux