# MENGYU LI

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GitHub / Google Scholar

## EDUCATION

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

- Ph.D. Candidate in Statistics                                        2020.09–2025.06 (expected)
- Supervisor: Cheng Meng, Assistant Professor

**Department of Statistics, The Chinese University of Hong Kong**, Hong Kong, China

- Visiting Student                                                        2023.11–2024.05
- Supervisor: Xiaodan Fan, Professor

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

- Bachelor in Statistics                                                    2016.09–2020.06

## RESEARCH INTERESTS

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

## AWARDS & HONORS

**Postgraduate level**

- **Joint Ph.D. Program** (¥50,000), RUC                                      2023–2024
- **Outstanding Innovative Talents Cultivation Funded Program** (¥70,000), RUC  2021–2024
- **Student Paper Award** in Joint Statistical Meetings (JSM), Statistics in Imaging Section, American Statistical Association (ASA)                                          2023
  *Five winners per year*
- **Student Paper Award** in JSM, Sections on Statistical Computing and Graphics, ASA    2022
  *Five winners per year*
- **National Scholarship**, Ministry of Education of the P.R. China                  2023
- **Jingdong Special Scholarship**, RUC                                        2023
- First-Class Academic Scholarship, RUC                              2021, 2022, 2023
- Social Work and Volunteering Scholarship, RUC                              2023
- Study Excellence Scholarship, RUC                                          2022
- Merit Student, RUC                                                        2021

**Undergraduate level**

- First-Class (or Second-Class) Jingshi Scholarship, BNU                    2017, 2018, 2019
- Academic Competition Scholarship, BNU                                      2019

- Social Work Scholarship, BNU                                                                2017

## PUBLICATIONS & WORKING PAPERS

### Publications

1. Yukuan Hu, **Mengyu Li**, Xin Liu & Cheng Meng (2024). "Sampling-based methods for multi-block optimization problems over transport polytopes." Mathematics of Computation. In press.

2. **Mengyu Li**, Jingyi Zhang & Cheng Meng (2024). "Nonparametric additive models for billion observations." Journal of Computational and Graphical Statistics. In press.

3. Xinlai Kang, **Mengyu Li**, Xuqiang Chen, Fangyu Li & Cheng Meng (2024). "A Hausdorff regression paradigm for interval privacy." IEEE Signal Processing Letters, 31, 146–150.

4. **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*

5. **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.

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

### Working papers

1. **Mengyu Li**, Cheng Meng & Xiaodan Fan. "Iterative optimal transport for multimodal image registration." Submitted to *IEEE Transactions on Image Processing*.

2. **Mengyu Li**, Jun Yu, Tao Li & Cheng Meng. "Core-elements for large-scale least squares estimation." Revision in *Statistics and Computing*.
   *Student Paper Award in JSM2022, Sections on Statistical Computing and Graphics*

3. 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*.

4. **Mengyu Li**, Bencong Zhu, Cheng Meng & Xiaodan Fan. "Double optimal transport for gene regulatory network reconstruction with unpaired samples." Submitted to *Bioinformatics*.

## INVITED TALKS

- **Capital Statistics and Data Science High-Level Forum**, Beijing, China        Jul. 2023
  *Efficient algorithms for large-scale optimal transport problems*

## TEACHING EXPERIENCE

### Teaching Assistant

- Data Mining                                                                      Spring 2021, 2024
  *My duties included lecturing exercise lessons, homework preparation and grading, etc.*

## WORKING EXPERIENCE

### Department of Statistics, The Chinese University of Hong Kong, Hong Kong, China

- Research Assistant                                                               2023.11–2024.05

## PROFESSIONAL ACTIVITIES

### Review for journals & conferences

- Journal of Computational and Graphical Statistics
- Communications in Statistics - Simulation and Computation

## PROGRAMMING & DEVELOPMENT

### Programming

- Python, R, MATLAB, Linux bash

### Package development

- **Spar-Sink** (`https://github.com/Mengyu8042/Spar-Sink`)
  `Python3` *implementation of the paper "Importance sparsification for Sinkhorn algorithm"*

- **Spar-GW** (`https://github.com/Mengyu8042/Spar-GW`)
  `Python3` *implementation of the paper "Efficient approximation of Gromov-Wasserstein distance using importance sparsification"*

- **Core-NAM** (`https://github.com/Mengyu8042/Core-NAM`)
  `R` *implementation of the paper "Nonparametric additive models for billion observations"*