

Peter Wills, Ph.D.

peter@pwills.com | (585) 739-3895

pwills.com | github.com/peterewills | linkedin.com/in/peterewills

EDUCATION

- Doctor of Philosophy, Applied Mathematics* Sept. 2013 to May 2018
University of Colorado, Boulder, CO
- Bachelor of Science, Physical Sciences* Aug. 2006 through May 2010
Reed College, Portland, OR

TECHNICAL LANGUAGE SKILLS & SUBJECT EXPERTISE

Fluent in Python (TensorFlow, scikit-learn, pandas, numpy, etc), Scala, Java, Spark, SQL, MATLAB, git, shell scripting. Familiar with AWS (S3, EMR, Athena, Glue, etc). Experienced in both object-oriented and functional programming paradigms. Deep understanding of machine learning, statistics, predictive modeling, linear algebra, graph algorithms, and distributed/high-performance computing.

PROFESSIONAL EXPERIENCE

- Data Scientist, Stitch Fix** May 2019 to Present
- ❖ Build & maintain predictive models to forecast inventory across Stitch Fix's network of warehouses
 - ❖ Develop systems to monitor inventory health and inform purchasing decisions
- Data Science Engineer, FullContact** June 2018 to May 2019
- ❖ Design & implement graph algorithms for identity resolution in custom NoSQL graph database built atop HBase
 - ❖ Build data pipeline in Spark that processes TB of data in scalable fashion on the AWS Elastic MapReduce platform
 - ❖ New approach to graph community hashing improves identifier stability from 95% to 99.95%
- Data Scientist, the Trade Desk** Oct. 2017 to May 2018
- ❖ Build DeskAI, machine learning platform for automated user targeting in online advertising
 - ❖ Incorporate external data sources to augment user information and target advertisements more effectively
 - ❖ In real-world testing, DeskAI doubles clicks through rate of advertisements at no additional cost
- Data Scientist, Entelligent LLC** Nov. 2016 to Oct. 2017
- ❖ Conceptualize, design, and implement scalable portfolio optimization & risk analytics library
 - ❖ Use library to construct index Smart Climate 500 (SCLMX) currently published by Bloomberg
 - ❖ SCLMX shows higher returns and lower risk than S&P 500 over a ten-year backtest
- Research Assistant, Graph Algorithms, University of Colorado** Jan. 2016 to May 2018
- Research Assistant, Stochastic Dynamical Systems, University of Colorado** Aug. 2015 to Dec. 2017
- Research Assistant, Statistics & Data Analysis, Natl. Inst. of Standards & Tech.** May 2014 to Aug. 2015

PUBLICATIONS

- ❖ P. Wills and F. Meyer. *Metrics for Graph Comparison: A Practitioner's Guide*. arXiv 1904.07414 [stat.AP]
- ❖ P. Wills and F. Meyer. *Detecting Topological Changes in Dynamic Community Networks*. arXiv 1707.07362 [cs.SI]
- ❖ P. Wills, E. Iacocca, and M. Hofer. *Stochastic Thermal Perturbations of Dissipative Droplet Solitons*, Phys. Rev. B 93 144408
- ❖ P. Wills, E. Knill, K. Coakley, and Y. Zhang. *Performance of Test Supermartingale Confidence Intervals for the Success Probability of Bernoulli Trials*. arXiv 1709.04078 [math.ST]