

# FAN BU

fan.bu1@duke.edu

<https://fanbuduke17.github.io/>

## EDUCATION

---

**Department of Statistical Science, Duke University**

*August 2017 - present*

Ph.D. in Statistics.

**School of Mathematical Sciences, Peking University**

*September 2013 - July 2017*

B.S.(with honor) in Data Science and Big Data Technology.

## RESEARCH INTERESTS

---

Bayesian statistics and statistical machine learning; stochastic and dynamic modeling; social network analysis. With applications in infectious disease modeling, social sciences, sports analytics, and natural language processing.

## PUBLICATIONS AND PREPRINTS

---

**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*.

## INVITED TALKS AND PRESENTATIONS

---

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*

## TEACHING

---

Teaching assistant for *Statistics Case Studies*.

*Spring 2020*

Teaching assistant for *Bayesian Methods and Modern Statistics*.

*Fall 2019*

Instructor of *Duke Statistical Science Bootcamp*.

*August 2018*

## AWARDS AND HONORS

---

SBSS Student Paper Award; JSM travel award.	<i>August 2020</i>
Women in Machine Learning Workshop (WiML) travel award.	<i>December 2017</i>

## SERVICES

---

Consultant for <i>DataFest: COVID-19 Virtual Data Challenge</i> .	<i>April 2020</i>
Reviewer for <i>Science Advances</i> .	<i>Jan 2020 &amp; August 2019</i>
Team manager and mentor for <i>Duke Data+ 2019</i> .	<i>May-August 2019</i>
Consultant for <i>ASA DataFest @ Duke</i> .	<i>April 2018 &amp; April 2019</i>

## SKILLS

---

**Programming Languages:** R, Python, MATLAB, Julia, SQL.

**Languages:** Mandarin (native) and English (proficient)

## OTHER ONGOING AND PAST RESEARCH PROJECTS

---

Historical tone change from Middle Chinese to modern Beijing Mandarin: Usage-based phonology and modeling (2019). (Ongoing work with Haowen Zhang and Maria Giavazzi, Ecole Normale Supérieure de Paris.)

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)