

# Fei Xue

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📄 Homepage: <https://feixue-stat.github.io/>

## Employment

- 2021–current **Assistant Professor**, *Purdue University*, USA.  
2019–2021 **Postdoc Researcher**, *The University of Pennsylvania*, USA.  
Supervisor: Hongzhe Li

## Education

- 2014–2019 **Ph.D. in Statistics**, *The University of Illinois at Urbana–Champaign*, USA.  
Advisor: Annie Qu  
2010–2014 **B.S. in Mathematics and Applied Mathematics**, *Fudan University*, China.

## Research Interests

Data integration, missing data, mediation analysis, personalized modeling, precision medicine, high dimensional inference, variable selection, statistical genetics, and survival analysis.

## Papers

1. **Fei Xue**, Annie Qu (2020). Integrating multi-source block-wise missing data in model selection. *Journal of the American Statistical Association*, accepted. <https://doi.org/10.1080/01621459.2020.1751176>
2. **Fei Xue**, Yanqing Zhang, Wenzhuo Zhou, Haoda Fu, Annie Qu (2021). Multicategory angle-based learning for estimating optimal dynamic treatment regimes with censored data. *Journal of the American Statistical Association*, accepted. <https://doi.org/10.1080/01621459.2020.1862671>
3. Xiwei Tang, **Fei Xue**, Annie Qu (2020). Individualized multi-directional variable selection. *Journal of the American Statistical Association*, accepted. <https://doi.org/10.1080/01621459.2019.1705308>
4. Simona Buetti, **Fei Xue**, Qiawen Liu, Juyoen Hur, Gavin Jun Peng Ng, Wendy Heller (2020). Perceived control in the lab and in daily life impact emotion-induced temporal distortions. *Timing & Time Perception*, 9(1): 88-122. <https://doi.org/10.1163/22134468-bja10018>
5. Grace S Kim, Alicia Smith, **Fei Xue**, Vasiliki Michopoulos, Adriana Lori, Don L. Armstrong, Allison E. Aiello, Karestan C. Koenen, Sandro Galea, Derek E. Wildman, Monica Uddin (2019). Methylomic profiles reveal sex-specific shifts in leukocyte composition associated with post-traumatic stress disorder. *Brain, Behavior, and Immunity*, 81: 280–291. <https://doi.org/10.1016/j.bbi.2019.06.025>

6. Agaz Wani, Allison Aiello, Grace S Kim, **Fei Xue**, Andrew Ratanatharathorn, Annie Qu, Karestan Koenen, Sandro Galea, Derek Wildman, Monica Uddin (2021). The impact of psychopathology, social adversity and stress-relevant DNAm on prospective risk for post-traumatic stress: A machine learning approach. *Journal of Affective Disorders*, 282: 894-905. <https://www.biorxiv.org/content/10.1101/2020.09.25.313635v1>
7. **Fei Xue**, Annie Qu. Semi-standard partial covariance variable selection when irrerepresentable conditions fail. *Statistica Sinica*, accepted.
8. **Fei Xue**, Xiwei Tang, Grace Kim, Allison Aiello, Karestan Koenen, Sandro Galea, Derek Wildman, Monica Uddin, Annie Qu. Heterogeneous mediation analysis for causal inference. Submitted. <https://www.biorxiv.org/content/10.1101/2020.10.13.336826v1>
9. **Fei Xue**, Rong Ma, Hongzhe Li. Semi-supervised statistical inference for high-dimensional linear regression with blockwise missing. Submitted.
10. **Fei Xue**, Hongzhe Li. An empirical Bayes regression for multi-tissue eQTL data analysis. To be submitted.

## Selected Awards

- 2019 **ICSA New Researcher Award**, *International Chinese Statistical Association*, USA.
- 2019 **IMS Hannan Graduate Student Travel Award**, *Institute of Mathematical Statistics*, USA.
- 2018 **ASA Student Paper Award**, *Statistical Learning and Data Science Section of the American Statistical Association*, USA.
- 2018 **Horace W. Norton Prize for Outstanding Thesis Research Finalist**, *Department of Statistics, UIUC*, USA.
- 2018 **The Third Place in Student Poster Competition**, *The Fourth International Workshop on the Statistical Analyses of Multi-Outcome Data*, USA.
- 2013 **Meritorious Winner**, *Mathematical Contest in Modeling*, USA.
- 2010 **Bronze medal**, *Chinese Mathematical Olympiad*, China.

