# Jun Yu

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## EDUCATION

**Peking University**                                                   Beijing, China
*Ph.D. in Statistics*                                                  *2014/09–2019/07*
- Supervisor: Prof. Mingyao Ai
- Dissertation: Design of Medical Experiments and Subsampling Techniques for Big Data

**Nankai University**                                                   Tianjin, China
*B.S. in Mathematics and Applied Mathematics*                          *2010/09–2014/07*
**Nankai University**                                                   Tianjin, China
*B.E. in Finance (Second major)*                                       *2010/09–2014/07*

## RESEARCH INTERESTS

**Statistical theory and methodology:** Design of experiments; Sampling theory and subsampling techniques; Data reduction methods of big data

**Applied statistics:** Analysis the network data and solving the real-world problem via networks.

## WORKING EXPERIENCE

**Assistant Professor**                                                 2019/09 – Present
*School of Mathematics and Statistics, Beijing Institute of Technology*      *Beijing, China*
**Ph.D. Graduate Supervisor of Statistics**                            2021/11 – Present
*School of Mathematics and Statistics, Beijing Institute of Technology*      *Beijing, China*
**Visiting Scholar**                                                    2019/12 – 2020/01
*Department of Statistics, University of Georgia.*                           *GA, USA.*
- Co-mentor: Prof. Ping Ma and Prof. Wenxuan Zhong

## PUBLICATIONS[1]

**Refereed journal papers**

1. **Yu, Jun**[#], Xiran Meng[#], Yaping Wang[*]. "Optimal designs for semi-parametric does-response models under random contamination." *Computational Statistics and Data Analysis* (2022), accepted.

2. **Yu, Jun**[#] and Haiying Wang[*]. "Subdata selection algorithm for linear model discrimination." *Statistical Papers* (2022), accepted.

3. **Yu, Jun**[#], Huimin Cheng, Jinan Zhang, Qi Li, Shushan Wu, Wenxuan Zhong, Jin Ye, Wen Zhan Song, and Ping Ma[*]. "CONGO[2]: Scalable Online Anomaly Detection and Localization in Power Electronics Networks." *IEEE Internet of Things Journal*, (2022), accepted.

4. Zhang, Jingyi[#], Cheng Meng[#], **Jun Yu**, Mengrui Zhang, Wenxuan Zhong, and Ping Ma[*]. "An optimal transport approach for selecting a representative subsample with application in efficient kernel density estimation" *Journal of Computational and Graphical Statistics* (2022), accepted.

5. Meng, Cheng[#], **Jun Yu**, Yongkai Chen, Wenxuan Zhong, and Ping Ma[*]. "Smoothing splines approximation using Hilbert curve basis selection." *Journal of Computational and Graphical Statistics*, (2022), accepted

6. Ai, Mingyao[#], Zhiqiang Ye, **Jun Yu**[*]. "Locally D-optimal designs for hierarchical response experiments." *Statistica Sinica*, (2021), accepted

7. Ai, Mingyao[#], **Jun Yu**, Huiming Zhang, and HaiYing Wang[*]. " Optimal Subsampling Algorithms for Big Data Regressions." *Statistica Sinica* 31 (2021): 749-772. (Highly cited paper)

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[1]Remarks: [*] corresponding author, [#] first and co-first author.

8. Ai, Mingyao#, Fei Wang, **Jun Yu**\*, and Huiming Zhang. "Optimal subsampling for large-scale quantile regression." *Journal of Complexity* 62 (2021): 101512.

9. Ai, Mingyao#, Yimin Huang, and **Jun Yu**\*. "A non-parametric solution to the multi-armed bandit problem with covariates." *Journal of Statistical Planning and Inference* 211 (2021): 402-413.

10. Cheng, Huimin#, **Jun Yu**, Zhen Wang, Ping Ma, Cunlan Guo\*, Bin Wang, Wenxuan Zhong\*, and Bingqian Xu\*. "Details of Single-Molecule Force Spectroscopy Data Decoded by a Network-Based Automatic Clustering Algorithm" *The Journal of Physical Chemistry B* 125 (2021), 9660-9667 (Cover paper)

11. Wang, Sili#, Shengjie Min, **Jun Yu**, Huimin Cheng, Zion Tse, and WenZhan Song\*, "Contact-less Home Activity Tracking System with Floor Seismic Sensor Network," *2021 IEEE 7th World Forum on Internet of Things (WF-IoT)* (2021), pp. 13-18.

12. **Yu, Jun**#, HaiYing Wang, Mingyao Ai\*, and Huiming Zhang. "Optimal distributed subsampling for maximum quasi-likelihood estimators with massive data." *Journal of the American Statistical Association* (2020): accepted.

13. Meng, Cheng#, **Jun Yu**, Jingyi Zhang, Ping Ma, and Wenxuan Zhong\*. "Sufficient dimension reduction for classification using principal optimal transport direction." *Advances in Neural Information Processing Systems 33* (2020).

