FAN BU

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PROFESSIONAL AFFILIATIONS

Postdoctoral Scholar *Aug 2021 - present*
Department of Biostatistics, University of California - Los Angeles

Visiting Scholar *Sept 2022 - Nov 2022*
Simons Institute, University of California - Berkeley

Research Intern *May 2020 - Aug 2020*
Duke Center for AIDS Research

EDUCATION

Department of Statistical Science, Duke University *2017 - 2021*
Ph.D. in Statistics.

School of Mathematical Sciences, Peking University *2013 - 2017*
B.S. in Mathematics and Applied Mathematics

RESEARCH INTERESTS

Bayesian statistics and statistical machine learning for complex and large-scale datasets; stochastic processes and dynamic models; health data science and informatics; social network analysis.

PUBLICATIONS AND PREPRINTS

Inferring HIV Transmission Patterns from Viral Deep-Sequence Data via Latent Spatial Poisson Processes (2022)†. *Submitted for internal approval; manuscript available upon request*

Adjusting for Both Sequential Testing and Systematic Error in Safety Surveillance using Observational Data: Empirical Calibration and MaxSPRT (2022). *Accepted by Statistics in Medicine*

Network Position and Emergent Phenomena: A Multi-team System Case Study (2022+). *Under revisions.*

Likelihood-based Inference for Partially Observed Stochastic Epidemics with Individual Heterogeneity (2021)†. *Submitted for review; arXiv:2112.07892.*

Likelihood-based Inference for Partially Observed Epidemics on Dynamic Networks (2020)†. *Journal of the American Statistical Association* (**Winner of 2020 SBSS Student Paper Award**)

SMOGS: Social Network Metrics of Game Success (2019)†. *The 22nd International Conference on Artificial Intelligence and Statistics (AISTATS).*

Who Started It? Identifying Root Sources in Textual Conversation Threads (2018). *arXiv:1809.03648.*

(† denotes first-author work)

WORKING PAPERS

Bayesian Safety Surveillance with Adaptive Bias Correction (2022+).

Viral and Immune Predictors of Time to Viral Rebound in SHIV-infected Infant Macaques (2021+).

AWARDS AND HONORS

ISBA World Meeting travel award. *June 2022*

Duke CFAR Fall Retreat Best Poster Award. *October 2020*

SBSS Student Paper Award; JSM travel award. *August 2020*

Honorable Mention for Ph.D. Teaching Assistant for the Year *May 2020*

Women in Machine Learning Workshop (WiML) travel award. *December 2017*

INVITED TALKS AND PRESENTATIONS

ORAL PRESENTATIONS:

Topic-contributed talk at CMStatistics 2022 (scheduled) *December 2022*

Invited talk at the UCLA 2022 Fall Biomathematics Seminar Series (scheduled) *November 2022*

Invited presentation at the 2022 OHDSI Global Symposium (scheduled) *October 2022*

Oral presentation at NSF Student Conference on COVID-19 Modeling. *January 2021*

Invited talk at 2020 Bayesian Young Statisticians Meeting: Online (BAYSM:O). *November 2020*

Topic-contributed talk at 2020 Joint Statistical Meetings. *August 2020*

Invited talk at the 3rd Annual AT&T Labs Graduate Student Symposium. *November 2019*

Invited talk at the 2019 New England Symposium on Statistics in Sports (NESSIS). *September 2019*

Spotlight talk on Duke Machine Learning Day. *March 2019*

POSTER PRESENTATIONS:

Poster presentation at the 2022 ISBA World Meeting. *June 2022*

Poster presentation at the 22nd International Conference on Artificial Intelligence and Statistics (AISTATS). *April 2019*

Poster presentation at the 2018 ISBA World Meeting. *June 2018*

Poster presentation at Women in Machine Learning Workshop (WiML) 2017. *December 2017*

PROFESSIONAL SERVICE

Program Chair for *the junior section of the International Society for Bayesian Analysis (j-ISBA).* *January 2022 - present*

Judge for *Duke Datathon.* *October 2020 & 2021*

Consultant for *DataFest: COVID-19 Virtual Data Challenge.* *April 2020*

Consultant for *ASA DataFest @ Duke.* *April 2018 & April 2019*

Journal review for: *Journal of the American Statistical Association*, *The Proceedings of the National Academy of Sciences (PNAS)*, *Science Advances*, and *Environmental and Ecological Statistics.*

TEACHING & MENTORING

Mentor for the 2022 B.I.G. summer research program at UCLA. *Summer 2022*

Instructor of Record for *STA101: Data Analysis/Statistical Inference*. *Summer 2021*

Lab instructor and teaching assistant for *STA199: Introduction to Data Science*. *Fall 2020*

Lab instructor and teaching assistant for *STA723: Statistics Case Studies*. *Spring 2020*

Lab instructor and teaching assistant for *STA601: Bayesian Methods and Modern Statistics*. *Fall 2019*

Team manager and student mentor for *Duke Data+ 2019*. *Summer 2019*

Instructor of *Duke Statistical Science Bootcamp*. *August 2018*

ONGOING & PAST RESEARCH PROJECTS

Bayesian Methods Development for Sequential Monitoring of Observational Data for Vaccine Safety, under FDA's CBER BEST collaborative contract (2021+). *Work in progress*.

The Evolution of Popularity and Images of Characters in Marvel Cinematic Universe Fanfictions (2018). (Technical report at *arXiv:1805.03774*)

Traffic Speed Nowcasting Based on Urban Road Network and Artificial Neural Network (2017). (B.S. thesis)

Detection of Differential Genetic Networks (2016). (Supported by National Undergraduate Innovation Grant of China)