

Pingbang Hu



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RESEARCH INTEREST

- **Machine Learning**
Algorithmic fairness, graph learning, trustworthy machine 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

- **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 – Jun. 2021*

PRE-PRINTS AND TECHNICAL REPORTS

(* denotes equal contribution)

- [P1] **Pingbang Hu**, Thatchaphol Saranurak, “Finding Minimal Balanced Separators with Detection Sets”. *Manuscript*
- [P2] **Pingbang Hu**, “Travel the Same Path: A Novel TSP Solving Strategy”. *Preprint*

TEACHING EXPERIENCE

- **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

- **Hong Kong, Macao and Taiwan Overseas Chinese Student Scholarship** Shanghai, China
First Prize (Ranked #2) among all HK, MC and TW students in Shanghai Jiao Tong University
Oct. 2021
- **Undergraduate Excellent Scholarship** Shanghai, China
Third Prize among all students in UM-SJTU Joint Institute
Nov. 2020
- **Bao Gang Excellent Scholarship** Shanghai, China
Second Prize (Ranked #3) among all Taiwan students in Shanghai Jiao Tong University
Jun. 2020
- **Hong Kong, Macao and Taiwan Overseas Chinese Student Scholarship** Shanghai, China
First Prize (Ranked #1) among all HK, MC and TW students in UM-SJTU Joint Institute
Dec. 2019