ALAN ZHOU

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EDUCATION

University of California, Berkeley   Berkeley, CA
B.A. Computer Science | B.A. Cognitive Science   Expected December 2021
GPA: 3.59

Relevant Coursework: Deep Learning (CS182), Machine Learning (CS189), Artificial Intelligence
   (CS188), Linguistics (LING 100), Cognitive Neuroscience (COGSCI C127)

RESEARCH 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

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

TEACHING EXPERIENCE

CS61B   Berkeley, CA
Academic Intern   January 2019 to May 2019

- Helped students with questions about Java, data structures, and algorithms during office hours
  and lab sections

Guest Lectures:

"Intro to Savio and Slurm." Guest lecture given for the class LING290E: Deep Learning and
Phonology taught by Gašper Beguš, October 2021.

PUBLICATIONS

Under Review and Submitted

Beguš, G., & **Zhou, A.** (2021). Interpreting intermediate convolutional layers in unsupervised
acoustic word classification. Submitted. arXiv, 2110.02375. ↗

Beguš, G., & **Zhou, A.** (2021). Interpreting intermediate convolutional layers of CNNs trained
on raw speech. Under Review. arXiv, 2104.09489. ↗

PROJECTS

F-ZERO Reinforcement Learning Agent
A reinforcement learning agent trained to play the SNES racing game F-ZERO
(GitHub ↗)

- 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 Bot
A Discord bot that creates Markov chains out of user messages in order to simulate text.
(GitHub ↗)

- 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:	Python, Java, C, MATLAB, R, Lua, SQL
Tools/Technologies:	PyTorch, Tensorflow, Keras, Slurm, matplotlib
	Jupyter, Git, Gradle/Maven
Languages:	English (fluent), Mandarin (conversational)