Will Wei Sun

Last update: January 17, 2018

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Professional Appointments	Assistant Professor, Dept. of Management Science, University of Miami, *Aug. 2016-* Research Scientist, Advertising Science Team, Yahoo Labs, *Jun. 2015 - Aug. 2016*
Education	Purdue University, West Lafayette, IN, USA Ph.D. in Statistics, *Aug. 2011 - May 2015* M.S. in Statistics and Computer Science, *Aug. 2012 - May 2014* Princeton University, Princeton, NJ, USA Visiting Student of Prof. Han Liu, *Sep. 2014 - May 2015* University of Illinois at Chicago, Chicago, IL, USA M.S. in Statistics, *Aug. 2009 - May 2011* Nankai University, Tianjin, China B.S. in Statistics, *Sep. 2005 - Jul. 2009*
Research Interests	**Machine Learning and Big Data**: tensor methods; deep learning; non-convex optimization; heterogenous data analysis; classification stability **Applications**: online advertising; recommendation systems; brain image analysis

Journal Publications

9. Botao Hao, **Will Wei Sun**, Yufeng Liu, and Guang Cheng (2018), " Simultaneous Clustering and Estimation of Heterogeneous Graphical Models", *Journal of Machine Learning Research*, To Appear.

8. Will Wei Sun and Lexin Li (2017), "STORE: Sparse Tensor Response Regression and Neuroimaging Analysis", *Journal of Machine Learning Research*, To Appear.

7. Will Wei Sun, Guang Cheng, and Yufeng Liu (2017), "Stability-Enhanced Large-Margin Classifier Selection", *Statistica Sinica*, To Appear.

6. Binhuan Wang, Yilong Zhang, **Will Wei Sun**, and Yixin Fang (2017), "Sparse Convex Clustering", *Journal of Computational and Graphical Statistics*, To Appear.

5. Will Wei Sun, Junwei Lu, Han Liu, and Guang Cheng (2017), "Provable Sparse Tensor Decomposition", *Journal of the Royal Statistical Society: Series B*, 79, 899-916.

4. Will Wei Sun, Xinye Qiao, and Guang Cheng (2016), "Stabilized Nearest Neighbor Classifier and Its Statistical Properties", *Journal of the American Statistical Association*, 111, 1254-1265.

3. Wei Sun, Junhui Wang, and Yixin Fang (2013), "Consistent Selection of Tuning Parameters via Variable Selection Stability", *Journal of Machine Learning Research*, 13, 3419-3440.

2. Wei Sun, Junhui Wang, and Yixin Fang (2012), "Regularized K-means Clustering of High-dimensional Data and Its Asymptotic Consistency", *Electronic Journal of Statistics*, 6, 148-167.

1. Hongmei Liu, Jay Parker, and **Wei Sun** (2011), "Estimating Rates at Which Books Are Mis-shelved", *Chance*, 1, 36-43.

Refereed Conference Publications	**4. Wei Sun**, Zhaoran Wang, Han Liu, and Guang Cheng, "Non-convex Statistical Optimization for Sparse Tensor Graphical Model", *Advances in Neural Information Processing Systems (NIPS 2015)*. [**Full paper, 22% acceptance**]
	3. Wei Sun, Pengyuan Wang, Dawei Yin, Jian Yang, and Yi Chang (2015), "Causal Inference via Sparse Additive Models with Application to Online Advertising", *National Conference of the American Association for Artificial Intelligence (AAAI 2015)*. [**Full paper, 26% acceptance**]
	2. Pengyuan Wang, **Wei Sun**, Dawei Yin, Jian Yang, and Yi Chang (2015), "Robust Tree-based Causal Inference for Complex Ad Effectiveness Analysis", *ACM International Conference on Web Search and Data Mining (WSDM 2015)*. [**Full paper,** 16% **acceptance**]
	1. Pengyuan Wang, **Wei Sun**, Dawei Yin (2015), "What Size Should A Mobile Ad Be", *International World Wide Web Conference (WWW 2015), Workshop on Offline and Online Evaluation of Web-based Services.*
Submitted Manuscripts	**3. Will Wei Sun** and Lexin Li (2017), "Dynamic Tensor Clustering", *Journal of the American Statistical Association*, Major revision invited.
	2. Xiang Lv, **Will Wei Sun**, Zhaoran Wang, Han Liu, Jian Yang, and Guang Cheng (2017), "Sparse Tensor Graphical Model: Non-convex Optimization and Statistical Inference", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Under first round review.
	1. Pengyuan Wang, Guiyang Xiong, **Will Wei Sun**, and Jian Yang (2017), "Effect of Complex Multimedia Advertising Campaigns: A Causal Inference Model for Big Data", *Marketing Science*, Under first round review.
Grants	2017 ∼ 2018, "Large Scale Advertisement Clustering via Spectral Decomposition", University of Miami, Provost's Research Award, $17,000, Sole PI: Will Wei Sun
Teaching	MAS 311, Probability and Statistics, University of Miami, *Spring 2017* • Overall evaluation scores: 4.3/5, 4.8/5.

