Michael Vaiana

Resumé

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Overview

I am computational mathematician with training in data-centric techniques. I have a strong background in statistics, data science, and mathematics . I am finishing a PhD in Computational Data-Enabled Science and Engineering and I am seeking a job in the quantitative financial sector where I can apply my unique blend of theoretical and computational skills to provide valuable insights and results.

Skills

Areas of Expertise

- **Mathematics**: Statistics, Stochastic Processes, Linear Algebra, Optimization, Topology, Dynamical Systems.
- **Data Analysis**: Modeling, Exploratory Analysis, Dimensionality Reduction, Visualization, Machine Learning.
- **Software Engineering** Implemented and developed algorithms for multilayer graph analysis and topological data analysis in stand alone MATLAB and Python packages

Computational

- MATLAB, Python, SQL
- Regression, Maximum Likelihood, Hypothesis testing
- Time Series: modeling, deconvolution, auto-regression, denoising
- High performance computing for big data
- Machine Learning: deep learning, neural networks, classification, clustering

Leadership

- President of the Mathematics Graduate Student Association (MGSA)
- Vice President of the MGSA

Communication

- Prepared several posters and talks for communicating technical results to a non-technical audience
  - Won an award for a poster on a new mathematical technique communicated to a non-mathematical audience
- Developed a set of open source tutorials on university level mathematics which are used in classrooms throughout the world
- Excellent RateMyProfessor score and student reviews

Experience

Sandia National Laboratory — **Livermore, CA**
Intern — *2017 Summer*

- Developed a Python package for modeling dynamical systems and doing automated spectral analysis of these systems.
- Contributed theoretical results which where implemented in the Python Package

Princeton University — **Princeton, NJ**
Neurotechnologies for Analysis of Neural Dynamics Fellow — *2016 Summer*

- Hypothesis testing
- Time series data analysis

Education

University at Buffalo
PhD in Computational Data-Enabled Science and Engineering, 3.9/4.0 — *2014–present*

University at Buffalo
Masters in Mathematics, 3.9/4.0 — *2012–2014*

SUNY Geneseo
B.A. Mathematics, 3.9/4.0 — *2010–2012*