

# Pingbang Hu



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## RESEARCH INTEREST

### Machine Learning

- *Data-Centric AI, Trustworthy Machine Learning, Statistical Learning Theory, Manifold and Graph Learning*

### Theoretical Computer Science

- *Learning Theory, Fast Graph Algorithm, Approximation Algorithm*

## EDUCATION

### University of Illinois Urbana-Champaign

▪ *Ph.D. Candidate in Information Science, School of Information Science*

- Advisor: Jiaqi Ma

Illinois

Aug. 2023–Present

### University of Illinois Urbana-Champaign

▪ *M.S. in Applied Mathematics, College of Liberal Arts & Sciences*

- Concentration: Optimization and Algorithms

Illinois

Aug. 2023–Aug. 2025

### University of Michigan

▪ *B.S. in Computer Science with Summa Cum Laude, College of Engineering*

- Minor: Mathematics, College of Literature, Science, and the Arts

Michigan

Aug. 2021–May 2023

### Shanghai Jiao Tong University

▪ *B.E. in Electrical and Computer Engineering, UM-SJTU Joint Institute*

- Minor: Computer Science, UM-SJTU Joint Institute

Shanghai, China

Aug. 2019–Aug. 2023

## RESEARCH AND INDUSTRY EXPERIENCE

### Deep Learning Research, Susquehanna International Group

▪ *Machine Learning Ph.D. Intern*

Pennsylvania

(Incoming) June 2026–Aug. 2026

### Alignment Science Team, Anthropic

▪ *AI Safety Research Fellows*

San Francisco

Jan. 2026–May 2026

### AWS AI Lab, Amazon

▪ *Applied Scientist Intern*

New York

May 2025–Aug. 2025

### Sugiyama Laboratory, National Institute of Informatics

▪ *Research Intern*

- Advisor: Mahito Sugiyama

Tokyo, Japan

May 2024–Aug. 2024

### SURE Program, University of Michigan

▪ *Undergraduate Researcher*

- Advisor: Wei Hu

Michigan

May 2022–Apr. 2023

## PEER-REVIEWED CONFERENCE PUBLICATIONS

(\* denotes equal contribution)

- [C1] **Pingbang Hu**, Mahito Sugiyama, “Pseudo-Nonlinear Data Augmentation: A Constrained Energy Minimization Viewpoint”. In *Proceedings of the 14th International Conference on Learning Representations* (ICLR 2026)
- [C2] **Pingbang Hu**, Joseph Melkonian, Weijing Tang, Han Zhao, Jiaqi W. Ma, “GRASS: Scalable Data Attribution with Gradient Sparsification and Sparse Projection”. In *Proceedings of the 39th Advances in Neural Information Processing Systems* (NeurIPS 2025)
- [C3] Yiwen Tu\*, **Pingbang Hu**\*, Jiaqi W. Ma, “A Reliable Cryptographic Framework for Empirical Machine Unlearning Evaluation”. In *Proceedings of the 39th Advances in Neural Information Processing Systems* (NeurIPS 2025)
- [C4] Xinhe Wang, **Pingbang Hu**, Junwei Deng, Jiaqi W. Ma, “Adversarial Attacks on Data Attribution”. In *Proceedings of the 13th International Conference on Learning Representations* (ICLR 2025)
- [C5] Yuzheng Hu, **Pingbang Hu**, Han Zhao, Jiaqi W. Ma, “Most Influential Subset Selection: Challenges, Promises, and Beyond”. In *Proceedings of the 38th Advances in Neural Information Processing Systems* (NeurIPS 2024)
- [C6] Junwei Deng\*, Ting-Wei Li\*, Shiyuan Zhang, Yijun Pan, Hao Huang, Xinhe Wang, **Pingbang Hu**, Xingjian Zhang, Jiaqi W. Ma, “`dattri`: A Library for Efficient Data Attribution”. In *Proceedings of the 38th Advances in Neural Information Processing Systems Datasets and Benchmarks Track* (NeurIPS 2024) (**Spotlight**)

## PRE-PRINTS AND TECHNICAL REPORTS

(\* denotes equal contribution)

