

EDUCATION

Massachusetts Institute of Technology

Cambridge, MA

Ph.D. in Operations Research, Advisor: Thodoris Lykouris

2022–Current

- Research Interests: Sequential Decision Making, Multi-Armed Bandits, Dynamic Optimization, Machine Learning, Online Marketplaces and Platforms, Applied Probability
- Relevant Courses: Statistical Reinforcement Learning, Machine Learning, Inference and Information, Linear Programming, Non-linear Optimization, Probability, Inventory and Revenue Management, GPA: 5/5

Princeton University

Princeton, NJ

A.B. in Mathematics, GPA: 3.968/4, Magna Cum Laude

2018–2022

- Relevant Courses: Stochastic Control, Stochastic Calculus, High-Dimensional Probability, Probability Theory, Statistical Theory and Methods, Financial Econometrics, Machine Learning, Complex and Real Analysis, Combinatorics, Graph Theory, Algebra

RESEARCH EXPERIENCE

Massachusetts Institute of Technology

Cambridge, MA

Research Assistant, Advisor: Thodoris Lykouris

August 2022–

- I develop new methodologies for online decision making and dynamic optimization and apply tools from stochastic processes to analyze and improve the efficiency of digital marketplaces.
- Studied the impact of product review ranking policies on social learning dynamics, formally characterizing a negative distributional bias in ratings due to recency and proving that dynamic pricing can mitigate this bias. Paper accepted at *EC '24*.

Princeton University

Princeton, NJ

Undergraduate Researcher, Advisor: S. Matthew Weinberg

2020–2022

- Designed a novel optimal online contention resolution scheme for k -uniform matroids and proved its optimality. Paper accepted at *ITCS '24*.
- Proved new tight bounds on manipulation gains in Incentive Compatible Tournament Design. Paper accepted at *WINE '22*.

Princeton University, Department of Computer Science

Princeton NJ

Undergraduate Researcher, Advisor: Ryan P. Adams

Summer 2019

- Designed and analyzed a Gibbs sampling algorithm for uniform samples from the Birkhoff polytope.

PUBLICATIONS AND PREPRINTS

- **Social Learning with Bounded Rationality: Negative Reviews Persist under Newest First**
with Jackie Baek and Thodoris Lykouris
 - 25th ACM Conference on Economics and Computation (EC), 2024
 - Major Revision at Operations Research
 - arXiv link: <https://arxiv.org/abs/2406.06929>
- **Simple and Optimal Online Contention Resolution Schemes for k -Uniform Matroids**
with S. Matthew Weinberg
 - Innovations in Theoretical Computer Science (ITCS), 2024
 - arXiv link: <https://arxiv.org/abs/2309.10078>

- **Tight Bounds on 3-Team Manipulations in Randomized Death Match**

with *S. Matthew Weinberg*

- Conference on Web and Internet Economics (WINE), 2022
- arXiv link: <https://arxiv.org/abs/2301.07862>

TEACHING EXPERIENCE

- **Teaching Assistant, Data, Models, and Decisions (15.060)**, MIT Fall 2024
Graduate, MBA Core Course, 400 students
 - Led and improved recitations on random variables, linear and logistic regression, classification metrics, and optimization. Graded assignments and exams and hosted weekly office hours.
- **Head Teaching Assistant, The Analytics Edge (15.071)**, MIT Spring 2024
Graduate, MBA Course, 200 students
 - Designed and improved homework assignments on linear regression, classification, regularization, and CART. Improved lecture materials on analytics. Graded assignments and projects and hosted weekly office hours.
- **Princeton University, Teaching Assistant** Spring 2022
Economics and Computation (COS 445), Undergraduate, 200 students

HONORS AND AWARDS

- Phi Beta Kappa, *Princeton University* May 2022
- Sigma Xi, *Princeton University* May 2022
- Shapiro Prize For Academic Excellence, *Princeton University*, Top 2-3% of class Sep 2020
- International Mathematical Olympiad 2016, 2017, 2018
2016 - Bronze Medal, 2017 - Bronze Medal, 2018 - Bronze Medal
- William Lowell Putnam Mathematical Competition - Top 200 out of 4000 2018, 2019
- Balkan Mathematical Olympiad 2016, 2017, 2018
2016 - Silver Medal, 2017 - Gold Medal, 2018 - Silver Medal
- East Coast Regional Datathon, Citadel, Citadel Securities, and Correlation One - Top 8 out of 30 Feb 2019

INDUSTRY EXPERIENCE

Citadel Securities LLC Quantitative Trading Intern	New York, NY Summer 2021
Aquatic Capital Management Research Intern	Chicago, IL Summer 2020

ACADEMIC SERVICE

Seminar Coordinator, MIT Operations Research Center (ORC) Spring 2025

SKILLS

Advanced: Python, R, Numpy, Pandas, scikit-learn, statsmodels, \LaTeX , Power Point

Intermediate: Git, GitHub, Julia, JuMP, Gurobi, Java, Excel

Basic: Matlab, C++