

Angela Lin

aglin@mit.edu | angelaglin.github.io | 281-673-8477

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA
Ph.D. in Operations Research
Advisor: Prof. Georgia Perakis
GPA: 5.0/5.0

2021 – 2026 (Expected)

Rice University, Houston, TX
B.A. in Computational and Applied Mathematics
Minor in Mathematics
GPA: 4.0/4.0

2017 – 2021

RESEARCH INTERESTS

Clinical Decision-Making, Hospital Operations, Public Health, Non-profit Operations, Disaster and Crisis Management

PUBLICATIONS AND WORKING PAPERS

(*indicates primary author)

1. **A Data-Driven, Interpretable, Risk-Aware Framework for Clinical Decision-Making Under Limited Resources**
Lien Le (M.D.), Angela Lin*, Dessislava Pachamanova, Georgia Perakis, Omar Skali Lami. Under review at *Operations Research*.
 - Accepted for presentation at 2023 MSOM Main Conference
 - Accepted for presentation at 2023 Society of Hospital Medicine Converge Conference
2. **Dynamic Resource Allocation for Healthcare Service Design: An Application to Geographic Cohorting**
Angela Lin*, Dessislava Pachamanova and Georgia Perakis. Under review at *Service Science*.
 - Accepted for presentation at 2025 MSOM Main Conference
 - Accepted for presentation at 2024 Society of Hospital Medicine Converge Conference
3. **Reinforcement Learning for Clinical Decision Support for Sepsis Treatment** (Case Study on Reinforcement Learning)
Angela Lin*, Dessislava Pachamanova and Georgia Perakis. Under review at *INFORMS Transactions on Education*.
 - Finalist for 2025 INFORMS Case Competition
4. **Holistically Robust Markov Decision Processes for Clinical Decision-Making**
Gavin Findlay, Angela Lin*, Dessislava Pachamanova, Georgia Perakis. Working paper. To be submitted to *European Journal of Operations Research*.
5. **Data-Driven Decision Support for Sepsis Treatment: IV Fluid and Vasopressor Strategies**
Lien Le (M.D.), Angela Lin*, Douglas McConnell (M.D.), Dessislava Pachamanova, Georgia Perakis, Adam Schwarz (M.D.). Working paper. To be submitted to *Journal of American Medical Association*

SELECTED PRESENTATIONS AND TALKS

1. **Interpretable, Data-Driven Framework for Sepsis Treatment Decision Support**
 - 2024 and 2025 *Data, Models, and Decisions* Executive MBA course at MIT Sloan
 - 2024 Society of Hospital Medicine Converge Conference
 - 2023 MSOM Conference
 - 2023 INFORMS Healthcare Conference
 - 2023 INFORMS Annual Meeting
 - 2022 MIT MGB AI Cures Conference
2. **Online Optimization of Patient-Physician Assignments for Geographic Cohorting**
 - 2025 INFORMS Annual Meeting
 - 2025 MSOM Conference
 - 2025 Society of Hospital Medicine Converge Conference
3. **Holistically Robust Markov Decision Processes for Clinical Treatment Decisions**
 - 2024 INFORMS Annual Meeting

HONORS AND AWARDS

INFORMS 2025 Case Competition Finalist Finalist (3 out of 27) for best teaching case at Institute for Operations Research and Management Science (INFORMS) conference	October 2025
MIT Health and Life Sciences Graduate Fellowship 1 of 32 fellows (selected out of 222) awarded support for 2025-2026 academic year for interdisciplinary research in health sciences	August 2025
National Science Foundation Graduate Research Fellowship Program Honorable Mention Honorable mention for fellowship recognizing outstanding STEM graduate students in the United States	March 2023
MIT-Google Innovations in Computing Fellowship Selected as a fellow for full PhD support for 2022-2023 academic year by Google and MIT Schwarzman College of Computing	September 2022
MIT Operations Research Center Common Experience Best Presentation Best presentation for Operations Research first-year PhD qualifying project	August 2022
INFORMS Undergraduate Scholarship for 2019 Annual Meeting \$1,250 award from the Institute for Operations Research and Management Sciences (INFORMS) to attend annual conference	August 2019

