FAN BU

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https://fanbu1995.github.io

PROFESSIONAL AFFILIATIONS

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

Visiting Scholar (planned) *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; stochastic processes and dynamic models; social network analysis. With applications in observational health data analysis, infectious disease modeling, social sciences, and sports analytics.

PUBLICATIONS AND PREPRINTS

Fan Bu, Allison E. Aiello, Alexander Volfovsky, and Jason Xu (2021). Likelihood-based Inference for Partially Observed Stochastic Epidemics with Individual Heterogeneity. *Manuscript submitted for review; arXiv:2112.07892.*

Fan Bu, Allison E. Aiello, Jason Xu, and Alexander Volfovsky (2020). Likelihood-based Inference for Partially Observed Epidemics on Dynamic Networks. *Journal of the American Statistical Association* (**Winner of 2020 SBSS Student Paper Award**)

Fan Bu, Sonia Xu, Katherine Heller, and Alexander Volfovsky (2019). SMOGS: Social Network Metrics of Game Success. *The 22nd International Conference on Artificial Intelligence and Statistics (AISTATS).*

Wei Zhang, **Fan Bu**, Derek Owen-Oas, Katherine Heller, and Xiaojin Zhu (2018). Who Started It? Identifying Root Sources in Textual Conversation Threads. *arXiv:1809.03648.*

MANUSCRIPTS IN PREPARATION

Fan Bu, Oliver Ratmann, and Jason Xu (2022+). Uncovering HIV Transmission Flows Between Age Groups From Viral Deep-sequencing Data with Hierarchical Spatial Poisson Processes. *Manuscript available upon request*

Raquel Asencio, **Fan Bu**, Liann Tucker, Gabriel Varela, James Moody, and Alexander Volfovsky (2022+). Network Position and Emergent Phenomena: A Multi-team System Case Study.

Martijn Schuemie, **Fan Bu**, Akihiko Nishimura and Marc Suchard (2022+). Adjusting for Both Sequential Testing and Systematic Error in Safety Surveillance using Observational Data: Empirical Calibration and MaxSPRT.

Veronica Obregon-Perko, Achal Awasthi, Richard Barfield, Stella J. Berendam, Bhrugu Yagnik, **Fan Bu**, Tiffany Styles, Mithra Kumar, Emily Fray, Janet Siliciano, Rama R. Amara, Genevieve G. Fouda, Sallie R. Permar, Cliburn Chan, Ann Chahroudi (2021+). Viral and Immune Predictors of Time to Viral Rebound in SHIV-infected Infant Macaques.

AWARDS AND HONORS

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

Poster presentation at the 2022 ISBA World Meeting.	*June 2018*
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*
Poster presentation at the 22nd International Conference on Artificial Intelligence and Statistics (AISTATS).	*April 2019*
Spotlight talk at the Duke Machine Learning Day.	*March 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)* (elected).	*January 2022 onwards*
Reviewer for *The Proceedings of the National Academy of Sciences (PNAS).*	*March 2022*
Judge for *Duke Datathon.*	*October 2020 & 2021*
Reviewer for *Environmental and Ecological Statistics.*	*October 2021*
Reviewer for *Science Advances.*	*August 2019 - July 2021*
Reviewer for *Journal of the American Statistical Association.*	*June 2021*
Consultant for *DataFest: COVID-19 Virtual Data Challenge.*	*April 2020*
Team manager and mentor for *Duke Data+ 2019.*	*May-August 2019*
Consultant for *ASA DataFest @ Duke.*	*April 2018 & April 2019*

TEACHING

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*

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)