Y. Samuel Wang

Contact Information

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Research Interests

Graphical models; Causal discovery; Mixed membership models; Variational inference; Empirical likelihood

Academic Positions

Post-doctoral Research Professional — 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
Thesis: *State Level Economic Volatility: Causes and Effects*
Magna Cum Laude; Phi Beta Kappa

Publications

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

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

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

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

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

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

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

Submitted preprints

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

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

Teaching Experience

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; Int. J. of Approximate Reasoning; J. of the American Statistical Association; J. of Machine Learning Research
Conference Referee: AISTATS; ICML; NeurIPS; UAI

Industry Work 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

References

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