Alex Eftimiades

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Work Experience

FINRA Rockville, MD
Data Scientist (Contract) June 2019 | Dec 2019

- Designed and implemented algorithms to detect insider trading
- Designed and implemented algorithms to detect market manipulation
- Developed standard practices for model testing and monitoring

Deepsig Arlington, VA
Machine Learning Engineer Jan 2019 | March 2019

- Designed and implemented deep learning based signal detector
- Compared and reported on deep learning approaches benchmarked against classical clustering algorithms

Catalist LLC Washington DC
Analytics Engineer Feb 2018 | Jan 2019

- Optimized and deployed Keras models
- Designed and wrote code refactoring tools
- Designed and wrote real time data processing pipline
- Wrote internal technical guides on parallel processing
- Contributed code to Keras

Comsol Burlington, MA
Developer Feb 2016 | May 2017

- Researched models and techniques to simulate physical phenomena of interest to engineers and scientists
- Wrote technical specifications of model, algorithm, and graphic interface
- Implemented algorithms used for numerical simulations and user interfaces in java
- Helped customers create and optimize simulations

Freelance Software Engineer March 2013 | Pres

- American Dental Association Foundation - data visualization, image processing
- University of Maryland Baltimore County - high performance computing and simulations
- Tor - internet censorship circumvention, protocol design, threat analysis

Skills

Programming Languages:	Python, Bash, SQL, Javascript
Frameworks:	Pytorch, Numpy/Scipy, Cython, Pandas, Scikit-learn
Tools:	Git, Vim, AWS, Jupyter, Seaborn, Docker

Projects

Toy Q Learning *Python* https://github.com/aeftimia/Reinforcement-TicTacToe
Trained two bots to learn to play tic tac toe via Q learning.

Semisupervised Learning *Keras, Matplotlib, Jupyter, AWS*
Experimented with autoencoder based semi supervised clustering. 80% accuracy on 10% labeled mnist data

Discrete Exterior Calculus Framework *Python, Cython, Cuda* https://github.com/aeftimia/kahler
Developed and reported on efficient and parallelized finite elements framework

Education

UMBC Catonsville, MD
BS Physics 2013 - 2015

Publications

Enhancing the Three-Dimensional Structure of Adherent Gingival Fibroblasts and Spheroids via a Fibrous Protein-Based Hydrogel Cover. Cells Tissues Organs
Published with biologists at American Dental Association Foundation Aug. 2016

Kahler: An Implementation of Discrete Exterior Calculus on Hermitian Manifolds
http://arxiv.org/abs/1405.7879
Independent research and implementation May 2014