

Pingbang Hu



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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*
 - **Advisor:** Jiaqi Ma

Aug. 2023 – Present

University of Michigan

Michigan

- *B.Sc. in Computer Science, College of Engineering*
 - Graduate with *Summa Cum Laude*
 - **Minor:** Mathematics, College of Literature, Science, and the Arts

Aug. 2021 – May 2023

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*
 - **Minor:** Computer Science, UM-SJTU Joint Institute

Aug. 2019 – Aug. 2023

RESEARCH AND INDUSTRY EXPERIENCE

Theory of Computation Laboratory, University of Michigan

Michigan

- *Undergraduate Researcher*
 - **Advisor:** Thatchaphol Saranurak
 - Design the first almost linear time algorithm on finding minimal balanced separator.

Mar. 2022 – Present

SURE Program, University of Michigan

Michigan

- *Undergraduate Researcher*
 - **Advisor:** Wei Hu
 - Theoretical analysis on intrinsic dimension under isoperimetry assumptions.

May 2022 – Apr. 2023

FORESEER Research Group, University of Michigan

Michigan

- *Undergraduate Research Assistant*
 - **Advisor:** Jiaqi Ma
 - Prove the asymptotic separability of a 1-layer GCN on node classification tasks.

Dec. 2021 – Jan. 2023

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.
 - **Randomness and Computation**: A graduate-level course on the M.S. CS theory track.

Winter 2023

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.
 - * **Competition:** Hold the 1st UM-SJTU JIntegration Bee competition.
 - **Honor Mathematics II**: An undergraduate-level course on the main B.Eng. ECE track.

Summer 2021

Fall 2020

HONORS AND AWARDS

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

PROFESSIONAL ACTIVITIES

IEEE International Conference on Big Data (IEEE BigData) ▪ <i>Conference Reviewer</i>	<i>2023</i>
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