14. Ai, Mingyao#\*, Yimin Huang, and **Jun Yu**. "Data-Based Priors for Bayesian Model Averaging." In *Contemporary Experimental Design, Multivariate Analysis and Data Mining*, Springer, Cham, (2020): pp. 357-372.

15. **Yu, Jun**#, Xiangshun Kong#, Mingyao Ai, and Kwok Leung Tsui. "Optimal designs for dose–response models with linear effects of covariates." *Computational Statistics and Data Analysis* 127 (2018): 217-228.

16. **Yu, Jun**#, Mingyao Ai\*, and Yaping Wang. "Optimal designs for linear models with Fredholm-type errors." *Journal of Statistical Planning and Inference* 194 (2018): 65-74.

**Papers preprinted**

1. **Yu, Jun**#, Mingyao Ai\*. "A review on design inspired subsampling for big data." Submitted to *Statistical Papers*.

2. Li, Mengyu#, **Jun Yu**#, Tao Li, Cheng Meng\*. "Core-elements for Least Squares Estimation".

3. Cheng, Huimin#, Shushan Wu, **Jun Yu**, Haoran Lu, Wenxuan Zhong\*. "Graphon convolutional network: A highly efficient learner for random graph".

4. Han, Yixin#, **Jun Yu**#, Nan Zhang#, Cheng Meng, Ping Ma\*, Wenxuan Zhong, Changliang Zou. "Leverage classifier: another look at support vector machine".

5. Ye, Zhiqiang#, **Jun Yu**#, Mingyao Ai\*. "Optimal subsampling for multinomial logistic models with big data."

## Grants, Honors and Awards

2019/06 Excellent Poster Award at Peking-Tsinghua Joint Statistics Colloquium

2019/06 Zhong Jiaqing Outstanding Paper Award at the 23rd Beijing-Tianjin-Hebei Youth Probability Statistics Academic Conference

2018/11 Third National Forum for Ph.D. Students in Statistics Excellent Paper Award (1st class)

## Teaching and Curriculum Development

**Graduate courses**

Advanced Theory of Statistics. 2021 Spring, 2022 Spring

**Undergraduate courses**

Mathematical Statistics (MOOC)

- This course is built up together with Zhao, Ying; Tian, Yubin; Wang, Dianpeng; Kong, Xiangshun.
- The course is available in https://www.icourse163.org/course/BIT-1466041162?from=searchPage

**Guest lectures**

Sampling Techniques: method, design, and applications. MSU-BIT Winter School, March 2021

Big data & Data Science: the next frontier for innovation, competition, and productivity. BIT Summer School, Aug 2021

Statics and Decisions: how to use randomness. BIT-Hong Shu Lin lecture, Nov 2021

## Advising and Mentoring

**Master's students**

Zhang, Yangyang; Yang, Xiaodan (2022)

Cao, Haoze; Lei, Kaifeng; Li Hengli; Liu, Zhihan; Liu Zhengfu (2023)

**Undergraduate students**

He, Yuqin; Hu,Ze; Liu,Xiaosong; Wang,Huan; Wang,Zixi (2021)

Meng, Wenqian; Miao, Zuoyi; Xu, Fangyao; Xu,Jiachen; Xiong, Zhikang (2022)

## Professional Services

**Journal reviewer for**

Journal of the American Statistical Association; Journal of the Royal Statistical Society: Series C;

Journal of Statistical Planning and Inference; Statistics and Probability Letters;

IEEE Transactions on Big Data; IISE Transactions;

Journal of Computational and Applied Mathematics; Sankhya B;

Communications in Statistics – Theory and Methods; Metrika;

Journal of System Science and Mathematical Science; Journal of Applied Statistics and Management

**Council member**

2021–present Committee of Uniform Design, Chinese Math Society.

2021–present Committee of Design of Experiments, CAAS.

2019–present Beijing Society for Applied Statistics.

2019–present Beijing Association for Big Data

**Organizing committee member**

Symposium on design of experiments, Beijing Institute of Technology, 2021/05

## Invited Talks and Presentations

**Invited Talks**

1. Symposium on big data and intelligent processing, Peking University, Beijing, China, 2021/12
2. 14th International conference of the ERCIM WG on computational and methodological statistics and 15th International conference on computational and financial econometrics, King's College London, UK, 2021/12 (Participated online)
3. Symposium for Ph.D students in statistics, Guangzhou University, Guangzhou, China, 2018/11

**Contributed Talks**

1. Conference on design of experiments and its application, Qufu Normal University, Rizhao, China, 2021/10
2. Conference on design of experiments and its application, Guangxi Normal University, Guilin, China, 2019/10
3. Peking-Tsinghua Joint Statistics Colloquium, Tsinghua University, Beijing, China, 2019/06
4. Beijing-Tianjin-Hebei Youth Probability Statistics Academic Conference,University of International Business and Economics, Beijing, China, 2019/06
5. Conference on design of experiments and its application, Beijing Institute of Technology, Beijing, China, 2018/10
6. Conference on design of experiments and its application, Lanzhou University of Finance and Economics, Lanzhou, China, 2017/10
7. Conference on design of experiments and its application, Qufu Normal University, Qufu, China, 2016/10