Wenrui Li

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EDUCATION

Boston University *Expected May 2021*

Doctor of Philosophy in Statistics, GPA: 4.0/4.0, Dean's Fellowship

- Relevant Coursework: Nonparametric and Semiparametric Data Modeling, Network Analysis, Hypothesis Testing, Probability Theory, and Estimation Theory.

University of Washington *Sept. 2015 - June 2017*

Master of Science in Statistics: Advanced Methods & Data Analysis, GPA: 3.87/4.0

- Relevant Coursework: Machine Learning, Time Series Analysis, Bayesian Statistics, Statistical computing, Advanced Regression Methods, Design and Analysis of Experiments.

Shandong University *Sept. 2011 - June 2015*

Bachelor of Science in Statistics, GPA: 92.29/100, National Scholarship (awarded to top 3% students)

EXPERIENCE

Boston University, Boston, MA *Sept. 2017 - Present*

Research Assistant

- BU COVID-19 modeling: constructed BU contact networks, used agent-based network modeling to simulate outcomes, implemented different strategies, and informed capacity around testing, quarantine and isolation.
- Estimation of the epidemic branching factor in noisy networks: characterized the impact of network noise on the empirical branching factor, proposed method-of-moments estimator for the true branching factor, and showed the substantial inferential accuracy of our estimator via contact networks in British secondary schools and French hospital.
- Causal inference under network interference with noise: quantified the biases and variances of Horvitz-Thompson estimators of causal effects, proposed method-of-moments estimator for bias reduction, and illustrated that our estimators are asymptotically unbiased with small variances, by application to BU Facebook network.
- Multi-level kriging for large dataset imputation: implemented Kriging on National Inpatient Sample data sets to predict missing data, and showed that Kriging is exact and significantly outperforms current state-of-the-art methods, such as k-nearest neighbors regression and generalized least squares.
- Projects in progress: estimation of metrics for BU surveillance, graph matching for unlabeled correlated networks with noise, graphon estimation with multiple samples.

Instructor/Teaching Fellow

- Taught lecture sections in Calculus, and discussion sections in Calculus for the life and social sciences.

University of Washington, Seattle, WA *Sept. 2015 - June 2017*

- A distributional framework for matched employer employee data: used a weighted k-means algorithm to classify firms and EM algorithm to estimate the type-and-class-specific log-earnings functions, and indicated that estimations recovered the worker and firm heterogeneity and earning dispersion by simulated data.
- Statistical consulting services: provided statistical advice and assistance in experiment design, statistical methods, model fitting and interpretation to UW faculty, staff, and students through scheduled consulting appointments.

PUBLICATIONS

- **Li, W.** Sussman, D. L., Kolaczyk, E. D. (2020). Causal Inference under Network Interference with Noise. *In preparation*.
- **Li, W.** Sussman, D. L., Kolaczyk, E. D. (2020). Estimation of the Epidemic Branching Factor in Noisy Contact Networks. *arXiv preprint arXiv:2002.05763*.
- Wang W., **Li, W.**, Sun Y., Milanovic S., Kon M., Castrillon-Candas J.E. (2020). Multi-level Kriging for Large Dataset Imputation. *Under review*.
- Hao M., Lin X., Gai R., **Li, W.**. (2015). Current Situation and Ethical Discussion on Dietary of Rural Left-behind Children. *Chinese Medical Ethics*, 287-290, 2015.
- Wang X., **Li, W.**, Guo B., et al. (2014). A cross-sectional Study on Waste Disposal of Patients with Active Pulmonary Tuberculosis. *Medicine&Philosophy*, 45-47, 2014.

TECHNICAL SKILLS

Programming/Tools:	R, Python, C, C++, Java, MATLAB, SAS, SPSS, SQL, Linux, AWS, Google Cloud
Algorithms:	Neural network, deep learning, natural language processing, random forest