John Doe
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Education

████████████   *Anticipated Graduation May 2022*

Master of Science, *Computer Science ~ Specialization Machine Learning*

Projects
Multi-Agent Reinforcement Learning   *Winter 2020*
- Utilized the reinforcement learning algorithm, epsilon-greedy Q-learning, in a multi-agent environment with a reward function based around completing tasks. Developed a decay structure combining simulated annealing with random restarts to take advantage of the exploration-exploitation tradeoff.

Machine Learning Stock Trader   *Winter 2020*
- Created a machine learning stock trader using the ensemble learning method, random forest, on historical time series stock data. The data features were based on various stock technical indicators, such as Bollinger bands and relative strength index. The learner was able to predict a buy or sell signal when back tested producing a net gain portfolio.

Image Classification   *Summer 2019*
- Created an image classifier using a neural network consisting of a single layer of 100 nodes. Reduced the feature space using a random forest by 81% while maintaining 98% of all variance within the data and a reconstruction accuracy of 99%. The reduction in features significantly reduced training time while reducing classification accuracy by less than 1%.

Obstruction Free Photography   *Winter 2019*
- Replication of research paper 'Obstruction Free Photography' while improving performance by using the Lucas-Kanade method in OpenCV, for optical flow and heavy use of numpy vectorization techniques. Enhancing the subject of the images and extracting potentially unseen or unwanted information.

████████████   *Graduated May 2018*

Bachelor of Science, *Computer Science*

Projects
NASA Swarmathon   *Spring 2018*
- Developed algorithms for swarming robotics that allowed them to coordinate tasks such as gathering and returning cubes to their respective areas. Used a modified "Divide and Conquer" approach to coordinate tasks between robots such as mapping out the boundaries and obstacles in the area

IBM N.E.C.T.A.R   *Spring 2018*
- Developed a machine learning based emotion classifier, which consisted of an ensemble of support vector machines, using facial features and micro expressions extracted from thousands of videos and images. IBM Watson Visual Recognition was used to validate results from the ensemble.

████████████   *Graduated May 2013*

Bachelor of Science, *Business Administration, with concentration in management and minor in economics*

Experience

████████████   *Aug 2018 – Feb 2020*

Software Developer
- Adding and debugging current product functionality and design in pharmaceutical software application. Work with QA and customer support maintaining QA levels for applications and systems in a HIPPA, PCI compliant environment. Participates in team Scrums, meetings, and code reviews.

Technical Skills

Python, Machine Learning, Unsupervised Learning, Supervised Learning, Reinforcement Learning, TensorFlow, Keras, OpenCV, Numpy, Scikit-Learn, Pandas, Jupyter Notebooks