Daniel Breen

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Education:

2017 Ph.D., Physics, U.C. San Diego
Dissertation: Characterizing Real World Neural Systems Using Variational Methods of Data Assimilation
2013 M.S., Physics, U.C. San Diego
2011 B.S., Physics, New Mexico Institute of Mining and Technology

Skills:

Experienced in Python (4 years)
Pandas, Jupyter Notebooks, Scikit-learn, XGBoost, Keras, NumPy, etc
Experienced with Analytics/Data Science Pipeline in an industry setting: Documentation, Data Profiling, Modeling, Report Generation, Production

Experience:

Opera Solutions 08/2017 to present

Staff Scientist

- Successfully predicted medical school applicants' test scores within 20 points (on a 1 to 300 point scale) for 80% of the population. Enables immediately eliminating 50% of applicants who will fail USMLE exams or fail to attain residency by ignoring the bottom 20% of model rank ordered scores.

- Used keras to identify documents as legally sensitive or non-sensitive to beat performance of current best model for a large client in the financial industry. Achieved false negative rate on test set of 4% and false positive rate of about 8%

U.C. San Diego 08/2014 to 06/2017

Graduate Student Researcher

- Identified differences between diseased and healthy neurons consistent with clinical observations of Alzheimer’s patients using estimated parameters in dynamical models of neurons.

- Established a mapping between configurable and true parameter values on neuromorphic VLSI chip, leading to emulation of a biological neuron on VLSI hardware for the first time.

- Scraped and cleaned recipes from foodnetwork.com, discovered ingredients characterizing ethnicity of cuisines using wordclouds, gensim’s lda topic modeling, and deployed app online using flask and heroku.