# Maoran Xu

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206 Chapel Drive, Durham, NC

## Employment

**Duke University, Department of Statistical Science** — Durham, NC
*Postdoctoral Associate* — *Sep. 2022 – Present*
Supervisors: David B. Dunson and Amy H. Herring

## Education

**University of Florida** — Gainesville, FL
*Ph.D. in Statistics* — *Aug. 2018 – Aug. 2022*
Advisor: Leo L. Duan
Thesis: Bayesian Inference for Combinatorial Problems

**Fudan University** — Shanghai, CN
*Bachelor of Science, Mathematics and Data Science* — *Aug. 2014 – May 2018*

## Awards

**ICSA Research Poster Award** — Ann Arbor, MI
*2023 International Chinese Statistical Association Applied Statistics Symposium* — *Jun. 2023*

**Statistics Faculty Award** — Gainesville, FL
*University of Florida (given annually to the top Ph.D. graduate)* — *2020-21*

## Statistical journal publication

- Maoran Xu, Hua Zhou, Yujie Hu and Leo L. Duan. "Bayesian Inference using the Proximal Mapping: Uncertainty Quantification under Varying Dimensionality." Journal of the American Statistical Association (2023): 1-24.
- Maoran Xu, and Leo L. Duan. "Bayesian Inference with the $l_1$-ball Prior: Solving Combinatorial Problems with Exact Zeros." Journal of the Royal Statistical Society: Series B (2023).

## Working papers and preprints

- Maoran Xu, Amy H. Herring and David B. Dunson. "Dimension Reduction in Nonparametric Factor Analysis for Identifiability and Interpretability." arXiv preprint arXiv:2311.08254 (2023).
- Maoran Xu, Jingcheng Meng and David B. Dunson. "Bayesian Covariance Estimation with Low-rank and Sparse Priors." *In preparation* (2023+).
- Maoran Xu and Amy H Herring. "Joint Analysis on Biological and Clinical Subtypes of Sepsis via Bayesian Consensus Clustering." *In preparation* (2023+).
- Maoran Xu, and Leo L. Duan. "Bayesian Multi-scale Modeling of Factor Matrix without Using Partition Tree." arXiv preprint arXiv:2002.09606 (2020).

## Collaborative publication in computer science

- Zhuochen Jin, Nan Chen, Yang Shi, Weihong Qian, Maoran Xu and Nan Cao. "TrammelGraph: Visual Graph Abstraction for Comparison." Journal of Visualization 24 (2021): 365-379.
- Ziyu Wang, Ke Chen, Junyan Jiang, Yiyi Zhang, Maoran Xu, Shuqi Dai, Xianbin Gu, and Gus G. Xia. "Pop909: A Pop-song Dataset for Music Arrangement Generation." International Society for Music Information Retrieval Conference, ISMIR 2020.
- Shi, Yang, Maoran Xu, Rongwen Zhao, Hao Fu, Tongshuang Wu, and Nan Cao. "Interactive Context-aware Anomaly Detection Guided by User Feedback." IEEE Transactions on Human-Machine Systems 49, no. 6 (2019): 550-559.
- Maoran Xu, Ziyu Wang, and Gus G. Xia. "Transferring Piano Performance Control across Environments." In 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), pp. 221-225. IEEE, 2019.
- Yunfan Gu, Zhongyu Wei, Maoran Xu, Hao Fu, Yang Liu, and Xuan-Jing Huang. "Incorporating Topic Aspects for Online Comment Convincingness Evaluation." In Proceedings of the 5th Workshop on Argument Mining (EMNLP), 2018.

## Teaching Experience

Instructor at the University of Florida | *Gainesville, FL* — Jun. - Aug. 2021

- STA 3024: Introduction to Statistics II

Teaching Assistant at the University of Florida | *Gainesville, FL* — Aug. 2018-Present

- STA 2023: Introduction to Statistics I (Instructor: Stephanie Stine)
- STA 3024: Introduction to Statistics II (Instructor: Eleni Dilma)
- STA 4321: Introduction to Probability I (Instructor: Leo L. Duan)
- STA 4322: Introduction to Probability II (Instructor: Leo L. Duan)
- STA 4712: Introduction to Survival Analysis (Instructor: Deborah Burr)
- STA 6246: Linear Models (Instructor: Hani Doss)

Teaching Assistant at Fudan University | *Shanghai, China* — Mar. - Jun. 2018

- DATA130012: Data Visualization (Instructor: Xiahai Zhuang)

## Invited Talks

IMS Young Mathematical Scientist Forum | *Singapore* — Nov. 2023

- Title: Identifying interpretable latent structures in factor analysis

The 6th International Conference on Econometrics and Statistics (EcoSta 2023) | *Tokyo, Japan* — Aug. 2023

- Title: Identifying interpretable latent structures in factor analysis

The 36th New England Statistics Symposium | *Boston, MA* — Jun. 2023

- Title: Uncertainty quantification for varying dimensional parameters

Indiana University Bloomington Statistics Department Colloquium Series | *Bloomington, IN* — Apr. 2023

- Title: Uncertainty quantification for varying dimensional parameters

Fudan University Guanghua International Forum for Young Scholars | *Shanghai, China* — Jan. 2023

- Title: Uncertainty quantification for varying dimensional parameters

2021 Joint Statistical Meetings | *Online Virtual Meeting* — Aug. 2021

- Title: Bayes meets optimization: proximal prior for modeling in unknown/varying dimensional space

## Contributed Presentations

2023 ICSA Applied Statistics Symposium | *Ann Arbor, MI* Jun. 2023

- (Poster) Title: Towards identifiable and interpretable factor analysis

2022 World Meeting of the International Society for Bayesian Analysis | *Montreal, CA* Jun. 2022

- Title: Going beyond spike-and-slab: a generalized class of $\ell_1$-ball sparsity priors

2021 World Meeting of the International Society for Bayesian Analysis | *Online Virtual Meeting* Jun. 2021

- Title: Bayesian inference with the $\ell_1$-ball prior: solving combinatorial problems with exact zeros

Student seminar at the University of Florida | *Gainesville, FL* Apr. 2021

- Title: Bayesian inference meets optimization

2019 Joint Statistical Meetings | *Denver, CO* Jul. 2019

- Title: Where does our working memory take place? A multi-Level sub-graph analysis of brain functional connectivities

IEEE International Conference on Acoustics, Speech and Signal Processing | *Brighton, UK* May 2019

- (Poster) Title: Transferring piano performance control across environment

## Academic Services

**Organizer for:** 2021-22 Statistics Student Seminars at the University of Florida
**Session chair for:** The 36th New England Statistics Symposium, "Cutting Edge Statistical Methods for Genetics and Genomics Data."
**Reviewer for:** Biometrics, Statistics and its Inference

## References

**Amy H. Herring** Sara & Charles Ayres Distinguished Professor
*Duke University, Statistical Science, Global Health, and Biostatistics & Bioinformatics* *amy.herring@duke.edu*

**David B. Dunson** Arts and Sciences Distinguished Professor
*Duke University, Statistical Science and Mathematics* *dunson@duke.edu*

**Leo L. Duan** Assistant Professor
*University of Florida, Department of Statistics & Informatics Institute* *li.duan@ufl.edu*

**Hani Doss** Professor
*University of Florida, Department of Statistics* *doss@stat.ufl.edu*