## Teaching Experience

### Instructor at UIUC

Fall 2016 Stat 200: **Statistical Analysis**

Independently led a class of 40 undergraduate students, gave lectures, held office hours and designed exams and homework assignments

### Graduate Teaching Assistant at UIUC

- Spring 2017 Stat 427: **Statistical Consulting**
- Summer 2016 Stat 448: **Advanced Data Analysis**
- Spring 2016 Stat 511: **Mathematical Statistics II**
- Fall 2015 Stat 510: **Mathematical Statistics I**
- Summer 2015 Stat 410: **Statistics and Probability II**
- Spring 2015 Stat 510: **Mathematical Statistics I**

Fall 2014 Stat 410: **Statistics and Probability II**

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## Consulting Experience

2016–2019 **Statistical Consultant**, *Illinois Statistics Office, UIUC*.

Provided statistical consultation to 40+ clients

- Clients from Eli Lilly and Company, Pace Suburban Bus, Accel Entertainment, BioFortis Inc, Carle Foundation Hospital, and University of Illinois
- In the fields of biology, business, ecology, engineering, finance, marketing, medicine, psychology, sociology, etc.

Covered a wide range of services

- Grant proposal and medical protocol review
- Experimental design (survey design, clinical trial design)
- Data analysis (ANOVA, regression, factor analysis, mixed models, etc.),
- Prediction (market prediction, yield prediction)
- Software tutorial and technical report writing

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## Talks

### Invited

March. 2021 **ENAR Spring Meeting, Baltimore, MD, USA.**

Heterogeneous mediation analysis for causal inference

Dec. 2020 **The ICSA Applied Statistics Symposium, Online.**

Multicategory angle-based learning for estimating optimal dynamic treatment regimes with censored data

Nov. 2020 **Queen's University, Ontario, Canada.**

Multicategory angle-based learning for estimating optimal dynamic treatment regimes with censored data

Dec. 2019 **Fudan University, Shanghai, China.**

Integrating multi-source block-wise missing data in model selection

Dec. 2019 **East China Normal University, Shanghai, China.**

Integrating multi-source block-wise missing data in model selection

Dec. 2019 **The 11th ICSA International Conference, Hangzhou, China.**

Integrating multi-source block-wise missing data in model selection

Nov. 2019 **Workshop on LEADERS, New Haven, CT, USA.**

Heterogeneous mediator selection for high-dimensional data

June 2019 **The ICSA Applied Statistics Symposium, Raleigh, NC, USA.**

Integrating multi-source block-wise missing data in model selection

Oct. 2017 **Yunnan University, Kunming, China.**

Variable selection for highly correlated predictors

### Contributed

Aug. 2020 **JSM, Philadelphia, PA, USA.**

Multicategory angle-based learning for estimating optimal dynamic treatment regimes with censored data

July 2019 **JSM, Denver, CO, USA.**

Integrating multi-source block-wise missing data in model selection

- Aug. 2018 **JSM, Vancouver, Canada.**  
Variable selection for highly correlated predictors
- Nov. 2018 **Bohrer Workshop, Champaign, IL, USA.**  
Integrating multi-source block-wise missing data in model selection
- Nov. 2017 **Bohrer Workshop, Champaign, IL, USA.**  
Variable selection for highly correlated predictors

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## Referee Experience

Journal of the American Statistical Association (2)  
Journal of the Royal Statistical Society: Series B (1)  
Electronic Journal of Statistics (2)  
Journal of Nonparametric Statistics (1)  
Biometrics (2)  
Journal of Computational and Graphical Statistics (1)  
The Canadian Journal of Statistics (1)  
Statistics in Medicine (1)

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## Service

- 2017–2019 **Committee member of Graduate Student Invited Seminar.**  
The University of Illinois at Urbana–Champaign
- July 2017 **Session Chair of Machine Learning Applications.**  
JSM, Baltimore, MD, USA
- June 2017 **Session Chair of Prediction and inference for high-dimensional data and non-parametric models.**  
The ICSA Applied Statistics Symposium, Chicago, IL, USA

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## Professional Memberships

American Statistical Association  
Institute of Mathematical Statistics  
International Chinese Statistical Association