Y. Samuel Wang

Contact Information

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Academic positions

Principal researcher (post-doc) 2018 -
The University of Chicago; Booth School of Business
Supervisor: Mladen Kolar

Education

Ph.D. in Statistics 2012 - 2018
University of Washington
Thesis: *Linear structural equation models with non-Gaussian errors*
Advisor: Mathias Drton
Committee members: Thomas Richardson and Emily Fox

B.A. in Applied Math; Economics 2006 - 2010
Rice University
Magna Cum Laude; Phi Beta Kappa

Publications

1) Wang, Y. S. and Drton, M. (2020). High-dimensional causal discovery under non-Gaussianity. *Biometrika*, 107(1):41–59

2) Zhao, B., Wang, Y. S., and Kolar, M. (2019). Direct estimation of differential functional graphical models. In *Advances in Neural Information Processing Systems 32: Annual Conference on Neural Information Processing Systems 2019, NeurIPS 2019, 8-14 December 2019, Vancouver, BC, Canada*, pages 2571–2581

3) Chen, W., Drton, M., and Wang, Y. S. (2019). On causal discovery with an equal-variance assumption. *Biometrika*, 106(4):973–980

4) Drton, M., Fox, C., Wang, Y. S., et al. (2019). Computation of maximum likelihood estimates in cyclic structural equation models. *The Annals of Statistics*, 47(2):663–690

5) Chen, Y.-C., Wang, Y. S., and Erosheva, E. A. (2018). On the use of bootstrap with variational inference: Theory, interpretation, and a two-sample test example. *The Annals of Applied Statistics*, 12(2):846–876

6) Wang, Y. S., Matsueda, R. L., Erosheva, E. A., et al. (2017). A variational EM method for mixed membership models with multivariate rank data: An analysis of public policy preferences. *The Annals of Applied Statistics*, 11(3):1452–1480

7) Wang, Y. S. and Drton, M. (2017). Empirical likelihood for linear structural equation models with dependent errors. *Stat*, 6(1):434–447

Submitted preprints

1) Wang, Y. S., Lee, C., West, J., Bergstrom, C., Erosheva, E.A. "Gender-based homophily in collaborations across a heterogeneous scholarly landscape" [arXiv]

2) Zhao, B., Wang, Y. S., Kolar, M. "FuDGE: Functional Differential Graph Estimation with fully and discretely observed curves" [arXiv]

3) Wang, Y. S., Drton, M. "Causal discovery with unobserved confounding and non-Gaussian data" [arXiv]

Work in progress

"Confidence sets for causal discovery"
with Mathias Drton and Mladen Kolar

"High-dimensional residual randomization inference"
with Yi Ding, Mladen Kolar, Si Kai Lee, and Panos Toulis

"Posterior summarization for time varying dynamic Bayesian models"
with Mladen Kolar, Si Kai Lee, and David Puelz

"Estimation of Functional Graphical Models via neighborhood selection"
with Mladen Kolar, Percy Zhai, and Boxin Zhao

Technical reports and software

Wang, Y. S., Erosheva, E. A. (2016) "On the relationship between set-based and network-based measures of gender homophily in scholarly publications" [arXiv]

Wang, Y. S., Erosheva, E. A. (2015) "Fitting mixed membership models using `mixedmem`" [CRAN]

Teaching

University of Washington
Lead Instructor: STAT 311: *Elements of Statistical Methods*
Teaching Assistant: STAT 220: *Principles of Statistical Reasoning*; STAT 221: *Statistical Concepts for Social Sciences*; STAT 311: *Elements of Statistical Methods*; STAT 421: *Applied Statistics and Experimental Design*; STAT 534: *Statistical Computing*; STAT 566: *Causal Modeling*; STAT 570: *Adv Regression Methods for Indep Data*; CSSS 589: *Multivariate Data Analysis for the Social Sciences*

Professional service

UW Statistics Dept Lead TA 2013, 2016
Journal Referee: Annals of Applied Statistics; Annals of Statistics; Bernoulli; Biometrika; Biometrics; Electronic Journal of Statistics, International Journal of Approximate Reasoning; Journal of the American Statistical Association; Journal of Machine Learning Research
Conference Referee: AISTATS; ICML; NeurIPS; UAI
Other: NSF proposal reviewer, JMLR editorial board reviewer

Non-academic experience

Susquehanna International Group 2013
Assistant Trader Intern
- Worked on the index/ETF desk; created tools for calculating "robust" beta and bootstrapping portfolio risk

Deloitte 2010 – 2012
Strategy and Operations Consultant
- Focused on analytic strategy and supply chain risk assessments with heavy manufacturing, technology hardware, and oil and gas clients
- Houston office Business Analyst Action Committee lead