

## RESEARCH INTEREST

- Machine Learning
  - Explainable Machine Learning, Trustworthy Machine Learning, Algorithmic Fairness, Graph Learning, Statistical Learning Theory
- Theoretical Computer Science
  - Fast Graph Algorithm, Approximation Algorithm, Computational Complexity, Hardness of Approximation

## EDUCATION

- University of Illinois Urbana-Champaign Illinois
  - Ph.D. Student in Information Science, School of Information Science Aug. 2023 – Present
    - Advisor: Jiaqi Ma
- University of Michigan Michigan
  - B.Sc. in Computer Science, College of Engineering Aug. 2021 – May 2023
    - Graduate with *Summa Cum Laude*
    - 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.Eng. in Electrical and Computer Engineering, UM-SJTU Joint Institute Aug. 2019 – Aug. 2023
    - Minor: Computer Science, UM-SJTU Joint Institute




## RESEARCH AND INDUSTRY EXPERIENCE

- 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 – Present
    - Advisor: Thatchaphol Saranurak
    - Design the first almost linear time algorithm on finding minimal balanced separator.
- SURE Program, University of Michigan Michigan
  - Undergraduate Researcher May 2022 – Apr. 2023
    - Advisor: Wei Hu
    - Theoretical analysis on intrinsic dimension under isoperimetry assumptions.
- FORESEER Research Group, University of Michigan Michigan
  - Undergraduate Research Assistant Dec. 2021 – Jan. 2023
    - Advisor: Jiaqi Ma
    - Prove the asymptotic separability of a 1-layer GCN on node classification tasks.
- Chief Noob Shanghai, China
  - Backend Developer Oct. 2020 – June 2021

## PEER-REVIEWED CONFERENCE PUBLICATIONS

(\* denotes equal contribution)

- [C1] 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) (25.8% accepted rate)
- [C2] 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**)

- [P1] **Pingbang Hu**, Mahito Sugiyama, “Pseudo-Non-Linear Data Augmentation via Energy Minimization”. *Preprint*
- [P2] Xinhe Wang, **Pingbang Hu**, Junwei Deng, Jiaqi Ma, “Adversarial Attacks on Data Attribution”. *Preprint* 
- [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

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

## HONORS AND AWARDS

- |   |                        |
|---|------------------------|
| <b>Excellent Internship Evaluation</b>  | <b>Tokyo, Japan</b>    |
| ▪ Best internship evaluation result in National Institute of Informatics                    | Aug. 2024              |
| <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 in Shanghai Jiao Tong University | Oct. 2021              |
| <b>Undergraduate Excellent Scholarship</b>  | <b>Shanghai, China</b> |
| ▪ Third Prize among all students in UM-SJTU Joint Institute                                 | Nov. 2020              |
| <b>Bao Gang Excellent Scholarship</b>   | <b>Shanghai, China</b> |
| ▪ Second Prize (Ranked #3) among all Taiwan students in Shanghai Jiao Tong University       | June 2020              |
| <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 in UM-SJTU Joint Institute       | Dec. 2019              |

## PROFESSIONAL SERVICE

- Conference Reviewer**
- ICML 2024, IEEE BigData 2023, ICLR 2025, AAAI 2025