

Anakin Dey

Curriculum Vitæ

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Research Interests

Algebraic Combinatorics, Algebraic and Geometric Complexity Theory, Computational Algebra

Education

Fall 2024 — PhD Mathematics, The Ohio State University

Spring 2030 Advised by Dave Anderson and Zeyu Guo

Fall 2020 — BSLAS Mathematics, University of Illinois Urbana-Champaign

Spring 2024 Minor in Computer Science
Graduation with Highest Distinction

Publications

2025 **Debordering Closure Results in Determinantal and Pfaffian Ideals**

Anakin Dey and Zeyu Guo
Innovations in Theoretical Computer Science 2026, [ECCC](#)

2025 **Optimizing a Model-Agnostic Measure of Graph Counterdeceptiveness via Reattachment**

Anakin Dey, Sam Ruggerio, Manav Vora, and Melkior Ornik
IEEE Cyber Awareness and Research Symposium 2025, [IEEE](#)

2024 **Classifying Primitive Solvable Permutation Groups of Rank 5 and 6**

Anakin Dey, Kolton O'Neal, Duc Van Khanh Tran, Camron Upshur, and Yong Yang
Journal of Group Theory, [DeGruyter](#)

2022 **Post-Disaster Repair Crew Assignment Optimization Using Minimum Latency**

Anakin Dey and Melkior Ornik
IEEE International Smart Cities Conference 2022, [IEEE](#)

Talks

2026 **Debordering Closure Results in Determinantal and Pfaffian Ideals**

Innovations in Theoretical Computer Science 2026

2025 **The Affine Symmetric Group**

OSU Affine Grassmannian Seminar

2025 **What Is Algebraic Complexity Theory?**

OSU What Is...? Seminar

2024 **Classifying Primitive Groups using Computer Algebra and Change Making**

China-US Group Theory Summit 2024

2023 **Classifying Primitive Groups using Computer Algebra and Change Making**

UIUC Department of Mathematics Undergraduate Friday Seminars

- 2023 **Classifying Primitive Solvable Permutation Groups of Rank 5 and 6**
China Three Gorges University Algebra and Combinatorics Seminar
- 2022 **Post-Disaster Repair Crew Assignment Optimization Using Minimum Latency**
IEEE International Smart Cities Conference 2022

Research Experience

- Spring 2024* **Undergraduate Research Assistant**, [*ICLUE*](#)
Under Prof. Alexander Yong, University of Illinois Urbana-Champaign
- Summer 2023* **Undergraduate Research Assistant**, [*REU in Algebra, Combinatorics, and Statistics*](#)
Under Prof. Yong Yang, Texas State University
- Fall 2021 —* **Undergraduate Research Assistant**, [*LEADCAT Lab*](#)
- Fall 2023* Under Prof. Melkior Ornik, University of Illinois Urbana-Champaign

Student Organizations

- Spring 2025 —* **Vice President**, [*OSU MGSA*](#)
Current Ohio State University Math Graduate Student Association
- Fall 2022 —* **Founder and President**, ACM [*SIGma*](#)
- Spring 2024* Special Interest Group in Math and Algorithms
- Fall 2021 —* **Admin**, ACM [*SIGPwny*](#)
- Spring 2024* Special Interest Group in Cybersecurity

Teaching Experience

- Fall 2025 —* **Graduate Teaching Associate**, The Ohio State University
- Current*
 - Math 3345 — Foundations of Higher Mathematics
(*Spring 2026, Grader*)
 - Math 1151 — Calculus I
(*Fall 2025, TA*)
- Spring 2021 —* **Undergraduate Course Assistant**, University of Illinois Urbana-Champaign
- Spring 2024*
 - CS 225H — Honors Data Structures
(*Spring 2024*)
 - CS 374 — Introduction to Algorithms and Models of Computation
(*Spring 2022 — Fall 2022, Fall 2023*)
 - CS 173 — Discrete Structures
(*Spring 2021 — Spring 2024*)
 - CS 475 — Models of Computation
(*Spring 2023*)
 - CS 125 — Introduction to Computer Science
(*Spring 2021*)

Seminar Organization

- Spring 2025* **Commutative Algebra Reading Group**
- Spring 2025 —* **MGSA Seminar**
Current

Professional Experience

- Summer 2022* **Software Engineering Intern**, *CME Group*
- Summer 2021* **Software Engineering Intern**, *SitelQ*