Emily Zhang

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Education

Massachusetts Institute of Technology Cambridge, MA
Ph.D. Student in Operations Research, GPA: 4.9/5.0 September 2021 – Present
Advised by Prof. Georgia Perakis and Prof. Retsef Levi

Massachusetts Institute of Technology Cambridge, MA
B.S. in Computer Science & Mathematics, GPA: 5.0/5.0 September 2017 – June 2021

Publications

1. **Approximation Algorithms for Inventory Problems with Decomposable Submodular Ordering Costs.**
   Retsef Levi, Georgia Perakis, Emily Zhang. Working paper.

2. **Heterogeneous Treatment Effects in Panel Data.**
   Retsef Levi, Elisabeth Paulson, Georgia Perakis, Emily Zhang. Major Revision at *Manufacturing & Service Operations Management*.

   - Accepted for presentation at *2025 MSOM Sustainable Operations SIG*

3. **Reducing Food Waste through a Reservation Scheme.**
   Retsef Levi, Georgia Perakis, Emily Zhang. Major Revision at *Management Science*.

4. **On the Broadcast Dimension of a Graph.**
   Emily Zhang, *Australasian Journal of Combinatorics* **85**(3) (2023), 313–339.

5. **An Upper and Lower Bound for the Convergence Time of House-Hunting in *Temnothorax* Ant Colonies.**
   Emily Zhang, Jiajia Zhao, and Nancy Lynch, *Journal of Computational Biology* **29**(4) (2022), 344–357.

6. **CDFShop: Exploring and Optimizing Learned Index Structures.**
   Ryan Marcus, Emily Zhang, and Tim Kraska, *ACM SIGMOD* 2020.

Talks

1. **Heterogeneous Treatment Effects in Panel Data**

   - 2025 MSOM Sustainable Operations Management SIG Conference
   - 2025 Annual POMS Conference
   - 2024 INFORMS Annual Meeting
   - 2024 Manufacturing & Services Operation Management Conference

2. **Reducing Food Waste through a Reservation Scheme**

   - 2025 Data, Models, and Decisions for MIT Executive MBAs
   - 2023 INFORMS Annual Meeting

3. **An Upper and Lower Bound for the Convergence Time of House-Hunting in Temnothorax Ant Colonies**

- 2021 8th workshop on Biological Distributed Algorithms

4. **On the Broadcast Dimension of a Graph**

   - 2020 AMS Virtual Sectional Meetings

5. **Optimization Algorithms Given by Discretizations of the Euler-Lagrange ODE**

   - 2019 MIT IEEE Undergraduate Research Technology Conference
   - 2019 Georgia Tech REU Poster Session
   - 2019 Young Mathematicians Conference at The Ohio State University

Teaching Experience

Teaching Assistant at MIT Sloan School of Management	Spring 2025
Data, Models, and Decisions (15.730) for MIT Executive MBAs	
Teaching Assistant at MIT Sloan School of Management	Summer 2024
Introduction to Operations Management (15.734) for MIT Executive MBAs	
Grader at MIT Department of Mathematics	Spring 2020
Probability and Random Variables (18.600)	
Laboratory Assistant at MIT Department of EECS	Fall 2019
Introduction to Machine Learning (6.036)	

Professional Service

MIT ORC Seminar Series	Cambridge, MA
Coordinator	Fall 2024
MIT ORC Independent Activities Period (IAP) Seminar	Cambridge, MA
Coordinator	IAP 2024
MIT Undergraduate Society of Women in Mathematics (USWIM)	Cambridge, MA
Publicity Chair	2019 – 2021
MIT Society of Women Engineers (SWE)	Cambridge, MA
Board Member & Technology Chair	2019 – 2020

Scholarships and Awards

Ida M. Green Fellowship	2021–2022
NSF Graduate Fellowship	2021