

# **Liu, Zhi He/Him**

3rd year PhD student at Cornell Tech

## **EDUCATION**

**Tsinghua University, Beijing, China — 2016 - 2020**

B.Eng. in Industrial Engineering, with Minor in Applied Statistics

**Cornell University / Cornell Tech, New York, USA — 2020 - present**

Ph.D. student in Operations Research (GPA: 4.0/4.0)

Advisor: *Prof. Nikhil Garg*

Selected Ph.D. courses: Math Programming, Stochastic Processes,  
Bayesian Statistics, Math of Data Science, Reinforcement Learning

## **RESEARCH INTEREST**

Study of societal systems using mechanism design and data science/  
machine learning techniques, particularly those settings with fairness  
implications and strategic behavior of participants. Most recently in the  
study of online policies for allocation of public goods, and information  
disclosure in online marketplaces.

## **PUBLICATIONS**

**Liu, Zhi, and Nikhil Garg. "Test-optional policies: Overcoming strategic  
behavior and informational gaps." *Equity and Access in Algorithms,  
Mechanisms, and Optimization*. 2021. 1-13.**

Under the setting of test-optional admissions and with strategic  
applicants, we study sufficient conditions for the admission policy to be  
non-discriminatory towards students who truly lack access to tests due to  
factors such as the pandemic, which contain randomization and  
certification.

**Liu, Zhi, and Nikhil Garg. "Equity in Resident Crowdsourcing:  
Measuring Under-reporting without Ground Truth Data." *Working  
paper* (2022). Conference version appeared in ACM EC'22.**

We propose a powerful and general approach to measure residents' reporting behavior in crowdsourcing settings, e.g., 311 systems across North American cities, by using only the reports and no proxies for ground-truth conditions. Applied to data from NYC and Chicago, our method reveals substantial reporting heterogeneity across space, demographics, and time.

## **INVITED/CONFERENCE TALKS AND POSTERS**

2021/10	Cornell Young Researcher's Workshop	Poster Presentation
2021/10	ACM EAAMO'21	Conference Talk
2021/12	NeurIPS Strategic ML Workshop'22	Poster Presentation
2022/04	Cornell ORIE PhD Colloquium	Invited Talk
2022/04	NYC Ops Day'22	Poster Presentation
2022/07	ACM EC'22	Conference Talk

## **MISCELLANEOUS**

### **Teaching experience**

Teaching assistant for ORIE 5355 / INFO 5370 at Cornell Tech, Fall 2021

- Data science course with a focus on data-driven decision-making
- Helped prepare datasets for homework assignments and solutions

Teaching assistant for ORIE 5355 at Cornell Tech, Fall 2022

### **Fellowships**

ORIE Field Fellowship, Fall 2020

Cornell University Fellowship, Spring 2021

### **Skills**

Python, Gurobi, Stan