Pingbang Hu

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RESEARCH INTEREST

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

Theoretical Computer Science
- *Fast Graph Algorithm, Approximation Algorithm, Learning Theory*

EDUCATION

- **University of Illinois Urbana-Champaign** — **Illinois**
  Ph.D. Candidate in Information Science, School of Information Science — *Aug. 2023–Present*
  - **Advisor**: Jiaqi Ma

- **University of Illinois Urbana-Champaign** — **Illinois**
  M.S. in Applied Mathematics, College of Liberal Arts & Sciences — *Aug. 2023–May 2025*
  - **Concentration**: Optimization and Algorithms

- **University of Michigan** — **Michigan**
  B.S. in Computer Science with Summa Cum Laude, *College of Engineering* — *Aug. 2021–May 2023*
  - **Minor**: Mathematics, College of Literature, Science, and the Arts

- **National Yang Ming Chiao Tung University** — **Hsinchu, Taiwan**
  Visiting Scholar — *Jan. 2020–Jul. 2020*

- **Shanghai Jiao Tong University** — **Shanghai, China**
  B.E. in Electrical and Computer Engineering, UM-SJTU Joint Institute — *Aug. 2019–Aug. 2023*
  - **Minor**: Computer Science, UM-SJTU Joint Institute

RESEARCH AND INDUSTRY EXPERIENCE

- **AWS AI Lab, Amazon** — **New York**
  Applied Scientist Intern — *May 2025–Aug. 2025*

- **Sugiyama Laboratory, National Institute of Informatics** — **Tokyo, Japan**
  Research Intern — *May 2024–Aug. 2024*
  - **Advisor**: Mahito Sugiyama

- **Theory of Computation Laboratory, University of Michigan** — **Michigan**
  Undergraduate Researcher — *Mar. 2022–Dec. 2023*
  - **Advisor**: Thatchaphol Saranurak

- **SURE Program, University of Michigan** — **Michigan**
  Undergraduate Researcher — *May 2022–Apr. 2023*
  - **Advisor**: Wei Hu

- **FORESEER Research Group, University of Michigan** — **Michigan**
  Undergraduate Research Assistant — *Dec. 2021–Jan. 2023*
  - **Advisor**: Jiaqi Ma

- **Chief Noob** — **Shanghai, China**
  Backend Developer — *Oct. 2020–June 2021*

PEER-REVIEWED CONFERENCE PUBLICATIONS

(* denotes equal contribution)

[C1] Xinhe Wang, **Pingbang Hu**, Junwei Deng, Jiaqi Ma, "Adversarial Attacks on Data Attribution". In *Proceedings of the 13th International Conference on Learning Representations* (ICLR 2025) 📄

[C2] Yuzheng Hu, **Pingbang Hu**, Han Zhao, Jiaqi Ma, "Most Influential Subset Selection: Challenges, Promises, and Beyond". In *Proceedings of the 38th Advances in Neural Information Processing Systems* (NeurIPS 2024) 📄

[C3] Junwei Deng*, Ting-Wei Li*, Shiyuan Zhang, Yijun Pan, Hao Huang, Xinhe Wang, **Pingbang Hu**, Xingjian Zhang, Jiaqi 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**, Joseph Melkonian, Weijing Tang, Han Zhao, Jiaqi Ma, "GraSS: Scalable Influence Function with Sparse Gradient Compression". *In submission* 🗎

[P2] **Pingbang Hu**, Mahito Sugiyama, "Pseudo-Non-Linear Data Augmentation via Energy Minimization". *In submission* 🗎

[P3] Yiwen Tu*, **Pingbang Hu***, Jiaqi Ma, "Towards Reliable Empirical Machine Unlearning Evaluation: A Game-Theoretic View". *In submission* 🗎

[T1] **Pingbang Hu**, "Travel the Same Path: A Novel TSP Solving Strategy". *Technical Report* 🗎

Teaching Experience

Graduate Teaching Assistant, University of Illinois Urbana-Champaign **Illinois**
Hold discussion and office hour weekly, design assignment and exam problems, grade and guide projects.
- **Network Analysis**: A graduate-level course on the M.S. IS track. *Spring 2025*

Instructional Aide, University of Michigan **Michigan**
Hold discussion and office hour weekly, design assignment and exam problems, grade and guide projects.
- **Introduction to Cryptography**: An upper-level course on the main undergraduate CS track. *Winter 2023*
- **Randomness and Computation**: A graduate-level course on the M.S. CS theory track. *Fall 2022*

Teaching Assistant, Shanghai Jiao Tong University **Shanghai, China**
Hold discussion and office hour weekly, design and grade assignments and exams.
- **Honor Mathematics III**: An undergraduate-level course on the main B.Eng. ECE track. *Summer 2021*
  - **Competition**: Hold the 1st UM-SJTU JIntegration Bee competition.
- **Honor Mathematics II**: An undergraduate-level course on the main B.Eng. ECE track. *Fall 2020*

Honors and Awards

Graduate Conference Travel Award **Illinois**
Graduate College's Competition at University of Illinois Urbana-Champaign *Nov. 2024*

NeurIPS 2024 Scholar Award **British Columbia, Canada**
Financial Aid Award for NeurIPS 2024 *Oct. 2024*

Excellent Internship Award **Tokyo, Japan**
Excellent (best) internship evaluation at National Institute of Informatics *Aug. 2024*

Hong Kong, Macao and Taiwan Overseas Chinese Student Scholarship **Shanghai, China**
First Prize (Ranked #2) among all HK, MC and TW students at Shanghai Jiao Tong University *Oct. 2021*

Undergraduate Excellent Scholarship **Shanghai, China**
Third Prize among all students at UM-SJTU Joint Institute *Nov. 2020*

Bao Gang Excellent Scholarship **Shanghai, China**
Second Prize (Ranked #3) among all Taiwan students at Shanghai Jiao Tong University *June 2020*

Hong Kong, Macao and Taiwan Overseas Chinese Student Scholarship **Shanghai, China**
First Prize (Ranked #1) among all HK, MC and TW students at UM-SJTU Joint Institute *Dec. 2019*

Professional Service

Program Committee
AAAI 2025

Conference Reviewer
NeurIPS 2025, ICLR 2025, ICML 2024, IEEE BigData 2023