Yueyang Zhong (Pronounce: "Yoo-eh-yawng Joe-ng", Pronouns: she/her) (September, 2022)

CONTACT INFORMATION

5807 S. Woodlawn Avenue
Chicago, IL 60637
Tel: (+1)773-595-8582

E-mail: yzhong0@chicagobooth.edu
Linkedin: https://www.linkedin.com/in/yueyang-zhong
Personal Website: https://yzhong0.github.io/yueyangzhong/

RESEARCH INTERESTS

My primary research interests are stochastic modeling of service systems with consideration of human strategic behavior and unknown systemic information. My research use tools from applied probability, game theory, and learning theory (in particular, online learning and reinforcement learning).

I am currently working on (i) system design optimization problems in queueing systems with strategic customers and strategic servers; and (ii) online learning problems in queueing systems in the face of unknown system parameters, such as learning to schedule in multiclass many-server queues.

EDUCATION

The University of Chicago Booth School of Business — Chicago, IL

- Ph.D. in Operations Management (Minor in Applied Probability) — *2018–2023 (expected)*
- Master of Business Administration — *2021–2023 (expected)*
- Advisor: Professor Amy R. Ward

Tsinghua University — Beijing, China

- B.S. in Industrial Engineering (Minor in Economics) with Honors — *2014–2018*

PUBLICATIONS & PAPERS UNDER REVIEW

[1] **Yueyang Zhong**, John R. Birge, Amy R. Ward. Learning the Scheduling Policy in Time-Varying Multiclass Many Server Queues. *Major Revision at Operations Research.* [Link]

[2] **Yueyang Zhong**, Ragavendran Gopalakrishnan, Amy R. Ward. Behavior-Aware Queueing: The Finite-Buffer Setting with Strategic Servers. *Minor Revision at Operations Research.* [Link]

[3] **Yueyang Zhong**, Zhixi Wan, Zuo-Jun Max Shen. Queueing Versus Surge Pricing Mechanism: Efficiency, Equity, and Consumer Welfare. *Reject and Resubmit at Management Science.* [Link]

[4] **Yueyang Zhong**, Amy R. Ward, Amber L. Puha. 2022. Asymptotically Optimal Idling in the $GI/GI/N{+}GI$ Queue. *Operations Research Letters.* [Link]

[5] **Yueyang Zhong**, YeeMan Bergstrom, Amy R. Ward. 2020. Data-Driven Market-Making via Model-Free Learning. *In Proceedings of the Twenty-Ninth International Joint Conference on Artificial Intelligence (IJCAI-20): Special Track on AI in FinTech.* [Link]

WORK IN PROGRESS

[a] **Yueyang Zhong**, Ragavendran Gopalakrishnan, Amy R. Ward. Some Properties of the Erlang B and C Formulae. *Working paper (Available upon request).*

[b] **Yueyang Zhong**, Ragavendran Gopalakrishnan, Amy R. Ward. Price of Anarchy in Behavior-Aware Queues with Strategic Arrivals and Strategic Servers. *Work in progress.*

[c] **Yueyang Zhong**, Ragavendran Gopalakrishnan, Amy R. Ward. An Experimental Investigation of Strategic Server Behavior in Queueing Contexts. *Work in progress.*

[d] **Yueyang Zhong**, John R. Birge, Amy R. Ward. Learning to Schedule in Multiclass Many Server Queues with Abandonment: An Instance-Independent Regret. *Working in progress.*

[e] **Yueyang Zhong**. Online Advertising Strategy for Long-Term Good via Robust IV-Q-learning with Noisy Instruments. *Working paper (Available upon request).*

PRESENTATIONS

- CSAMSE, Virtual [1] — *July 2022*
- INFORMS CORS, Vancouver, BC [2],[1] — *June 2022*
- POMS, Virtual [2] — *April 2022*
- NYU MOILS Seminar, Virtual [1] — *Feb 2022*
- INFORMS Annual Meeting, Anaheim, CA [1] — *Oct 2021*
- MSOM Conference Meeting, Virtual [2] — *June 2021*

- POMS, Virtual [5] *May 2021*
- UCSD Stochastic Systems Seminar, Virtual [2],[4] *April 2021*
- IJCAI-PRICAI, Virtual [5] *Jan 2021*
- INFORMS Conference on Service Science, Virtual [3] *Dec 2020*
- INFORMS Annual Meeting, Virtual [2] *Nov 2020*
- MD4SG, Virtual [3] *Aug 2020*
- INFORMS Annual Meeting, Seattle, WA [3] *Oct 2019*
- INFORMS Annual Meeting, Phoenix, AZ [3] *Nov 2018*