- [P1] **Pingbang Hu**, Yuzheng Hu, Jiaqi W. Ma, Han Zhao, “A Unified Theory of Random Projection for Influence Functions”. *Preprint*
- [P2] Junwei Deng\*, Yuzheng Hu\*, **Pingbang Hu**\*, Ting-Wei Li\*, Shixuan Liu\*, et al., “A Survey of Data Attribution: Methods, Applications, and Evaluation in the Era of Generative AI”. *Preprint*
- [T1] **Pingbang Hu**, “Travel the Same Path: A Novel TSP Solving Strategy”. *Technical Report*

## TEACHING EXPERIENCE

- |  |                                 |
|--|---------------------------------|
| <b>Graduate Teaching Assistant, University of Illinois Urbana-Champaign</b>                                | <b>Illinois</b>                 |
| ▪ Hold discussion and office hours weekly, design assignments and exam problems, grade and guide projects. |                                 |
| ◦ <b>Network Analysis</b> : A graduate-level course on the M.S. IS track.                                  | <i>Spring 2025, Spring 2026</i> |
| <b>Instructional Aide, University of Michigan</b>  | <b>Michigan</b>                 |
| ▪ Hold discussion and office hours weekly, design assignments and exam problems, grade and guide projects. |                                 |
| ◦ <b>Introduction to Cryptography</b> : An upper-level course on the main undergraduate CS track.          | <i>Winter 2023</i>              |
| ◦ <b>Randomness and Computation</b> : A graduate-level course on the M.S. CS theory track.                 | <i>Fall 2022</i>                |
| <b>Teaching Assistant, Shanghai Jiao Tong University</b>   | <b>Shanghai, China</b>          |
| ▪ Hold discussion and office hours weekly, design and grade assignments and exams.                         |                                 |
| ◦ <b>Honor Mathematics III</b> : An undergraduate-level course on the main B.Eng. ECE track.               | <i>Summer 2021</i>              |
| * <b>Competition</b> : Hold the 1 <sup>st</sup> UM-SJTU JIntegration Bee competition.                      |                                 |
| ◦ <b>Honor Mathematics II</b> : An undergraduate-level course on the main B.Eng. ECE track.                | <i>Fall 2020</i>                |

## HONORS AND AWARDS

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| <b>Anthropic AI Safety Research Fellowship</b>   | <b>San Francisco</b>            |
| ▪ Fellows (32 out of 2000+ applicants worldwide) for AI Safety Research at Anthropic         | <i>Oct. 2025</i>                |
| <b>Graduate Conference Travel Award</b>  | <b>Illinois</b>                 |
| ▪ Graduate College’s Competition at University of Illinois Urbana-Champaign                  | <i>Nov. 2024</i>                |
| <b>NeurIPS 2024 Scholar Award</b>  | <b>British Columbia, Canada</b> |
| ▪ Financial Aid Award for NeurIPS 2024   | <i>Oct. 2024</i>                |
| <b>Excellent Internship Award</b>  | <b>Tokyo, Japan</b>             |
| ▪ Excellent (best) internship evaluation at National Institute of Informatics                | <i>Aug. 2024</i>                |
| <b>Hong Kong, Macao and Taiwan Overseas Chinese Student Scholarship</b>                      | <b>Shanghai, China</b>          |
| ▪ First Prize (Ranked #2) among all HK, MC, and TW students at Shanghai Jiao Tong University | <i>Oct. 2021</i>                |
| <b>Undergraduate Excellent Scholarship</b>   | <b>Shanghai, China</b>          |
| ▪ Third Prize among all students at UM-SJTU Joint Institute                                  | <i>Nov. 2020</i>                |
| <b>Bao Gang Excellent Scholarship</b>  | <b>Shanghai, China</b>          |
| ▪ Second Prize (Ranked #3) among all Taiwan students at Shanghai Jiao Tong University        | <i>June 2020</i>                |
| <b>Hong Kong, Macao and Taiwan Overseas Chinese Student Scholarship</b>                      | <b>Shanghai, China</b>          |
| ▪ First Prize (Ranked #1) among all HK, MC, and TW students at UM-SJTU Joint Institute       | <i>Dec. 2019</i>                |

## PROFESSIONAL SERVICE

- |   |  |
|---|--|
| <b>Program Committee</b>  |  |
| ▪ AAAI 2025   |  |
| <b>Conference Reviewer</b>  |  |
| ▪ ICML 2026, ICLR 2026, NeurIPS 2025, ICLR 2025, ICML 2024, IEEE BigData 2023 |  |
| <b>Journal Reviewer</b>   |  |
| ▪ TMLR  |  |