Jeremy V. Nixon

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Experience

MACHINE LEARNING ENGINEER & DATA SCIENTIST | SPARK TECHNOLOGY CENTER | DECEMBER 2015 – PRESENT

- Implemented Deep Learning library on Spark, including Convolutional and Feedforward Neural Networks– a native distributed implementation in MLlib, integrated with present ANN structure. Associated optimization and regularization tools, including dropout & batch normalization. https://github.com/JeremyNixon/sparkdl
- Original Author of Deep Neural Network Regression in MLlib. Implemented efficient distributed gradient computations.
- Taught internal course on Gradient Boosting, Random Forests, Linear Models, and optimization.
- MLConf, Dataworks, and Apache Big Data conference speaker on machine learning development, deep learning models and optimization.

ANALYTICS PROJECT DIRECTOR | HARVARD DATA VENTURES | JANUARY 2015 – JUNE 2015

- Leader of a modeling project applying distributed word embeddings as a representation for a sentiment analysis competition. Team built and tuned an ensemble of Random Forests, Gradient Boosting Machines and Linear Models.

SOFTWARE ENGINEERING INTERN | VIRTUDENT | DECEMBER 2014 – FEBRUARY 2015

- SQL Database integration, back and front end web application development. Built and designed an interactive web app.

TEACHING ASSISTANT | DYNAMIC WEB APPLICATIONS | AUGUST 2014 – JANUARY 2015

- Evaluation rating of 4.9/5. Taught PHP, MySQL, JavaScript, and the MVC Laravel for creating dynamic web applications.

PHYSICS RESEARCH ASSISTANT | DEPARTMENT OF PHYSICS, OAKLAND UNIVERSITY | MAY 2012 – AUGUST 2012

- Built a cluster for molecular dynamics simulations; investigated electrical properties of single-walled carbon nanotubes.

Education

Harvard College | Cambridge, Mass

Applied Mathematics to Computer Science and Economics | Class of 2015

Awards: 1st place Machine Learning Kaggle In-class completion | 1st place Algorithmic Game Theory Competition | National Achievement Scholarship Recipient | AP Scholar with Distinction

Projects

Machine Learning Library: Built out the library Oracle with from-scratch implementations of Neural Networks, Random Forests, Logistic Regression, k-means clustering, and more. Found at https://github.com/JeremyNixon/oracle.

Automated Predictive Modeling: Created automated machine learning framework, implementing model stacking, blending, feature engineering and evaluation. Found at https://github.com/JeremyNixon/Systematized-Predictive-Modeling

Machine Learning Competition: Winning model for predicting the Efficiency of Organic Photovoltaic in Harvard's Kaggle In-class Competition.

Computer Vision with Deep Learning: Predicted Facial Keypoints by applying a Convolutional Neural Network model on an Amazon Web Services GPU.

Predictive Modeling and Signal Processing: Achieved 95% accuracy for classifying music genre based on underlying signal frequencies, applying PCA, Fast Fourier Transform and Support Vector Machines.

Skills

TECHNICAL Github Account: https://github.com/jeremynixon

- Languages: Fluent in: Python, Scala, R, SQL. Intermediate knowledge of: C, C++, C#, JavaScript, jQuery, AMPL
- Tools: Spark, Scikit-Learn, Pandas, Numpy, Gensim, GLMNet, R RandomForest, Ranger, XGBoost, MySQL, Laravel, Server Administration, Stata, Mathematica, Matlab, Excel, Linux, Apache, Bash, Matplotlib, Scipy, LaTex