

Peter Wills, Ph.D.

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EDUCATION

Doctor of Philosophy, Applied Mathematics
University of Colorado, Boulder, CO

Sept. 2013 to May 2018

Bachelor of Science, Physical Sciences
Reed College, Portland, OR

Aug. 2006 through May 2010

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. Hoefer. *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]