

YUBAI YUAN

CONTACT AND CURRENT POSITION

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Current Position: Assistant Professor of Statistics, Penn State University

EDUCATION

University of Illinois at Urbana-Champaign Ph.D. in Statistics Advisor: Annie Qu	<i>August 2016 – May 2020</i>
Sun Yat-sen University, China M.S. in Statistics	<i>August 2014 – June 2016</i>
Shandong University, China B.S. in Financial Mathematics	<i>August 2008 – July 2012</i>

RESEARCH INTERESTS

Network data analysis, diffusion on network, hypergraph modeling, mediation analysis and causal inference, active learning, optimal transport

PUBLICATIONS

1. **Yubai Yuan**, Yujia Deng, Yanqing Zhang, Annie Qu. (2020) “Deep learning from a statistical perspective.” *Stat*, **9**(1), e294.
2. Sarah Allison, Katherine Irwin Hamilton, **Yubai Yuan**, Gail Wallis Hague. (2020) “Assessment of progressive muscle relaxation (PMR) as a stress-reducing technique for first-year veterinary students.” *Journal of Veterinary Medical Education*, **47**(6), 737-744.
3. **Yubai Yuan** and Annie Qu. (2021) “Community detection with dependent connectivity.” *Annals of Statistics*, **49**(4), 2378-2428. ASA SLDS section student paper award, 2019.
4. Xuan Bi*, Xiwei Tang*, **Yubai Yuan***, Yanqing Zhang*, Annie Qu*. (2021) “Tensors in statistics.” *Annual Review of Statistics and Its Application*, **8**, 345-368 (*equal contribution).
5. **Yubai Yuan** and Annie Qu. (2022+) “High-order joint embedding for multi-level link prediction.” *Journal of American Statistical Association*, DOI: 10.1080/01621459.2021.2005608.
6. Jiuchen Zhang, **Yubai Yuan**, Annie Qu. (2022) “A tensor factorization recommender system with dependency.” *Electronic Journal of Statistics*, **16**, 2175-2205.
7. Yujia Deng*, **Yubai Yuan***, Haoda Fu, Annie Qu. (2022+) “Query-augmented active metric learning.” *Journal of American Statistical Association*, (*joint first author) DOI: 10.1080/01621459.2021.2019045. Student paper award for ICSA Applied Statistics Symposium, 2021.
8. Diqing Li, **Yubai Yuan**, Xinsheng Zhang, Annie Qu. (2023+) “Joint modeling of change-point identification and dependent dynamic community detection.” accepted, *Statistica Sinica*.

9. Qi Xu, **Yubai Yuan**, Junhui Wang, Annie Qu. (2023+) “Crowdsourcing utilizing subgroup structure of latent factor modeling.” Accepted, *Journal of American Statistical Association*.
ASA SLDS section student paper award, 2022.

PAPERS UNDER REVISION

1. **Yubai Yuan** and Annie Qu. “De-confounding causal inference via latent multiple mediators.” Major revision submitted, *Journal of American Statistical Association*.
2. **Yubai Yuan**, Babak Shahbaba, Norbert Fortin, Keiland Cooper, Qing Nie, Annie Qu “Optimal transport for latent integration with an application to heterogeneous neuronal activity data.” Rejection with resubmission, *Journal of American Statistical Association*.

PAPERS UNDER REVIEW

1. **Yubai Yuan**, Wani Agaz, Donglasan Janelle, Chengqi Wang, Wildman Derek, Uddin Monica, Annie Qu “Differentially expressed heterogeneous overdispersion genes testing for count data”

AWARDS

2022 NSF-Simons Center Fellow Award

ASA Student Paper Award in Statistical Learning and Data Science Section, JSM, 2019.

Second Prize of the Graduate Student Scholarship in Sun Yat-sen University, 2014.

TEACHING EXPERIENCE

The Pennsylvania State University.

- Stat 414: Introduction to Probability Theory (Fall 2022)
- Stat 415: Introduction to Mathematical Statistics (Spring 2023)

Instructor, University of Illinois at Urbana-Champaign

- Stat 200: Statistical Analysis (Spring 2019)

Teaching Assistant, University of Illinois at Urbana-Champaign

- Stat 425: Applied Regression and Design (Fall 2017)
- Stat 578: Statistical Learning in Data Science (Spring 2018)

Undergraduate Mentor, University of Illinois at Urbana-Champaign

- Mentoring two undergraduate students on network data analysis project (Summer 2018)

STUDENT SUPERVISION

Ph.D. Thesis Committee

- Alina Kuvelkar (2022)

PRESENTATION

Invited talks

- (2023) The 12th ICSA International Conference, Hong Kong, China.

- (2023) 2023 Workshop on Statistical Network Analysis and Beyond, Anchorage, AK.
- (2023) WNAR, Anchorage, AK.
- (2023) ICSA 2023 Applied Statistics Symposium, Ann Arbor, Michigan.
- (2023) ENAR, Nashville, TN.
- (2022) CMStatistics 2022, online.
- (2022) International Conference on Advances in Interdisciplinary Statistics and Combinatorics, Greensboro, NC.
- (2022) International Conference on Econometrics and Statistics, online.
- (2021) ICSA Applied Statistics Symposium, online.
- (2019) Joint Statistical Meetings, Denver, CO.
- (2018) Statistic Seminar, Fudan University, China.
- (2018) Conference of Statistical Challenges for Large-Scale Complex Data, Kunming, China.

Contributed talks

- (2020) Joint Statistical Meetings, Virtual.
- (2018) Bohrer Workshop, Champaign, IL.

Poster

- (2019) Workshop on Higher-Order Asymptotics and Post-Selection Inference, St. Louis, MO.
- (2019) Statistical Methods in Imaging conference, Irvine, CA.
- (2019) Symposium on Data Science and Statistics, Seattle, WA.
- (2018) Joint Statistical Meetings, Vancouver, Canada.
- (2018) The Conference on Statistical Learning and Data Science / Nonparametric Statistics, Columbia University, New York city, NY.

PROFESSIONAL SERVICE ACTIVITIES

Department Colloquium Organizer

Referee

- Journal of the American Statistical Association
- Journal of the Royal Statistical Society: Series B
- Biometrika
- Electronic Journal of Statistics
- The American Statistician
- Statistica Sinica
- Stat
- Statistics and Its Interface
- International Joint Conference on Artificial Intelligence

SOCIETY MEMBERSHIPS

American Statistical Association
 Institute of Mathematical Statistics
 Eastern North American Region