

MENGYU LI

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GitHub / Google Scholar

EDUCATION

Institute of Statistics and Big Data, Renmin University of China, Beijing, China

- Ph.D. Candidate in Statistics Sep. 2020 – present
- Supervisor: Cheng Meng, Assistant Professor

School of Statistics, Beijing Normal University, Beijing, China

- Bachelor in Statistics Sep. 2016 – Jun. 2020
- Thesis advisor: Junlong Zhao, Professor

Faculty of Science, University of British Columbia, Vancouver, Canada

- Summer Program Jun. 2018 – Jul. 2018

RESEARCH INTERESTS

Optimal transport; Subsampling in big data; AI in health care

AWARDS & HONORS

- **Huawei Spark Award (Encouragement Award)** 2023
Huawei Technologies Co., Ltd. Collaborated with Jun Zhu and Cheng Meng
- **Student Paper Award** in Joint Statistical Meetings 2023
Statistics in Imaging Section, American Statistical Association (**five winners per year**)
- **Student Paper Award** in Joint Statistical Meetings 2022
Sections on Statistical Computing and Graphics, American Statistical Association (**five winners per year**)
- **National Scholarship** 2023
Ministry of Education of the People's Republic of China

Presented by RUC

- Joint Ph.D. Program (50,000 RMB) 2023 – 2024
- Outstanding Innovative Talents Cultivation Funded Program (70,000 RMB) 2021 – 2024
- First-Class Academic Scholarship 2021 – 2023
- Social Work and Volunteering Scholarship 2023
- Study Excellence Scholarship 2022
- Merit Student 2021

Presented by BNU

- First-Class (or Second-Class) Jingshi Scholarship 2017 – 2019
- Academic Competition Scholarship 2019

- Social Contribution Scholarship

2017

PUBLICATIONS & WORKING PAPERS

Published

1. **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 2023 JSM, Statistics in Imaging Section.
2. **Mengyu Li**, Jun Yu, Hongteng Xu & Cheng Meng (2023). “Efficient approximation of Gromov-Wasserstein distance using importance sparsification.” *Journal of Computational and Graphical Statistics*, in press.
3. **Mengyu Li** & Junlong Zhao (2022). “Communication-efficient distributed linear discriminant analysis for binary classification.” *Statistica Sinica*, 32, 1343–1361.

Under Review & Submitted

1. **Mengyu Li**, Jun Yu, Tao Li & Cheng Meng. “Core-elements for large-scale least squares estimation.” Under review in *IEEE Transactions on Neural Networks and Learning Systems*.
Student Paper Award in 2022 JSM, Sections on Statistical Computing and Graphics.
2. **Mengyu Li**, Jingyi Zhang & Cheng Meng. “Nonparametric additive models for billion observations.” Under review in *Journal of Computational and Graphical Statistics*.
3. Yukuan Hu, **Mengyu Li**, Xin Liu & Cheng Meng. “Sampling-based methods for multi-block optimization problems over transport polytopes.” Under review in *Mathematics of Computation*.
4. Xinlai Kang, **Mengyu Li**, Xuqiang Chen, Fangyu Li & Cheng Meng. “A Hausdorff regression paradigm for interval privacy.” Under review in *IEEE Signal Processing Letters*.

In Preparation

1. Chengshuo Du, **Mengyu Li**, Tao Li, Jun Yu & Cheng Meng. “Ensemble pruning with conditional Wasserstein distance measure.”
2. Jun Zhu, **Mengyu Li** & Cheng Meng. “Optimal transport based signal data augmentation and data fusion.”
3. Xintao Yu, **Mengyu Li**, Shanwen Wang & Cheng Meng. “Optimal transport with p -adic numbers.”
4. Gaoming Chen, Hongyu Wang, Haoxian Liang, **Mengyu Li**, Shanwen Wang & Cheng Meng. “Hierarchical Gromov-Wasserstein distance with application in 3D point cloud data matching.”

INVITED TALKS

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

TEACHING ACTIVITIES

Teaching Assistant

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

PROFESSIONAL ACTIVITIES

Review for journals & conferences (more than 15 articles)

- Statistica Sinica
- Journal of Computational and Graphical Statistics
- Journal of Machine Learning Research
- Journal of Applied Statistics
- Neural Information Processing Systems (NeurIPS)
- International Conference on Machine Learning (ICML)
- International Conference on Learning Representations (ICLR)

PROGRAMMING & DEVELOPMENT

Programming

- R, Python, MATLAB

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-elements** (<https://github.com/Mengyu8042/Core-elements>)
R implementation of the paper “Core-elements for large-scale least squares estimation”.