Honors	University of Miami Provost Award	*2017*

University of Miami Provost Award	*2017*
Institute of Mathematical Statistics Travel Award	*2013, 2015*
I.W. Burr Award, Department of Statistics, Purdue University	*2015*
Lynn Fellowship, Purdue University	*2011 - 2015*
Travel Award, LDHD Workshop, SAMSI, NC	*2013*
Travel Award, Massive Datasets Workshop, SAMSI, NC	*2012*
Travel Award, High-Dimensional Data Workshop, Yale University	*2012*
Travel Award, Doctor Forum, SIAM in Data Mining, Arizona	*2011*

Presentations

Invited Conference Talks

• CMStatistics, London, UK,	*Dec., 2017*
• Joint Statistical Meetings, Baltimore, MD,	*Aug., 2017*
• Applied Statistics Symposium, ICSA, Chicago, IL,	*Jun., 2017*
• International Conference on Econometrics and Statistics, Hongkong,	*Jun., 2017*
• Conference on Statistical Learning and Data Science, NC,	*Jun., 2016*
• Applied Statistics Symposium, ICSA, Atlanta, GA,	*Jun., 2016*

Invited Seminar Talks

• Dept. of Mathematical Sciences, New Jersey Institute of Technology,	*Sep., 2017*
• Dept. of Statistics, University of Wisconsin-Madison,	*Sep., 2017*
• Guanghua School of Management, Peking University, China,	*Jun., 2017*
• The Institute of Statistics, Nankai University, China,	*Jun., 2017*
• School of Finance and Statistics, East University Normal University,	*Jun., 2017*
• Dept. of Biostatistics, University of Miami,	*Apr., 2017*
• Dept. of Statistics, Florida State University,	*Apr., 2016*
• Dept. of Statistics, North Carolina State University,	*Feb., 2016*
• Krannert School of Management, Purdue University,	*Jan., 2016*
• Dept. of Management Science, University of Miami,	*Dec., 2015*
• Dept. of Math & Stat., University of Massachusetts Amherst,	*Dec., 2015*
• Division of Biostatistics, New York University,	*Mar. 2015*
• Machine Learning Seminar, Binghamton University,	*Sep., 2014*
• Yahoo Labs, Sunnyvale, CA,	*Aug., 2014*
• Mathematical Statistics Seminar, Purdue University,	*Sep., 2014*
• Dept. of MSCS, University of Illinois at Chicago,	*Feb., 2011*

Industrial Experience

Yahoo Labs, Sunnyvale, CA
Research Scientist *Jun. 2015 - Aug. 2016*
- Worked on personalized advertising based on web-scale data via Hadoop and Pig.
- Developed time series forecasting for Yahoo's traffic via ensemble machine learning.
- Proposed a new budget pacing algorithm in real time bidding system to improve advertisers' return on investment (ROI).

Yahoo Labs, Sunnyvale, CA
Research Scientist Intern *Jun. 2014 - Aug. 2014*
- Proposed an efficient and robust tree-based causal inference framework for assessing the impact of complex advertising treatments from millions of users.
- Developed a sparse additive model equipped with Gaussian copula to model multivariate non-gaussian advertising treatments.

Patents

"Systems and Methods for Measuring Complex Online Strategy Effectiveness", United States Patent Application 20160189202, Yahoo! Inc., December, 2014.

Software

1. pass, R package for prediction and stability selection of tuning parameters
2. snn, R package for stabilized nearest neighbor classifier
3. Tlasso, R package for non-convex optimization and statistical inference for sparse tensor graphical models

Professional Service

University Committee and Administrative Responsibilities:
- Faculty Hiring Committee, University of Miami, 2017.
- Departmental Seminar Organizer, University of Miami, 2016, 2017.
- PhD Student Recruitment, University of Miami, 2016, 2017.

Conference Invited Session Organizer/Chair:
- Joint Statistical Meetings, Vancouver, Canada, July, 2018
- IMS-APRM, Singapore, June, 2018
- CMStatistics, University of London, UK, December, 2017

Grant Referee:
- NSA-AMS Grant Program, 2015

Journal Referee:

- Annals of Statistics
- Journal of the American Statistical Association
- Journal of the Royal Statistical Society: Series B
- Journal of Machine Learning Research
- Annals of Applied Statistics
- Electronic Journal of Statistics
- Statistica Sinica
- Journal of Statistical Planning and Inference
- Journal of Multivariate Analysis
- Computational Statistics
- Statistical Analysis and Data Mining
- Statistics
- Journal of Statistical Computation and Simulation
- Mathematical Reviews

Conference Referee:
- ICML 2018
- ICLR 2018
- AISTAT 2015, 2018
- NIPS 2016, 2017
- WWW 2016
- CIKM 2016 Industrial Track

Memberships:
- Institute of Mathematical Statistics (IMS)
- American Statistical Association (ASA)