TEACHING EXPERIENCE

Teaching Assistant , MIT Sloan School of Management <i>Data, Models, and Decisions</i> (15.730); Student evaluation rating: 6.73/7, 6.67/7	Spring 2024, Spring 2025
• Taught recitations, redesigned course lectures, held office hours • Presented research and case study during two separate lectures	
Grader , Rice University Computational and Applied Math Department <i>Introduction to Operations Research and Optimization</i> (CAAM 378)	Fall 2019
• Held weekly office hours for homework questions and graded homework, projects and exams	
Teaching Assistant , Rice University Biology Department <i>Introductory Biology</i> (BIOC 201)	Fall 2018
• Led weekly review sessions to help students gain deeper understanding of class topics	

INDUSTRY EXPERIENCE

Advanced Analytics Intern , Tampa General Hospital	June 2024 – September 2025
• Built optimization model backend as well as user interface for provider regionalization patient assignment tool through iterative collaborative process between data science team and hospitalists (end users of the tool) • Reduced physician travel time by 75% and manual assignment time by 300% through successful implementation of patient assignment tool • Leveraged queueing theory to make bed capacity recommendations for the hospital	
Business Analyst Intern , Capital One	June 2020 – August 2020
• Queried and analyzed data to make business recommendations regarding customer strategy for Loss Mitigation department • Increased recoveries from Total Loss customers by \$800K annually by finding the optimal number of calls to each segment of customers and redesigning outbound call strategy	
Logistics Engineering Intern , Daikin	May 2019 – August 2019
• Reduced annual freight costs by over \$100K by designing new “picking” schedule, implementing pooled distribution, and launching bidding process on the company’s Transportation Management System	

RESEARCH EXPERIENCE

Doctoral Research Assistant , MIT Operations Research Center	September 2021 – Present
• Leverage data and models to develop analytical tools aimed at improving clinical decision-making in hospitals • Work closely with clinician teams to validate recommendations from models and design user interfaces in order to integrate clinical decision-support tools into hospital workflow	
Undergraduate Researcher , Rice University Computational and Applied Math Department	January 2019 – May 2021
• Formulated integer programs seeking the optimal radius for organ-sharing to attain maximal fairness • Abstracted the liver transplant allocation problem as a generalized variation of the fixed-charge network flow problem and derived valid inequalities	

SERVICE AND OUTREACH

Resources for Easing Friction and Stress , Operations Research Center, MIT	August 2022 – Present
• Provide confidential peer-to-peer counseling and support for fellow students in department	
• Organize professional, academic, health and holistic wellness-centered events for department	
MIT Highschool Summer Program Volunteer Teacher , MIT	July 2022 – August 2022
• Designed and taught a 6-week summer course to highschoolers on equity and inclusivity in healthcare	
Community Bridges Fellow , Kinder Institute for Urban Research, Rice University	August 2020 – May 2021
• Partnered with YMCA South Texas Office for Refugees to analyze data on outcomes of refugee resettlement	
Academic Mentor , Wiess College, Rice University	March 2020 – May 2021
• Held office hours, review sessions, and individual tutoring sessions for introductory math and computer science classes	
Alternative Spring Break Participant , Rice University	November 2019 – May 2020
• Studied factors contributing to K-12 educational inequity for a semester and spent a week immersed in community-engagement and hands-on learning about the K-12 education system in Houston and Austin, Texas	
Eco Committee Member , Wiess College, Rice University	August 2019 – May 2020
• Organized and brainstormed green initiatives for Wiess College at weekly committee meetings	
Partners for Advancement of Immersion of Refugees Volunteer , Rice University	August 2017 – April 2019
• Visited middle schools to lead afterschool educational activities for refugee youth once per week	

ADDITIONAL INFORMATION

Programming skills: Python, Julia, MATLAB, SQL, R, JuMP, Gurobi, LaTeX

Languages: English (native), Mandarin Chinese (proficient)