

# MENGYU LI

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## EDUCATION

**Institute of Statistics and Big Data, Renmin University of China (RUC), Beijing, China**

- Ph.D. Candidate in Statistics Sep. 2020–Jun. 2025 (expected)

- Supervisor: Cheng Meng, Assistant Professor

**Department of Statistics, The Chinese University of Hong Kong (CUHK), Hong Kong, China**

- Exchange Student Nov. 2023–May. 2024

- Supervisor: Xiaodan Fan, Professor

**School of Statistics, Beijing Normal University (BNU), Beijing, China**

- Bachelor in Statistics Sep. 2016–Jun. 2020

## RESEARCH INTERESTS

**Optimal transport; Subsampling in big data; Statistical machine learning; AI for healthcare**

## PUBLICATIONS & WORKING PAPERS

### Publications

1. Junlie Huang, Xinlai Kang, Qiannan Huang, **Mengyu Li** & Cheng Meng (2025). “Efficient approximation of leverage scores in two-dimensional autoregressive models with application to image anomaly detection.” *Journal of Computational and Graphical Statistics*. In press.
2. Yukuan Hu, **Mengyu Li**, Xin Liu & Cheng Meng (Alphabetical order) (2025). “Sampling-based methods for multi-block optimization problems over transport polytopes.” *Mathematics of Computation*. 94(353), 1281–1322.
3. **Mengyu Li**, Jun Yu, Tao Li & Cheng Meng (2024). “Core-elements for large-scale least squares estimation.” *Statistics and Computing*, 34(6), 1–16.  
*Student Paper Award in JSM2022, Sections on Statistical Computing and Graphics*
4. **Mengyu Li**, Jingyi Zhang & Cheng Meng (2024). “Nonparametric additive models for billion observations.” *Journal of Computational and Graphical Statistics*, 33(4), 1397–1412.
5. Xinlai Kang, **Mengyu Li**, Xuqiang Chen, Fangyu Li & Cheng Meng (2023). “A Hausdorff regression paradigm for interval privacy.” *IEEE Signal Processing Letters*, 31, 146–150.
6. **Mengyu Li**, Jun Yu, Tao Li & Cheng Meng (2023). “Importance sparsification for Sinkhorn algorithm.” *Journal of Machine Learning Research*, 24(247), 1–44.  
*Student Paper Award in JSM2023, Statistics in Imaging Section*
7. **Mengyu Li**, Jun Yu, Hongteng Xu & Cheng Meng (2023). “Efficient approximation of Gromov-Wasserstein distance using importance sparsification.” *Journal of Computational and Graphical Statistics*, 32(4), 1512–1523.

8. **Mengyu Li** & Junlong Zhao (2022). “Communication-efficient distributed linear discriminant analysis for binary classification.” *Statistica Sinica*, 32, 1343–1361.

### Under Review

1. **Mengyu Li**, Cheng Meng & Xiaodan Fan. “Iterative optimal transport for multimodal image registration.” Submitted to *Pattern Recognition*.
2. **Mengyu Li**, Bencong Zhu, Cheng Meng & Xiaodan Fan. “Double optimal transport for gene regulatory network reconstruction with unpaired samples.” Revision in *Bioinformatics*.
3. Dunyao Xue, **Mengyu Li** (Joint first author), Cheng Meng & Jingyi Zhang. “Core-elements subsampling for alternating least squares.” Submitted to *Journal of Computational and Graphical Statistics*.
4. Junyi Lin, **Mengyu Li** (Joint first author), Cheng Meng & Yongdao Zhou. “Sparsification subsampling for partial least squares regression.” Submitted to *Journal of Computational and Graphical Statistics*.
5. Chengshuo Du, Han Hao, **Mengyu Li**, Tao Li, Cheng Meng & Jun Yu (Alphabetical order). “Ensemble pruning using optimal transport.” Submitted to *IEEE Transactions on Information Theory*.
6. Xiaxue Ouyang, Xinlai Kang, **Mengyu Li**, Zhenxing Dou, Jun Yu & Cheng Meng. “A more efficient method for large-sample model-free feature screening via multi-armed bandits.” Submitted to *Journal of Computational and Graphical Statistics*.

### FUNDING & AWARDS

#### Funding

- Young Elite Scientists Sponsorship Program - Doctoral Student Special Program (¥40,000), China Association for Science and Technology 2024–2025
- Outstanding Innovative Talents Cultivation Funded Program (¥70,000), RUC 2021–2024
- Joint Ph.D. Program (¥50,000), RUC 2023–2024

#### Awards

- **Outstanding Poster Award** in the 22nd Annual Meeting of China Society for Industrial and Applied Mathematics (CSIAM 2024) 2024
- **Student Paper Award** in Joint Statistical Meetings (JSM), Statistics in Imaging Section, American Statistical Association (ASA) 2023  
*5 winners per year; first winner trained in Chinese Mainland*
- **Student Paper Award** in JSM, Sections on Statistical Computing and Graphics, ASA 2022  
*4 winners per year; first winner trained in Chinese Mainland*
- National Scholarship, Ministry of Education of the P.R. China 2023
- Jingdong Special Scholarship, RUC 2023  
*20 winners per year*
- First-Class Academic Scholarship, RUC 2021–2024
- Merit Student, RUC 2021

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**PROJECT EXPERIENCE**

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| <b>Large-Scale Chip Layout Pattern Clustering</b><br><i>Collaboration with Huawei Technologies Co., Ltd Semiconductor</i>                | Mar. 2025–Mar. 2026 |
| <b>Noise Analysis and Processing for Non-Native Bayer Raw Images</b><br><i>Collaboration with Huawei Technologies Co., Ltd Photonics</i> | Dec. 2023–Aug. 2024 |

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**ACADEMIC EXPERIENCE**

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**Research Assistant**

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| • Department of Statistics, CUHK<br><i>Developed novel algorithms for multi-modal image registration and gene regulatory network reconstruction based on optimal transport theory.</i> | Nov. 2023–May 2024 |
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**Teaching Assistant**

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| • Data Mining, RUC<br><i>My duties included lecturing exercise lessons, homework preparation and grading, etc.</i> | Spring 2021, 2024 |
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**Talks & Poster Presentations**

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| • The 8th CSIAM Student Forum in CSIAM 2024, Nanjing, China<br><i>Title: Importance sparsification for Sinkhorn algorithm</i>                           | Oct. 2024 |
| • Student Academic Seminar for the 87th Anniversary of RUC, Beijing, China<br><i>Title: Statistical computing aids coronary heart disease screening</i> | Oct. 2024 |
| • Capital Statistics and Data Science High-Level Forum, Beijing, China<br><i>Title: Efficient algorithms for large-scale optimal transport problems</i> | Jul. 2023 |

**Referee for Journals**

- Journal of Computational and Graphical Statistics
- Communications in Statistics - Simulation and Computation
- SIAM Journal on Imaging Sciences

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**PROFESSIONAL SKILLS**

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**Programming**

- Python, R, MATLAB, C++, Linux shell

**Language**

- Chinese Mandarin, English