Matt Wytock

Contact

mwytock@cs.cmu.edu
www.cs.cmu.edu/~mwytock
8305 Gates Building
Pittsburgh, PA 15213

Education

PhD, Machine Learning, 2016 (expected)
Carnegie Mellon University, Pittsburgh, PA
Thesis: Optimizing Optimization: Scalable Convex Programming with Proximal Operators
Advisor: Zico Kolter

Master of Science, Machine Learning, 2014
Carnegie Mellon University, Pittsburgh, PA

Bachelor of Science, Computer Science, 2005
University of California, San Diego

Preprints

Convex Programming with Fast Proximal and Linear Operators. Matt Wytock, Po-Wei Wang and J. Zico Kolter. Preprint, November 2015.

Probabilistic Segmentation via Total Variation Regularization. Matt Wytock and J. Zico Kolter. Preprint, November 2015.

A Fast Algorithm for Sparse Controller Design. Matt Wytock and J. Zico Kolter. Preprint, December 2013.

Publications

Preventing Cascading Failures in Microgrids with One-sided Support Vector Machines. Matt Wytock, Srinivasa Salapaka and Murti Salapaka. *IEEE Conference on Decision and Control*, 2014.

Fast Newton Methods for the Group Fused Lasso. Matt Wytock, Suvrit Sra and J. Zico Kolter. *Conference on Uncertainty in Artificial Intelligence*, 2014.

Contextually Supervised Source Separation with Application to Energy Disaggregation. Matt Wytock and J. Zico Kolter. *AAAI Conference on Artificial Intelligence*, 2014.

Large-scale Probabilistic Forecasting in Energy Systems using Sparse Gaussian Conditional Random Fields. Matt Wytock and J. Zico Kolter. *IEEE Conference on Decision and Control*, 2013.

Sparse Gaussian Conditional Random Fields: Algorithms, Theory and Applications to Energy Forecasting. Matt Wytock and J. Zico Kolter. *International Conference on Machine Learning*, 2013.

Grants and Awards

Siebel Scholar, Energy Science, 2016.

National Science Foundation Graduate Research Fellowship, Honorable Mention, 2010.

Google Founders' Award (for Google's top achievements): Search-based keyword tool, 2010.

Google Operating Committee Award (for top 10 achievements of each year): Custom Search Engine, 2009.

Teaching Experience

10-725: Convex Optimization. Teaching Assistant, Carnegie Mellon University, Fall 2015. Instructor: Ryan Tibshirani.

10-702: Statistical Machine Learning. Teaching Assistant, Carnegie Mellon University, Spring 2014. Instructors: Larry Wasserman and Ryan Tibshirani.

Industry Experience

Senior Staff Software Engineer, 2005-2015
Google, Mountain View, CA
Built and led teams in search, ads as well as new product areas.

Assistant Software Engineer, 2002-2005
Neurome, San Diego, CA
Developed computational methods for neuroscience.

Student Programmer, 2002
Center for Atmospheric Sciences, Scripps Institute of Oceanography, San Diego, CA
Data processing for simulations of atmospheric physics.

Professional Service

Program Committee. *International Conference on Machine Learning*, 2016.

Reviewer. *American Control Conference*, 2016.

Organizer of ACC workshop on enabling the grid of the future, 2015.

Program Committee. *AAAI Conference on Artificial Intelligence*, 2014.

Reviewer. *IEEE Transactions on Power Systems*, 2013.

Patents

Generating and Displaying Tasks. R. Guha, R. Srikant, V. Gupta, D. Martin, M. Manjunatha, A. Dai, C. Au, E. Erbiceanu, S. Gupta, M. Wytock, C. Lischeske, III, V. Raghunathan. Filed December 5, 2013.

Automatic Ad Creative Generation. L. Brunsman, S. Rajaraman, P. Deshwal, M. Wytock, S. Kates. Filed July 28, 2011.

Automatic Abstracted Creative Generation from a Web Site. L. Brunsman, S. Rajaraman, P. Deshwal, M. Wytock, S. Kates. Filed July 28, 2011.

Targeting Content Without Keywords. L. Brunsman, S. Rajaraman, P. Deshwal, M. Wytock, S. Kates. Filed July 19, 2010.

Dynamic Specification of Custom Search Engines at Query-time, and Applications thereof. O. Hansson, M. Wytock, P. Riley, R. Guha. U.S. Patent 8892552.

Systems and Methods for Customizing Behavior of Multiple Search Engines. P. Riley, R. Guha, C. Anderson, M. Wytock, O. Hansson. U.S. Patent 7801876 and 8301615.