

# Anushka Murthy

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## EDUCATION

### Stanford University

2022-present

*PhD in Mathematics (2022-2023), PhD in Management Science and Engineering (2023-present)*

Stanford, CA

- Awarded NSF Graduate Research Fellowship and EDGE Doctoral Fellowship
- Selected Coursework: Optimization, Bandit Learning, Simplicity and Complexity in Economic Theory, Topics in Market Design, Game Theory, Social Data Science

### Columbia University School of Engineering and Applied Science

2018 – 2022

*Bachelor of Science in Applied Math*

New York, NY

- Graduated *summa cum laude*, GPA: 4.07/4.33
- VP Internal of Columbia Society of Women Engineers, Applied Math Departmental Mentor, Violinist at Manhattan School of Music and in Columbia University Orchestra
- Selected Math Courses: Graduate Probability (MATH GR6151), Graduate Interacting Particle Systems and Markov Processes (MATH GR6153), Graduate Elliptic PDE (MATH GR6152), Statistics (STAT GU4001), Real Analysis (MATH GU4061), Numerical Methods (APMA E4300)
- Selected CS Courses: Graduate Topics in Matching Markets and Algorithms (IEOR E8100), Graduate Complexity Theory (COMS W4236), Data Structures and Algorithms (COMS W3134)

## PAPERS AND INTERESTS

Interests: Applied Probability, Contract Theory, Mechanism Design, with applications to data science and sustainability

1. Quantifying the Effect of Interference on Platform Decisions, H. Li, R. Johari, I. Liskovich, R. Lobel, A. Murthy, G. Weintraub. In Preparation.  
(a) Extended abstract accepted at *CODE 2023* at MIT.
2. Dynamic Contracting for Payment for Ecosystem Services, I. Lo and A. Murthy. In preparation.  
(a) Presented at EAAMO 2023 Doctoral Consortium
3. *One-point asymptotics for half-flat ASEP*, E. Dimitrov and A. Murthy. Accepted with minor revisions at **Annals of Applied Probability**.

## TEACHING EXPERIENCE

### Teaching Assistant

June 2023

*Simons Laufer Mathematical Sciences Institute (MSRI)*

- \* Teaching Assistant for MSRI graduate summer school on the "Mathematics and Computer Science of Market Design"

### Course Assistant

2022-

*Stanford University*

- \* Courses Taught:
  1. Math 18: Foundations for Calculus (Lernik Asserian)
  2. Math 113: Linear Algebra and Matrix Theory (Sourav Chatterjee)
  3. MS&E 232H: Accelerated Intro to Game Theory (Irene Lo)
  4. OIT 272: Online Marketplaces (Gabriel Weintraub) (MBA Core Course)

### Teaching Assistant

2020-2022

*Columbia University*

- \* Courses Taught:
  1. COMS W3261: Computer Science Theory (Tal Malkin, Mihalis Yannakakis)
  2. MATH GU4061: Modern Analysis I (Abhijit Champanerkar)
  3. MATH GU4032: Fourier Analysis (Yash Jhaveri)
  4. MATH UN3028: Partial Differential Equations (Florian Johnne)
  5. MATH UN2010: Linear Algebra (Dave Bayer)

## Tutor

2020-2022

*One-to-One Tutoring, Columbia University*

- \* Math tutor through Columbia's One-to-One Tutoring Community Impact Program.
- \* Met with elementary school students from Morningside Heights and Harlem every week to help improve math ability and develop effective study habits.

## Awards and Recognition

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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

## Skills

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

**Software Libraries/Technologies** : Numpy, matplotlib, scikit-learn, cvxpy, Pandas

## References

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**Ramesh Johari, Professor of Management Science and Engineering**

*Stanford University*

- \* Email: [rjohari@stanford.edu](mailto:rjohari@stanford.edu)

**Irene Lo, Assistant Professor of Management Science and Engineering**

*Stanford University*

- \* Email: [ilo@stanford.edu](mailto:ilo@stanford.edu)