

Peter Wills, Ph.D.

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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

Fluent in Python (TensorFlow, keras, scikit-learn, pandas, matplotlib, seaborn, numpy, scipy, statsmodels), Scala, Spark, SQL, MATLAB, git, shell scripting & L^AT_EX . Experienced in object-oriented design, functional programming & Agile development.

PROFESSIONAL EXPERIENCE

- Data Science Engineer, FullContact** June 2018 to Present
- ✦ Design & implement graph algorithms for identity resolution in custom NoSQL graph database
- Research 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, Statistics & Data Analysis, Natl. Inst. of Standards & Tech.** May 2014 to Aug. 2015
- ✦ Develop statistical techniques for analyzing data arising in experimental quantum mechanics
 - ✦ Method is shown to be significantly more robust than the current most popular approach
- Research Assistant, Graph Algorithms, University of Colorado** Jan. 2016 to Present
- ✦ Develop, analyze, & implement algorithms for anomaly detection in large graph data
 - ✦ Method is effective on empirical social datasets such as the Enron emails and the Militarized Interstate Dispute record

PUBLICATIONS

- ✦ P. Wills and F. Meyer. *Efficient Tools for Graph Comparison: A Practitioner's Guide*. In preparation.
- ✦ P. Wills and F. Meyer. *Detecting Topological Changes in Dynamic Community Networks*. arXiv preprint 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 preprint 1709.04078 [math.ST]