

# Aaron Broukhim

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## Summary

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Looking to apply machine learning 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.

## 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, GAN, CNN, RNN  
Genetic Algorithms, KNN, K-means, EM Maximization, Bellmans Equation,  
Monte Carlo, Q-Learning, SARSA, N-step TD, Linear/Logistic Regression  
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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Research Assistant Summer 2021  
@ UCSD: Computer Science & Engineering  
-Web Scraped social media using Selenium and then made inferences  
on users that were missing data based on mutual friend information  
-Designed logistic regression models capable of detecting hate speech  
on social media & used word embedding (Word2Vec) to bin dataset  
-Stored data and conducted queries in MySQL on AWS and MongoDB locally  
Graphic Design Internships Summer 2015, 2016 & 2017  
@ Hotpoint App/Samuels Advertising  
-Designed easy to understand one sheets for buyers  
-Designed geotags & for print typographical illustrations

## Projects

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Snake Reinforcement Learning  
-Utilized N-Step TD and SARSA methods to play snake  
-Compared the two methods performance within small feature spaces  
-Made a custom gym environment and deep Q-Learning agent as well  
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  
cycleGAN  
-Modified a GAN in Keras to transform Classical music to Blues and vice versa  
Brain Wave Depression Classification  
-Analyzed EEG data of open/closed eye state participants  
-Classified participants as depressed or not by Alpha wave power

## Skills

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Languages - C, C++, Java, Python, R, SQL  
Frameworks - Pandas, Scikit-learn, Tensorflow, Keras, Selenium, Seaborn, Matplotlib, NumPy  
Misc - Illustrator, Lightroom, Maya, Photography, Git, mongoDB, AWS