

# Shivam Nadimpalli

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CONTACT	CSB Room 521, Mudd Building, Columbia University, NY NY 10027.	Email: <a href="mailto:sn2855@columbia.edu">sn2855@columbia.edu</a> Website: <a href="http://www.cs.columbia.edu/~nadimpalli">www.cs.columbia.edu/~nadimpalli</a>
INTERESTS	Classical & quantum complexity theory, convex geometry, discrete Fourier analysis, property testing	
EDUCATION	<b>Columbia University in the City of New York</b> PhD in Computer Science Advisors: Rocco A. Servedio and Mihalis Yannakakis	2019–Present
	<b>Brown University</b> ScB in Mathematics–Computer Science with Honors Advisor: Sorin Istrail	2015–2019
POSITIONS	<b>Visiting Graduate Student</b> Visited the Simons Institute for the Theory of Computing for the following programs: <ul style="list-style-type: none"><li>– Analysis and TCS: New Frontiers</li><li>– Meta-Complexity</li></ul>	Summer 2023 Spring 2023
RESEARCH	Authorship is alphabetical by last name, unless specified otherwise.	

## Manuscripts & Preprints

1. **Testing Junta Truncation**,  
with William He.
2. **Testing Sumsets is Hard**,  
with Xi Chen, Timothy Randolph, Rocco A. Servedio, and Or Zamir.
3. **Gaussian Approximation of Convex Sets by Intersections of Halfsapces**,  
with Anindya De and Rocco A. Servedio.
4. **A Counterexample to a Directed KKL Inequality**,  
with Quentin Dubroff and Bhargav Narayanan.

## Conference Publications

5. **Detecting Low-Degree Truncation**,  
with Anindya De, Huan Li, and Rocco A. Servedio. STOC 2024
6. **Optimal Non-Adaptive Tolerant Junta Testing via Local Estimators**,  
with Shyamal Patel. STOC 2024
7. **On the Pauli Spectrum of  $QAC^0$** ,  
with Natalie Parham, Francisca Vasconcelos, and Henry Yuen. STOC 2024, QIP 2024
8. **Testing Intersecting and Union-Closed Families**,  
with Xi Chen, Anindya De, Yuhao Li, and Rocco A. Servedio. ITCS 2024
9. **Mildly Exponential Lower Bounds on Tolerant Testers for Monotonicity, Unateness, and Juntas**,  
with Xi Chen, Anindya De, Yuhao Li, and Rocco A. Servedio. SODA 2024
10. **Testing Convex Truncation**,  
with Anindya De and Rocco A. Servedio. SODA 2023

11. **Testing and Learning Quantum Juntas Nearly Optimally**, SODA 2023, QIP 2023  
with Thomas Chen and Henry Yuen.
12. **Convex Influences**, ITCS 2022  
with Anindya De and Rocco A. Servedio.
13. **Approximating Sunset Size**, SODA 2022  
with Anindya De and Rocco A. Servedio.
14. **Quantitative Correlation Inequalities via Semigroup Interpolation**, ITCS 2021  
with Anindya De and Rocco A. Servedio.

#### Journal Publications

1. Anindya De, Shivam Nadimpalli, and Rocco A. Servedio. “Quantitative correlation inequalities via extremal power series.” In: *Probab. Theory Relat. Fields* 183 (2022), pp. 649–675. DOI: [10.1007/s00440-022-01120-5](https://doi.org/10.1007/s00440-022-01120-5).

INVITED TALKS	University of Michigan CS Theory Seminar	December 2023
	Stanford University CS Theory Seminar	November 2023
	Northwestern University Theory Seminar	November 2023
	Probability and Analysis Online Webinar	October 2023
	University of Pennsylvania Theory Seminar	September 2023
	Rutgers Discrete Mathematics Seminar	April 2023
	UC Berkeley Theory Lunch	April 2023
	DIMACS Theory of Computing Seminar	February 2023
HONORS	New York Colloquium on Algorithms and Complexity	December 2022
	Stanford University CS Theory Seminar	March 2022
	Departmental Service Award, Columbia University	2022
	Sigma Xi, Brown University	2019
	Senior Prize, Department of Computer Science, Brown University	2019
	High Honors, Budapest Semesters in Mathematics	2018
TEACHING	Kishore Vigyan Protsahan Yojana Fellowship, Government of India	2014
	National Talent Search Scholar, Government of India	2011
	<u>Graduate Teaching Assistant</u>	
	COMS 4236 Introduction to Computational Complexity	Spring 2022
	COMS 4252 Introduction to Computational Learning Theory	Spring 2021
	<u>High-School Mathematics Outreach (Primary Instructor)</u>	
	Fun with Mathematical Inequalities (Columbia Science Honors Program)	Fall 2021
Introduction to the Theory of Computing (Alec Sun’s Mathcamp)	Summer 2020	
SERVICE	Co-Organizer for Stochastic Calculus Reading Group, Simons Institute	Summer 2023
	Co-Organizer for Columbia Theory Lunch	2021–2023
	Co-Organizer for Columbia Theory Student Seminar	2020–2022
	Mentor for Columbia Undergraduate Theory Seminar	2020–2022
	Webmaster for Columbia Theory Website	2019–Present
PC MEMBER	COLT (2024)	
REVIEWING	<b>Conferences:</b> FOCS (2021), STOC (2022, 2023), ITCS (2021–2024), COLT (2022), TQC (2023), RANDOM (2023), QIP (2024), STOC (2024)	
	<b>Journals:</b> Quantum (2023)	