Honors and Awards

- Finalist, INFORMS Conference On Service Science, Best Service Science Student Paper *2021*
- Booth School of Business Ph.D. Fellowship *2018–2023*
- Distinguished Undergraduate Thesis Award, Tsinghua University *2018*
- Outstanding Undergraduate Award, Tsinghua University *2018*
- Tung OOCL Scholarship, Weiming Zhang Scholarship *2015–2017*
- Student Overseas Research Grant *2017*
- First Prize, Chinese Physics Olympiad *2016*

Teaching Experience

The University of Chicago Booth School of Business
Teaching Assistant (MBA Program)

BUSN 41100: Applied Regression Analysis (MBA core) *Fall 2020, Fall 2021*

- This course covers topics on regression and its implementation in R (Enrollment: 200+).
- Assisted students with R in weekly office hours, and held weekly R sessions.

BUSN 40000: Operations Management: Business Process Fundamentals (MBA core) *Winter 2020*

- This course covers operations concepts through cases integrated with theory (Enrollment: 200+).
- Independently held two review sessions, and prepared midterm and final exam questions.

BUSN 40110: Managing Service Operations (MBA elective) *Winter 2022*

- This course draws on ideas from the core MBA course BUSN 40000, and focuses on the basics to analyze and design services ones in which customers are involved (Enrollment: 80+).
- Assisted students with homework questions in weekly office hours, and supervised student groups developing case materials in collaboration with multiple companies for the final project.
- Independently held a final review session.

Industry Experience

Pinterest Labs Remote
Research Intern, Ads Marketplace team *June 2021–Sept 2021*

- Designed and implemented a causal reinforcement learning algorithm to dynamically control the ad load leading to over 30% improvement in the yearly ad revenue from offline evaluation.

Blue Fire Capital, LLC Chicago, IL
Research Intern, Data Science Group *July 2019–Sept 2019*

- Developed a reinforcement learning based trading strategy, which passed the firm's backtest with a Sharpe ratio above 3 and tripled the cumulative PnL over one month; see [5] for reference.

DiDi Beijing, China
Research Intern, Research Center of Innovation and Operations *Jan 2018–July 2018*

- Built a theoretical queueing model to explain the firm's strategy transition from the surge pricing mechanism to the virtual queueing mechanism, which improves the passenger request fulfillment rate by 30.6% based on a large-scale data with 10M+ users; see [3] for reference.

Service

Ad-hoc Reviewer: *Operations Research*, *Mathematics of Operations Research*, *Operations Research Letters*, *Service Science*, *ICSS*
Conference organization: Session chair–INFORMS Annual Meeting 2021, INFORMS CORS 2022.
Mentoring: Awaid Yasin (Master student, the University of Chicago Division of Social Sciences).
Others: Tutor students in the MBA program at Chicago Booth on operations management and statistics courses.

Selected PhD Courses

Linear Programming, Convex Optimization, Infinite Dimensional Optimization, Dynamic Programming, Approximate Dynamic Programming, Stochastic Optimization, Online Optimization, Real Analysis, Measure-Theoretic Probability I, III, Stochastic Processes, Brownian Motion and Stochastic Calculus, Queueing Theory, Dynamic Control of Stochastic Networks, Stochastic Calculus and Queueing Applications, Queueing Models for Service Operations Management, Networks: Introduction to Modeling and Analysis, Machine Learning, Statistical Inference, Foundations of Advanced Quantitative Marketing, Microeconomics I, II, Macroeconomics.

Skills and Others

Language: Chinese (native), English (fluent)
Data/Statistical Tools: R, SQL
Optimization Tools: CPLEX, GUROBI, AMPL
Programming Language: Python, C/C++, JAVA
Hobbies: Piano, Yoga, Sketch, Calligraphy, Traveling, Photography

References

Professor **Amy R. Ward**
The University of Chicago
Booth School of Business
5807 S Woodlawn Ave
Chicago, IL 60637
E-mail: amy.ward@chicagobooth.edu

Professor **John R. Birge**
The University of Chicago
Booth School of Business
5807 S Woodlawn Ave
Chicago, IL 60637
E-mail: John.Birge@chicagobooth.edu

Professor **Raga Gopalakrishnan**
Queen's University
Stephen J.R. Smith School of Business
143 Union Street West
Kingston, ON K7L 3N6, Canada
E-mail: r.gopalakrishnan@queensu.ca