Maoran Xu

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209 Chapel Drive, Old Chemistry Building, Durham, NC

EMPLOYMENT

Duke University, Department of Statistical Science Durham, NC
Postdoctoral Associate *Sep. 2022 – Present*
Supervisors: David B. Dunson and Amy H. Herring
Research Interest: Bayesian methodologies, dimension reduction, factor models, clustering

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 ICSA Applied Statistics Symposium *Jun. 2023*

Statistics Faculty Award to top PhD graduate Gainesville, FL
University of Florida *2020-21*

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 (In press)

- 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.

PREPRINTS

- Maoran Xu, and Leo L. Duan. "Bayesian Multi-scale Modeling of Factor Matrix without using Partition Tree." arXiv preprint arXiv:2002.09606 (2020).

SOFTWARE

- `l1ball`: R package for exactly sparse high-dimensional regression with the l1-ball prior.

VISITING SCHOLAR EXPERIENCE

New York University   Shanghai, CN
Visiting research assistant, supervised by Gus G. Xia   *Nov. 2017 – May 2018*

Tongji University   Shanghai, CN
Research internship, supervised by Nan Cao   *Jun. 2017 – Sep. 2017*

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, CN*   Mar. - Jun. 2018
  - DATA130012: Data Visualization (Instructor: Xiahai Zhuang)

INVITED TALKS

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, CN*   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 ℓ_1-ball sparsity priors

2021 World Meeting of the International Society for Bayesian Analysis | *Online Virtual Meeting*   Jun. 2021
- Title: Bayesian inference with the ℓ_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

Technical Skills

Programming Languages: Python, Matlab, R
Software and Tools: Stan, Latex, TensorFlow, Pytorch

References

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

Malay Ghosh   Distinguished Professor
University of Florida, Department of Statistics   *ghoshm@ufl.edu*

Amy H. Herring   Sara & Charles Ayres 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*