

NARMADA VARADARAJAN

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EDUCATION

University of Toronto , PhD in Mathematics	2021– <i>current</i>
Advisors: Shubhangi Saraf and Spencer Unger	
Eötvös Loránd University , MSc in Mathematics	2018–20
Ashoka University , BSc in Mathematics, <i>Magna cum Laude</i>	2014–18

PAPERS AND PREPRINTS

Reconstruction of depth-3 arithmetic circuits with constant top fan-in, with Shubhangi Saraf and Devansh Shringi, *STOC 2026*, pp. 1704–1716

G_δ **circle squaring**, with Spencer Unger and Felix Weilacher, arXiv:2601.19039

Integer points in dilates of polytopes, with Shubhangi Saraf, *SoCG 2026*, LIPIcs 367, 88:1–88:9

Colouring bottomless rectangles and arborescences, with Jean Cardinal, Kolja Knauer, Piotr Micek, Dömötör Pálvölgyi, and Torsten Ueckerdt, *Computational Geometry*

Explicit bounds for the layer number of the grid, with Travis Dillon, arXiv:2302.04244

Pattern problems related to the Arithmetic Kakeya conjecture, with Charlie Cowen-Breen, Elene Karangozishvili, and Thomas Wang, arXiv:2011.07056

TALKS AND WORKSHOPS

Continuous combinatorics and local algorithms (invited), Mid-Atlantic Mathematical Logic Seminar	Nov 2026
Integer points in dilates of polytopes , International Symposium on Computational Geometry (SoCG)	2026
Circle squaring (invited), Fields Institute Set Theory Seminar	2026
Circle squaring (invited), Canadian Mathematical Society Winter Meeting	2025
Circle-squaring with network flows (invited), Canadian Discrete and Algorithmic Mathematics Conference (CanaDAM), Ottawa	2025
Selected participant, <i>Women in Theory</i> workshop, Simons Institute, Berkeley	2025
Orthogonal projections for quantum channels and operator systems , Developments in Computer Science, Budapest	2021
Colouring bottomless rectangles and arborescences , 36th European Workshop on Computational Geometry (EuroCG)	2020

ACADEMIC AWARDS AND GRANTS

<i>Blyth Fellowship</i> , University of Toronto	2021–25
<i>Daisy S and John Joseph Legacy Fund</i> , University of Toronto	2025
<i>International Graduate Student Scholarship</i> , University of Toronto	2023
<i>Margaret Isobel Elliott Graduate Scholarship</i> , University of Toronto	2022
<i>Excellent Student of the Faculty</i> , Eötvös Loránd University	2020
Research supported by the European Social Fund	2018–20

TEACHING AND MENTORING

Course instructor , Linear Algebra for Engineers, University of Toronto	Falls 2025 & 2026
Academic Coordinator , Canada/USA Mathcamp	Summer 2026
Senior Counselor and Instructor , Canada/USA Mathcamp	Summers 2022–25
Teaching assistant , University of Toronto, for courses in graduate real analysis, combinatorics, linear algebra, and calculus, and for the department’s drop-in math learning centre	2021–26
Lead Writing TA , University of Toronto: led TA training sessions and helped instructors design and assess writing assignments	2022–23
TA mentor , University of Toronto: observed other TAs’ tutorials and gave feedback	Fall 2024, Spring 2026
Mentor , Directed Reading Program, University of Toronto, leading undergraduate reading groups	Springs 2025 & 2026
Research mentor for a high-school student in symbolic dynamics, University of Toronto	2022

SERVICE

President , Mathematics Graduate Students’ Association, University of Toronto	2023–25
Referee for <i>Discrete Mathematics</i> , multiple papers	2020–21