Ruicheng Ao

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EDUCATION

09/2019-07/2023	**School of Mathematical Sciences, Peking University** **B.S. in Mathematics** **GPA**: 3.85/4.00
09/2023-05/2028 Expected	**Institute for Data, Systems, and Society (IDSS) at MIT** **Ph.D in Social & Engineering Systems** **Advisor: David Simchi-levi** **GPA**: 5.0/5.0

REASEARCH INTERESTS

My research focuses on online **decision making**, encompassing **online resource allocation problems** and **experimental design**. I'm interested in exploring data-driven theoretical and algorithmic frameworks with practical applications in various fields, including **revenue management**, **service systems**, and **sequential hypothesis testing**.

PREPRINTS

1. Ruicheng Ao, Hengyu Fu, and David Simchi-levi, "Two-stage Online Reusable Resource Allocation: Reservation, Overbooking and Confirmation Call", https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4990991, available on SSRN.

2. Ruicheng Ao , Hongyu Chen, David Simchi-levi, Feng Zhu, "Bayesian Online Multiple Testing: A Resource Allocation Approach", https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4723579, available on SSRN, finalist in *Revenue Management and Pricing 2024 Jeff McGill Student Paper Award*.

3. Cheng Chen, Ruitao Chen, Tianyou Li, Ruicheng Ao, Zaiwen Wen, "Monte carlo policy gradient method for binary optimization", arXiv preprint arXiv:2307.00783, under major review at *Mathematical Programming*.

PUBLICATIONS

1. Ruicheng Ao ,Shicong Cen, and Yuejie Chi, "Asynchronous Gradient Play in Zero-Sum Multi-agent Games", International Conferenceon Learning Representations(ICLR), Kigali, Rwanda, May2023.

2. Jiang Hu, Ruicheng Ao, Anthony Man-Cho So, Minghan Yang, Zaiwen Wen, "Riemannian Natural Gradient Methods", SIAM Journal on Scientific Computing 46 (1), A204-A231.

WORKING PAPER

1. Ruicheng Ao, Hongyu Chen, and David Simchi-levi, "Active Experimentation with LLM Predictions ", working paper.

TEACHING

1. 6.431x Probability - The Science of Uncertainty and Data (Fall 2024 TA)
2. 6.419x Data Analysis: Statistical Modeling and Computation in Applications (Summer 2024 TA)

TALKS & PRESENTATIONS

▪ INFORMS Annual Meeting 2024, Seattle, WA
  Two-Stage Online Resource Allocation: Reservation, Overbooking and Confirmation Call

AWARDS

2024	Finalist, Revenue Management and Pricing 2024 Jeff McGill Student Paper Award
2022	National Scholarship

2022	1st in S.T Yau College Student Mathematics Contest (applied math, team)
2022	Honorable Mention in the Alibaba Global Mathematics Competition
2021	2nd in S.T. Yau College Student Mathematics Contest

SKILLS & ADDITIONAL EXPERIENCE

| Programming | Python, C/C++, R, MATLAB, Julia, html |
| Student Service | Member of Community Department, Student Union, School of Mathematical Sciences, Peking University |