Aaron Broukhim

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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

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

Hotpoint App/Samuels Advertising   Summer of 2015, 2016 & 2017
Graphic Design Internships
>   -Designed one sheets, logo prototypes, geotags, and for-print graphics

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