

Lan Gao

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🌐 <https://sites.google.com/view/gao-lan>

Academic Positions

University of Tennessee Knoxville; Haslam College of Business **Knoxville, USA**
Assistant Professor, Department of Business Analytics and Statistics 08/2022 - Present

University of Southern California; Marshall School of Business **Los Angeles, USA**
Postdoctoral Scholar, Data Sciences and Operations Department 08/2019 - 07/2022
Advisors: Yingying Fan and Jinchi Lv

Education

The Chinese University of Hong Kong **Hong Kong SAR**
Ph.D. in Statistics, Department of Statistics, 4.00/4.00 08/2015 - 07/2019
- Thesis: Cramér Type Moderate Deviations for General Self-normalized Sums and The Central Limit Theorem for Distance Correlation
- Advisor: Qi-Man Shao

University of Southern California; Marshall School of Business **Los Angeles, USA**
Visiting student, Data Sciences and Operations Department 07/2018 - 08/2018
Advisor: Jinchi Lv

Wuhan University **Wuhan, China**
B.S. in Statistics, School of Mathematics and Statistics, 3.88/4.00 09/2011 - 07/2015

Research Interests

High-dimensional statistics; High-dimensional inference; Nonparametric statistics; Causal inference; Machine learning; Self-normalized limit theory and its applications; Stein's method and its applications; Statistical applications in business

Honors and Awards

IMS New Researcher Travel Award, IMS 2021

Hong Kong PhD Fellowship, Research Grants Council 2015 - 2019
For attracting the best and brightest students in the world to pursue their PhD studies in Hong Kong's universities. Very small proportion of PhD students are awarded (1/9 among the new PhD students in 2015 in Department of Statistics of CUHK).

Overseas Research Award, The Chinese University of Hong Kong 2017 - 2018
A competitive award given by the Department of Statistics to support research experience at overseas institutions.

Outstanding Graduates, Wuhan University 2015

National Scholarship, Ministry of Education of P.R.C. 2012 - 2014
A highly competitive scholarship awarded to the top 1% of undergraduate students, comprising both academic and non-academic measures of performance

The First Prize Scholarship, Wuhan University 2012

Publications and Manuscripts

Publications

- [Gao, L.](#), Shao, Q.-M. and Shi, J. (2022). *Refined Cramér type moderate deviation theorems for general self-normalized sums with applications to dependent random variables and winsorized mean*. The Annals of Statistics, 50(2), 673–697. [PDF]
- [Gao, L.](#), Fan, Y., Lv, J. and Shao, Q.-M. (2021). *Asymptotic distributions of high-dimensional distance correlation inference*. The Annals of Statistics, 49(4), 1999–2020. [PDF]
- Demirkaya, E., Fan, Y., [Gao, L.](#), Lv, J., Vossler, P. and Wang, J. (2021). *Nonparametric inference of heterogeneous treatment effects with two-scale distributional nearest neighbors*. Journal of the American Statistical Association, to appear. [PDF]

Manuscripts:

- [Gao, L.](#), Shao, Q.-M. and Shi, J. (2020). *Cramér-type moderate deviation theorems for studentized trimmed mean*. Manuscript.
- [Gao, L.](#), Shao, Q.-M. and Shi, J. (2020). *On approximation of studentized sample quantile*. Manuscript.
- Fan, Y., [Gao, L.](#) and Lv, J. (2021). Robust inference with approximate knockoffs. In preparation.
- Arslan, A., Fan, Y., [Gao, L.](#) and Lv, J. (2021). Matching first two moments can suffice for knockoffs inference. In preparation.
- Fan, Y., [Gao, L.](#) and Lv, J. (2021). High-dimensional conditional distance correlation inference. In preparation.

Presentations

Conference Talks

- Optimal Nonparametric inference with Two-Scale Distributional Nearest Neighbors
Invited talk, CMStatistics 2022, London, UK, December 2022.
- Asymptotic Distributions of High-dimensional Distance Correlation Inference
Invited talk (Topic-contributed session), 2021 Joint Statistical Meetings (virtual), August 2021.
- Nonparametric Inference of Heterogeneous Treatment Effects with Two-Scale Distributional Nearest Neighbors
Invited talk, 4th International Conference on Econometrics and Statistics (EcoSta 2021, virtual), June 2021.
- Cramér Type Moderate Deviation Theorems for Studentized Trimmed Mean
Invited talk, 5th Institute of Mathematical Statistics Asia Pacific Rim Meeting, Singapore, June 2018.
- On Approximation of Studentized Sample Quantile
Invited talk, 6th IMS-China International Conference on Statistics and Probability, Nanning, China, June 2017.

Invited Seminar Talks

- High-dimensional Distance Correlation Inference
Decision Science Seminar Series, Fuqua School of Business, Duke University, September 2022.

Teaching Experience

Instructor (at UTK)

BAS 320, Regression Modeling *Spring 2023*

Teaching Assistant (at CUHK)

STAT 4008, Survival Modelling *Spring 2017, 2018*

STAT 5005, Advanced Probability Theory *Fall 2016, 2017*

STAT 2011, Workshop on Data Exploration and Technical Writing *Spring 2016*

STAT 3210, Statistical Techniques in Life Sciences *Fall 2015*

Professional Service

- **Referee** for Journal of the Royal Statistical Society Series B (Statistical Methodology), The Annals of Statistics, Biometrika, Journal of the American Statistical Association-Applications & Case Studies, Journal of Business & Economic Statistics, Science China Mathematics, Statistics, Journal of Statistical Planning and Inference.
- **Session chair and organizer** for "Session 47: Recent Advances in Large-Scale Data Analysis", 2022 ICSA China Conference, Xi'an, China, July 2022,

Skills

Programming Languages: R, Python

Languages: English (Fluent), Chinese (Native)