

Pranav Nuti

Stanford University – Department of Mathematics

☎ +1 650 283 9394 • ✉ pranavn@stanford.edu

🌐 <https://pranavnuti.su.domains>

Education

Stanford University <i>PhD in Mathematics</i> Advised by Jan Vondrák	2018–
Indian Institute of Science (IISc), Bangalore <i>Bachelor of Science (Research), Gold Medalist in Mathematics</i>	2014–2018

Research

Working Papers

Static Pricing for Single Sample Multi-unit Prophet Inequalities (in preparation)
with Peter Westbrook

Conference Publications

Online Matching and Contention Resolution for Edge Arrivals with Vanishing Probabilities EC 2024
with Will Ma, Calum MacRury

Prophet Inequalities with Cancellation Costs STOC 2024
with Farbod Ekbatani, Rad Niazadeh, and Jan Vondrák

Secretary Problems: The Power of a Single Sample SODA 2023
with Jan Vondrák

A Tight Competitive Ratio for Online Submodular Welfare Maximization ESA 2023
with Amit Ganz and Roy Schwartz

Toward an Optimal Contention Resolution Scheme for Matchings IPCO 2023
with Jan Vondrák

The Secretary Problem with Distributions IPCO 2022

Selected Talks

What is a Good Model for Online Decision Making? 2023
SURIM Talk, Stanford University

The Prophet Inequality with Buyback 2023
Theory Lunch, Stanford University

Online Selection Problems and how Ramsey's Theorem Solves a Card Game 2023
DACO Seminar, ETH Zürich

Between the Secretary Problem and the Prophet Inequality 2022
Data-Driven Decision Processes Talk, Simons Institute, UC Berkeley

Maximum Matchings in Sparse Random Graphs 2022
Department of Mathematics, Stanford University

Mixing Time of Glauber Dynamics for the Hard-core Model 2021
Student Probability Seminar, Stanford University

Teaching

Papers.....

Engaging Activities for Teaching Linear Algebra PRIMUS 2024
with Shintaro Fushida-Hardy, Megan Selbach-Allen

Awards.....

Robert Osserman Teaching Award 2022
Awarded for outstanding contributions as a teaching assistant at Stanford University

Hoefer Mentoring Award 2022
Awarded for supporting undergraduate writing at Stanford University

Courses Taught as Instructor.....

Linear Algebra, Stanford Summer Engineering Academy 2021, 2022
Equity and Inclusion Initiative, Stanford Engineering

This is a summer program that seeks to illuminate the brilliance of students who have been systemically marginalized in engineering. Along with teaching the course, in collaboration with my co-instructors, I also designed the curriculum. 38 classroom hours. Syllabus, lesson plans, handouts and descriptions of all activities are available.

Teaching Outside the University.....

Stanford Jail and Prison Education Project 2023
San Francisco County Jail # 5

The project provides education services to people who are incarcerated in Bay Area jails. I helped design the curriculum, and taught two seminars.

International Math Olympiad Training Camp 2015, 2017
Homi Bhabha Center for Science Education, Mumbai

I taught problem solving, the probabilistic method, elementary number theory, and basic analytic methods in number theory. I also graded exams.

Undergraduate Student Mentorship.....

Stanford Undergraduate Research in Mathematics 2023
Department of Mathematics, Stanford University

The program is aimed at introducing Stanford undergraduate students to research in mathematics. I mentored Ethan Zhang, Ezra Steinberg, Peter Westbrook, and Quinn McIntyre. We proved several new results related to prophet inequalities. A report is available.

Directed Reading Program 2020–2022, 2024
Department of Mathematics, Stanford University

The program is aimed at helping undergraduates, especially members of historically underrepresented groups, participate in the larger mathematical community. I mentored several students: Alessandra Maranca, Sophia Sanchez, Ellen Xu, Donald Poindexter, Logan Bhamidipaty, and Sohan Vichare.

Graduate Student Mentorship.....

Stanford Summer Engineering Academy 2023
Equity and Inclusion Initiative, Stanford Engineering

I interviewed instructors to hire for the program, helped design a new curriculum, and provided feedback to instructors.

TA Mentoring Program 2022–2023
Department of Mathematics, Stanford University

The program is aimed at providing first-time TAs advice and feedback about leading section. I mentored Yosheb Getachew, Joao Campos Vargas, Zhenyuan Zhang, and Hongjian Yang.

Assisting

ACE Teaching Assistant 2020

For Math 21 on infinite series at the Department of Mathematics, Stanford University

ACE sections are two hour sections which provide students from under-resourced and/or minoritized backgrounds with the opportunities and support to succeed in their course and in their major. I led section (recitation), held office hours, and graded exams.

Teaching Assistant 2020–2024

For various classes at the Department of Mathematics, Stanford University

My teaching evaluations are available upon request.

Course Assistant 2018–2023

For various classes at the Department of Mathematics, Stanford University

My teaching evaluations are available upon request.

Other Contributions

Peer Reviewer 2021–2023

For various conferences in theoretical computer science

I reviewed papers for the conferences ITCS 2021, ESA 2023, IPCO 2023, SOSA 2024, SODA 2024, STOC 2024, and ICALP 2024.

Organizer of the Student Probability Seminar 2021

Department of Mathematics, Stanford University

WINGS Representative 2019–2020

Department of Mathematics, Stanford University

The WINGS program aims to promote wellness amongst graduate students.

Other Awards

Bronze Medal, 54th International Mathematical Olympiad 2013

KVPY Fellowship 2013–2018

Awarded by the Govt. of India

A 100% scholarship for undergraduate education.

National Talent Search (NTS) Scholarship 2010–2011

Awarded by the Govt. of India to high school students