

Chengyue He

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🌐 <https://AfTermathcy.github.io>

Education

Ph.D. in Operations Research	2021-present
Industrial Engineering and Operations Research, Columbia University, USA Advisors: Yuri Faenza & Jay Sethuraman	
M.S. in Operations Research	2019-2020
Industrial Engineering and Operations Research, Columbia University, USA	
B.S. in Mathematics	2015-2019
School of Mathematical Sciences, Zhejiang University, China	

Research Interests

Mechanism Design, Algorithmic Game Theory, Matching Market and Combinatorial Optimization.

Publications and Preprints

Minimum Cut Representability of Stable Matching Problems	2025
<i>Yuri Faenza, Ayoub Foussoul and C. He</i> ◦ Submitted to Operations Research.	
Managing Self-Interested Behavior in Failure-Aware Kidney Exchange	2025
<i>Itai Feigenbaum, C. He</i> ◦ Major revision at Mathematics of Operations Research .	
Scarf's Algorithm on Arborescence Hypergraphs	2025
<i>Karthekeyan Chandrasekaran, Yuri Faenza, C. He and Jay Sethuraman</i> ◦ Proceedings of The 52nd EATCS International Colloquium on Automata, Languages, and Programming (ICALP 2025).	
Scarf's algorithm and stable marriages	2025
<i>Yuri Faenza, C. He and Jay Sethuraman</i> ◦ Published at Mathematics of Operations Research.	
Two-stage stochastic stable matching	2024
<i>Yuri Faenza, Ayoub Foussoul and C. He</i> ◦ Proceedings of The 25th Conference on Integer Programming and Combinatorial Optimization (IPCO 2024).	

Invited Talks and Seminars

Scarf's Algorithm on Arborescence Hypergraphs	July 2025
◦ The 52nd EATCS International Colloquium on Automata, Languages, and Programming (ICALP 2025), Aarhus University.	
Linear Programming and Polyhedral Geometry	October 2024
◦ PhD Tutorial Seminar at Columbia IEOR.	
A Geometric Algorithm for Stable Matching Problems.	October 2023
◦ INFORMS Annual Meeting, Phoenix.	
Scarf's Algorithm and Stable Matchings.	August 2023
◦ Modeling and Optimization: Theory and Applications (MOPTA) 2023, Lehigh University.	

- Seminar at ICERM, Brown University.

Teaching Experiences

Teaching Assistant

- IEOR 3609 Advanced Optimization: Spring 2025
- IEOR 6613 Optimization (PhD level): Fall 2023, Fall 2024

Instructor

Science Honors Program (SHP) at Columbia Engineering

- Graph Theory by Example: Fall 2021, Spring 2022

Visit

- Spring 2023: Semester Program on Discrete Optimization: Mathematics, Algorithms, and Computation, ICERM, Brown University.
- Fall 2018 & Spring 2019: Undergraduate exchange program at UC Berkeley.