Contact

www.linkedin.com/in/michael-slawinski-97281417 (LinkedIn)
github.com/gtownrocks (Portfolio)

Top Skills

Research
Teaching
Mathematical Modeling

Publications

Applications of Graph Integration to Function Comparison and Malware Classification

The Quantum A-infinity Relations on the Elliptic Curve

Michael Slawinski

Staff Data Scientist at Cylance Inc.
Orange County, California Area

Summary

Data Scientist with experience in modeling, simulation, research, and teaching at the university level. Wide range of mathematical knowledge including topology, geometry, combinatorics, probability, statistics, and financial mathematics

https://github.com/gtownrocks

Experience

Cylance Inc.
3 years 8 months

Data Scientist Staff
July 2019 - Present (9 months)
Irvine CA

Fourier analysis on graphs, variational inference, sequence modeling, graph embedding

- Graph-based vectorization of disassembly
- Density learning of security data
- Script modeling via syntax tree embedding and NLP

Sr. Data Scientist
July 2018 - July 2019 (1 year 1 month)
Irvine, CA

Applying concepts from topology, geometry, and graph theory to machine learning.

- Graph-Theoretic vectorization of decompiled .NET and disassembly
- Streaming anomaly detection (probabilistic models)
- Comparison/testing platform for vetting/comparing streaming anomaly detectors
- Directed graph homology

Data Scientist
August 2016 - July 2018 (2 years)
Irvine, CA

Bank of the West

2 years 6 months

Quantitative Modeler

February 2016 - July 2016 (6 months)

San Francisco

- Anomaly Detection – Prototyping an algorithm to automatically detect behavioral changes in any time series, implements an original concept of n-fold correlation
- Neural Network – Adjusted code for hand-written digit recognition to classify time series data by shape, code is used in anomaly detection (see above)
- Bank-level Probability of Default Model – Building a Logistic Regression model based on balance sheet data from SNL to quantify counterparty risk
- Coherent Scenario Generation – Designed a simple and robust scheme for modeling macro-economic variables for use in the bank's credit VaR calculation, implements an original algorithm for judging the goodness of fit of a cluster model

Quantitative Analyst

February 2014 - January 2016 (2 years)

San Francisco

- Yield Curve Modeling – Using the Nelson Siegel scheme to model the yield and implied forward curves, where the set of parameters are simulated as a VAR process
- Foreign Exchange – Modeling exchange rates as a fat-tailed affine stochastic process to estimate currency exchange exposure, where we precompute convolutions for speed
- UI Design – Built several UIs in Matlab: yield curve, 'disease spread' in loan portfolio data, evolution of aggregated scorecard (to lend or not to lend) variables

Miramar College

Statistics Instructor

August 2012 - December 2012 (5 months)

San Diego CA

Taught Distributions, Regression, Probability, Confidence Intervals, Hypothesis Testing

UC San Diego

Adjunct Lecturer

September 2011 - June 2012 (10 months)

La Jolla

Performed research in mirror symmetry, extending the results proved in my thesis.

Taught courses ranging from calculus through basic proof-writing and number theory.

Education

UCSD

Ph.D., Mathematics · (2004 - 2011)

UCLA

M.A., Mathematics · (2001 - 2003)

UCLA

B.S. (Honors), Mathematics · (1999 - 2003)

Glendora High School

· (1995 - 1999)