

# Aaron Broukhim

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## Summary

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Looking to apply machine learning and software engineering related skills from research, personal projects, and school to industry. I'm a fast learner, willing to take initiative, and am willing to work remotely or in person while contributing to a positive work environment.

## Skills

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Languages - C, C++, Java, Python, R, SQL

Frameworks - Pandas, SK-Learn, TensorFlow, Keras, PyTorch, Selenium, React, Node, Flask, NumPy

Misc - Illustrator, Lightroom, Maya, Photography, Git, AWS, Linux, MySQL

## Education

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B.S. in Cognitive Science: Machine Learning & Neural Computation 2019-2021  
Minor in Computer Science & Engineering GPA: 3.6

@ University of California, San Diego

Supervised/Unsupervised/Reinforcement/Deep Learning, Genetic Algorithms,  
ML in Music, ML in Brain Computer Interfaces, Human-AI interaction

Computer Science/Visual Communications 2015-2019  
@ Santa Monica College GPA: 3.5

Engineering Physics, Data Structures, Assembly,  
Typography, Color Theory, 3D Animation, Photography, Art

## Experience

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Associate Audio Machine Learning Engineer January 2022-Present  
@ Virufy

- Peer review ML research involving cough audio classification in PyTorch and SK-Learn
- Work on identifying useful features for audio classification model

Research Assistant June 2021-Present  
@ UCSD: Computer Science & Engineering

- Investigated privacy in a group setting and contestability in machine learning
- Web Scraped Facebook using Selenium to make inferences on a user's friends
- 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

Graphic Design Internships Summer of 2015, 2016 & 2017  
@ Hotpoint App/Samuels Advertising

- Designed easy to understand one sheets for potential buyers of
- Designed geotags & for print typographical illustrations

## Projects

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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

DJAI

- Developed models to classify spotify songs by emotion
- Developed another model to determine the mood of ambient noise in a room
- Utilized both models to play music that fit a rooms mood