Aaron Broukhim

broukhimaaron@gmail.com | (310) 867-3564 | San Diego, CA | github/linkedin: @aabroukh

Summary

I'm looking to apply proficiencies in research, machine learning, and design to industry while contributing to an inclusive work environment.

Education

University of California San Diego 2022-Present
Ph.D. in Computer Science
Deep Learning, Generative Models, Information Visualization
Recommender Systems, Principles of AI

University of California San Diego 2019-2021
B.S. in Cognitive Science with emphasis on Machine Learning & Neural Computation **GPA: 3.6**
Minor in Computer Science & Engineering
Supervised/Unsupervised/Reinforcement/Deep Learning, Genetic Algorithms,
ML in Music, ML in Brain Computer Interfaces, Human-AI interaction

Santa Monica College 2015-2019
Computer Science & Visual Communications **GPA: 3.5**
Engineering Physics, Data Structures, Assembly,
Typography, Color Theory, 3D Animation, Photography, Art

Experience

University of California San Diego June 2021-Present
Research Assistant
-Web Scraped Facebook using Selenium to make inferences on a user's connections
-Designed logistic regression models capable of detecting hate speech on Twitter
& used word embedding (Word2Vec) to bin dataset into different types of hate speech
-Designed and implemented a UI in React with a Node and Flask backend to help
non-tech savvy users identify faulty ML systems
-Created SQL databases on an AWS server and conducted queries to support UI backend
-Built Balltree with various similarity metrics to show similar tweets that may be mislabeled

Virufy January 2022-August 2022
Associate Audio Machine Learning Engineer
-Peer reviewed ML research involving cough audio classification in Tensorflow and SK-Learn
-Utilized Sagemaker to explore new feature and architecture combinations with novel data

Projects

Vehicle Motion Forecasting
-Explored various model architectures (MLP, LSTM, CNN, Transformer) to predict motion of a car
-Selected and normalized relevant features (position, velocity, lanes) from the Argoverse dataset
-Achieved highest performance via an MLP with a **RMSE of 1.48**

Snake Reinforcement Learning
-Utilized N-Step Temporal Difference and SARSA methods to play snake and compared performance
-Designed a custom Open-AI gym environment and deep Q-Learning agent in keras that reached **level 20** consistently (max 40) with a small state space of 10 and action space of 3

Skills

Programming Languages - Python, SQL, Java, CSS, HTML, C++, C, Javascript
Frameworks - Pandas, NumPy, SK-Learn, TensorFlow, Keras, PyTorch, Selenium, React, Node, Flask
Spoken Languages - English, Spanish, Farsi, Hebrew
Misc - Git, Sagemaker, MySQL, AWS, Illustrator, Lightroom, Photography, Firebase