

# Zishuo Zhao

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ISE, University of Illinois Urbana-Champaign

## 1 Background

- **2023/09 - 2024/08 (Expected)** Visiting Student, Massachusetts Institute of Technology  
Advisor: David Simchi-Levi
- **2021/01 - now** PhD student, Department of Industrial & Enterprise Systems Engineering, University of Illinois Urbana-Champaign  
Research Area: Operations Research  
Advisor: Yuan Zhou  
Expected Graduation: Summer 2025
- **2020/08 - 2021/01** Research Assistant, Haihua Institute for Frontier Information Technology
- **2016/05 - 2020/07** Undergraduate student, Yao Class, Institute for Interdisciplinary Information Sciences, Tsinghua University
- **2015/08 - 2016/05** Undergraduate student, Department of Computer Science and Technology, Tsinghua University

## 2 Research Interests

I am a third-year PhD student in UIUC, majoring in operations research, and currently doing research in blockchain mechanism design. My research interests also span a wide scope including mechanism design, game theory, fair division, algorithm design and cryptography. I have an affection for adopting the ideas and tools in theoretical computer science into applications especially in the field of blockchain systems.

Beside my major, I have an amateur interest in computational geometry and topology, which was my research interest during undergraduate time. I have always been excited to solve or prove research problems with geometric and topological inspirations.

I also have an amateur interest in Capture-The-Flag(CTF) competitions, especially in Crypto and Reverse.

## 3 Publications

### Personalized Pricing with Group Fairness Constraint

Xin Chen\*, Zexing Xu\*, Zishuo Zhao\*, Yuan Zhou\*. (alphabetical order)

*ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT 2023)*

### Bayesian Mechanism Design for Blockchain Transaction Fee Allocation<sup>1</sup>

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<sup>1</sup>A preliminary version of this research has the title “Bayesian-Nash-Incentive-Compatible Mechanism for Blockchain Transaction Fee Allocation”

Xi Chen\*, David Simchi-Levi\*, Zishuo Zhao\*, Yuan Zhou\*. (alphabetical order)

**Best Paper Award**, *NeurIPS Workshop on Decentralization and Trustworthy Machine Learning in Web3, 2022*.

*Crypto Economics Security Conference (CESC 2022)*.

Invited to *INFORMS Annual Meeting 2022*.

**Dynamic Car Dispatching and Pricing: Revenue and Fairness for Ridesharing Platforms** [Link]

Zishuo Zhao, Xi Chen, Xuefeng Zhang, Yuan Zhou

*International Joint Conference on Artificial Intelligence (IJCAI 2022)*, **Long Oral (3.75%)**.

Invited to *INFORMS Annual Meeting 2021*.

**ClusterSLAM: A SLAM Backend for Simultaneous Rigid Body Clustering and Motion Estimation** [Link]

Jiahui Huang, Sheng Yang, Zishuo Zhao, Yukun Lai, Shi-Min Hu.

*International Conference on Computer Vision (ICCV 2019)*.

## 4 Academic Activities

- Facilitator in section Revenue & Pricing, INFORMS Annual Meeting 2021

## 5 Awards

- **Best Paper Award**, NeurIPS Workshop on Decentralization and Trustworthy Machine Learning in Web3, 2022
- 12th place in 2nd THUCTF Information Security Contest in Tsinghua University, 2020
- 12th place in 24th Artificial Intelligence Programming Contest in Tsinghua University, 2020
- Scholarship for Arts Excellence in Tsinghua University, 2018
- Xuetao Scholarship in Tsinghua University, 2016-2020
- 15th place in 20th Artificial Intelligence Programming Contest in Tsinghua University, 2016.
- Second Prize in Chinese Mathematical Olympiad (CMO), 2014
- First Prize in National Olympiad in Informatics in Provinces (NOIP), 2013

## 6 Miscellaneous

### 6.1 Languages

- Mandarin Chinese (native)
- English (fluent)

### 6.2 Extracurricular Activities

- I developed two Reverse challenges in the Capture-The-Flag contest TQLCTF 2022.
- I was invited to the Alumni Forum for the 10th Anniversary of IIIS, Tsinghua University in 2021.

### 6.3 Coding Skills

- Mainly using C++, MATLAB and Mathematica, also with command of Python, Java, PHP.
- With some knowledge in Verilog HDL and assembly language.
- Open to learn new programming languages when in need.

*(Updated on April 12, 2023)*