# Pingbang Hu

#### EDUCATION

University of Michigan - College of Literature, Science, and the Arts Ann Arbor, Michigan Bachelor of Computer Science; Majored GPA - 4.0/4.0 Aug. 2021 - May. 2023 University of Michigan - College of Literature, Science, and the Arts Ann Arbor, Michigan Bachelor of Honor Math (Honor Program); GPA - 3.751/4.0 Aug. 2021 - May. 2023 Shanghai Jiao Tong University - UM-SJTU Joint Institute Ann Arbor, Michigan Bachelor of Electrical and Computer Engineering; GPA - 3.6/4.0 Aug. 2019 - May. 2023

## Research Experience

### **Deep Learning Foundation**

CoE, UMich, Ann Arbor, Michigan

Mar. 2022 - Present

Email: pbb@umich.edu Mobile: (+1) 734 882 7750

 $Undergraduate\ Researcher$ 

- General: Fundamental Understanding of Deep Neural Network with Theoretical Analysis supported by SURE Program.
- Kernel Learning v.s. Deep Learning: Analysis on Kernel Learning and the Relation between Deep Neural Network

## **Graph Neural Network Foundation**

SI, UMich, Ann Arbor, Michigan

Undergraduate Researcher

Feb. 2022 - Present

- o General: Theoretical analysis on generalization ability of non-i.i.d. semi-supervised node-level tasks.
- Expansion: Following the line of work by Tengyu Ma with generalizations on graph-based neural network.

# Fast Graph Algorithm $Undergraduate\ Researcher$

CoE, UMich, Ann Arbor, Michigan

Mar. 2022 - Present

- General: Analysis on the size of the network failure detection set on different graph and various constraints.
- Data Structure: Deep understanding on compact vertex cuts representation.
- Probabilistic Methods: Analysis on randomized algorithm along with classical learning theory notions.

#### Teaching Experience

 $Instructional\ Aide$ 

Instructional Aide

## EECS572 Randomness and Computation

CoE, UMich, Ann Arbor, Michigan

Aug. 2022 - Dec. 2022

o General: Collaborated with the teaching staff as an instructional aide of a 100+ student course on the main CS track.

- o Discussion Course: Taught discussion sections to reinforce conceptual understanding and review course material.
- Office Hours: Offered weekly office hours to ensure the student experience was as smooth as possible.

#### VV285 Honor Mathematics III

UM-SJTU JI, SJTU, Shanghai, China

Mar. 2021 - Aug. 2021

- General: Collaborated with the teaching staff as an instructional aide of a 150+ student course on the main ECE track.
- o Discussion Course: Taught discussion sections to reinforce conceptual understanding and review course material.
- Office Hours: Offered weekly office hours to ensure the student experience was as smooth as possible.
- Competition: Hold the 1<sup>st</sup> UM-SJTU JIntegration Bee competition

## VV186 Honor Mathematics II

UM-SJTU JI, SJTU, Shanghai, China Sep. 2020 - Dec. 2020

 $Instructional\ Aide$ 

- o General: Collaborated with the teaching staff as an instructional aide of a 200+ student course on the main ECE track.
- o Discussion Course: Taught discussion sections to reinforce conceptual understanding and review course material.
- Office Hours: Offered weekly office hours to ensure the student experience was as smooth as possible.

## Software Development Experience

FoodAll

Virtual, Taiwan

Backend Developer Aug. 2020 - Mar. 2021 o General: A food order platform in Taiwan, built with Golang and Gin, MongoDB, with RESTful API design.

#### Honors and Awards

	Hong Kong, Macao and Taiwan Overseas Chinese Student Scholarship	SJTU, Shanghai, China
•	First Price (Ranked 2) among all HK, MC and TW students in SJTU	Oct. 2021
•	Undergraduate Excellent Scholarship	SJTU, Shanghai, China
	Third Price among all students in UM-SJTU JI	Nov. 2020
•	Bao Gang Excellent Scholarship	SJTU, Shanghai, China
	Ranked 3 among all Taiwan students in SJTU	Jun. 2020
	Hong Kong, Macao and Taiwan Overseas Chinese Student Scholarship	SJTU, Shanghai, China

Ranked 1 among all HK, MC and TW students in UM-SJTU JI Dec. 2019