Anushka Murthy

anchmurthy.github.io anushkam@stanford.edu LinkedIn

Education

Stanford University *2022 – Present*
PhD in Mathematics (2022-2023), Operations Research (2023-present) *Stanford, CA*

- Advisors: Ramesh Johari and Irene Lo.
- Awards: Stanford Data Science Scholarship, NSF Graduate Fellowship, EDGE Fellowship.
- Research focus on causal inference and market design in stochastic systems
- Selected coursework: Graduate Analysis and Algebra, Stochastic Systems, Markov Decision Processes, Optimization, Causal Inference, Topics in Social Data, Game Theory, Topics in Market Design.
- Activities: Dean's Graduate Student Advisory Council, Stanford Women in Math Mentoring, mentor in Undergraduate Diversity in Research program, violinist in music department.

Columbia University School of Engineering and Applied Science *2018 – 2022*
Bachelor of Science in Applied Math and CS *New York, NY*

- Graduated *summa cum laude*, GPA: 4.07/4.33.

Papers and Interests

Interests: Applied Probability, Market Design, Causal Inference, with applications to education and sustainability.

1. *When Does Interference Matter? Decision-Making in Platform Experiments*, R. Johari, H. Li, A. Murthy, G. Weintraub. Submitted.
2. *Dynamic Contracting for Payment for Ecosystem Services*, I. Lo and A. Murthy. Submitted.
3. *One-point asymptotics for half-flat ASEP*, E. Dimitrov and A. Murthy. **Annals of Applied Probability**, 34(1B): 1136-1176 (2024).

Industry Experience

Amazon Middle Mile Marketplace Science *June – September 2025*
Applied Scientist Intern *Bellevue, WA*

- Developed machine learning models to predict trailer pool adjustment cost in the spot market.
- Validated and enhanced estimation methods for quantifying the causal impact of increasing lane volume through Amazon Freight contracts on trailer pool adjustment costs, enabling more accurate cost forecasting.

Teaching Experience

Simons Laufer Mathematical Sciences Institute (MSRI) *June 2023*
Teaching Assistant *Berkeley, CA*

– Assisted in graduate summer school on "Mathematics and Computer Science of Market Design."

Stanford University *2022 – Present*
Course Assistant *Stanford, CA*

– Courses Taught: Math 18 (Foundations for Calculus), Math 113 (Linear Algebra), MS&E 232 (Game Theory), MS&E 232H (Accelerated Game Theory), OIT 272 (Online Marketplaces).

Columbia University *2020 – 2022*
Teaching Assistant *New York, NY*

– Courses Taught: Computer Science Theory, Modern Analysis, Fourier Analysis, Partial Differential Equations, Linear Algebra, Multivariable Calculus.

One-to-One Tutoring, Columbia University *2020 – 2022*
Tutor *New York, NY*

– Math tutor for elementary school students, focusing on improving skills and study habits.

Awards and Recognition

Stanford Data Science Scholarship (2024-2026)

NSF Graduate Research Fellowship (2022-2027)

Stanford EDGE Doctoral Fellowship (March 2022)

Columbia Provost's Diversity Fellowship (March 2022)

UC Berkeley Chancellor's Fellowship (February 2022)

Dean's List (All semesters at Columbia).

Talks

"**When Does Interference Matter? Decision-Making in Platform Experiments.**"
INFORMS 2025, Atlanta October 2025
Experimentation and Evaluation in Operations Workshop, Harvard Business School May 2025
Marketplace Innovation Workshop, virtual May 2025
Data-Driven Decisions Seminar, Stanford GSB May 2025
Stanford Data Science Conference April 2025

"**False Positives in A/A Experiments with Correlated Outcomes.**"

INFORMS 2024, Seattle — October 2024
CODE at MIT 2024 — October 2024
Stanford Causal Science Center Conference — October 2024

"**Dynamic Contracting for Payment for Ecosystem Services Programs.**"

MSOM 2024, Minneapolis — July 2024

Skills

Languages: Python, Julia, R, MATLAB, Java, C++.

Libraries/Technologies: NumPy, Matplotlib, Scikit-learn, cvxpy, Pandas.

References

Ramesh Johari *Stanford University*
Professor of Management Science and Engineering

rjohari@stanford.edu

Irene Lo *Stanford University*
Assistant Professor of Management Science and Engineering

ilo@stanford.edu

Gabriel Weintraub *Stanford GSB*
Professor of Operations, Information, and Technology

gweintra@stanford.edu