

# Sheng Xu

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## Education

Ph.D. Statistics, Yale University.  
Advisor: Zhou Fan.

Sep. 2016 - Jul. 2021 (Expected)

B.S. Probability and Statistics, Peking University.  
Advisor: Zhi Geng.

Sep. 2010 - Jul. 2014

B.S. (dual) Economics, Peking University.  
Advisor: Miaojie Yu.

Sep. 2011 - Jul. 2014

## Awards

ICML (International Conference on Machine Learning) Travel Award, 2015.

## Teaching Experiences

TA, S&DS 363/563, Multivariate Statistics, Spring 2020 (taught by Jonathan, Reuning-Scherer).

TA, S&DS 410/610, Statistical Inference, Fall 2019 (taught by Zhou, Fan).

TA, S&DS 351/551, Stochastic Processes, Spring 2019 (taught by Sahand, Negahban and Yihong, Wu).

TA, S&DS 410/610, Statistical Inference, Fall 2018 (taught by Zhou, Fan).

TA, S&DS 351/551, Stochastic Processes, Spring 2018 (taught by Sahand, Negahban).

## Research Experiences

### Research Interests

High Dimensional and Multivariate Statistics; Statistical Inference; Statistical Learning Theory; Signal Processing; Combinatorial Algorithms; Convex and Nonconvex Optimization; Time Series Analysis; Econometrics.

### Journal Publications

1. **Xu, S., & Fan, Z.** (2020). Iterative Alpha Expansion for estimating gradient-sparse signals from linear measurements. To appear in *Journal of the Royal Statistical Society: Series B (JRSS-B)*.

2. Han, F., **Xu, S.**, & Zhou, W. (2018). On Gaussian comparison inequality and its application to spectral analysis of large random matrices. *Bernoulli*, Volume 24, Number 3 (2018), 1787-1833.

## Conference Publications

1. **Xu, S.**, Fan, Z., & Negahban, S. (2020). Tree-Projected Gradient Descent for Estimating Gradient-Sparse Parameters on Graphs. In *Proceedings of the 33rd Annual Conference on Learning Theory (COLT)*.
2. Qiu, H., **Xu, S.**, Han, F., Liu, H., & Caffo, B. (2015). Robust estimation of transition matrices in high dimensional heavy-tailed vector autoregressive processes. In *Proceedings of the 32nd International Conference on Machine Learning (ICML)*.

## Preprints

1. Chen, L., & **Xu, S.** (2020). Deep Neural Tangent Kernel and Laplace Kernel Have the Same RKHS. *ArXiv e-prints*, *abs/2009.10683*.
2. Gao, W. Y., & **Xu, S.** (2020). Two-Stage Maximum Score Estimator. *ArXiv e-prints*, *abs/2009.02854*.
3. Gao, W. Y., Li, M., & **Xu, S.** (2020). Logical Differencing in Dyadic Network Formation Models with Nontransferable Utilities. *ArXiv e-prints*, *abs/2001.00691*.

## Professional Services

### Talks

- Conference on Learning Theory (COLT), 2020.
- International Conference on Machine Learning (ICML), 2015.

### Reviewing

- International Conference on Machine Learning (ICML), 2020
- International Conference on Learning Representations (ICLR), 2021