Aryaman Maithani | Curriculum Vitae

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Education

University of Utah — **Salt Lake City, UT**
Ph.D. student in Mathematics — *2022–present*
Advisor: Anurag K. Singh

Indian Institute of Technology Bombay — **Mumbai, India**
B.S. in Mathematics with Honors — *2018–2022*

Awards/Fellowships

Pure Mathematics Fellowship — **University of Utah**, *2024*

Early Career Professional Development Program Award — **University of Utah**, *2023*

Institute Gold Medal — **IIT Bombay**, *2022*

Institute Academic Prize — **IIT Bombay**, *2020, 2021*

Research Interests

Commutative Algebra.

Papers

6. *Edge ideals with linear quotients and without homological linear quotients*, with Trung Chau and Kanoy Kumar Das — arXiv:2503.11424 (2025)
5. *Polynomial invariants of* GL_2*: Conjugation over finite fields* — arXiv:2501.15080 (2025)
4. *Splitting the difference: Computations of the Reynolds operator in classical invariant theory* — arXiv:2412.18841 (2024)
3. *Monomial ideals with minimal generalized Barile-Macchia resolutions*, with Trung Chau and Tài Huy Hà — arXiv:2412.11843 (2024)
2. *Minimal cellular resolutions of powers of graphs*, with Trung Chau and Tài Huy Hà — arXiv:2404.04380 (2024)
1. *Linear quotients of connected ideals of graphs*, with H. Ananthnarayan and Omkar Javadekar — arXiv:2401.01046 (2024)
   To appear in the Journal of Algebraic Combinatorics

Talks

Seminars

Commutative Algebra Seminar — **UC San Diego**
Polynomial invariants of GL_2: Conjugation over finite fields — *February 2025*

Commutative Algebra Seminar — **University of Utah**
Polynomial invariants of GL_2: Conjugation over finite fields — *February 2025*

Commutative Algebra Seminar — **IIT Bombay**
Invariant theory of commutative rings — *August 2024*

Commutative Algebra Seminar — **University of Utah**
Linear quotients of connected ideals of graphs — *March 2024*

Dualities in Topology and Algebra — **ICTS, India**
Gorenstein rings — *May 2023*

Graduate Student Seminars

BIKES, Commutative Algebra Graduate Student Seminar — **University of Utah**
Examples of badly-behaved rings — *August 2024*

BIKES, Commutative Algebra Graduate Student Seminar — **University of Utah**
Linear quotients of connected ideals of graphs — *February 2024*

Commutative Algebra Graduate Student Seminar — **University of Michigan**
Invariant theory of commutative rings — *October 2023*

BIKES, Commutative Algebra Graduate Student Seminar — **University of Utah**
Invariant theory of commutative rings — *September 2023*

General Math Talks

Graduate Student Colloquium — **University of Utah**
Shut your π hole! — *March 2024*

Math Circle — **University of Utah**
Fun with graphs — *March 2023*

Graduate Student Colloquium — **University of Utah**
Chaos theory — *February 2023*

Teaching Experience

Instructor of Record

MATH 1220: Calculus II
University of Utah — *Spring 2025, Summer 2024*

MATH 1090: Business Algebra
University of Utah — *Spring 2024*

MATH 1060: Trigonometry
University of Utah — *Fall 2023*

MATH 1010: Intermediate Algebra
University of Utah — *Summer 2023*

Graduate Teaching Assistant

MATH 2250: Differential Equations and Linear Algebra
University of Utah — *Spring 2023, Fall 2022*

Grader for Graduate Courses

MATH 6520: Algebraic Topology
University of Utah — *Spring 2024*

MATH 6310: Modern Algebra 1
University of Utah — *Fall 2023*

MATH 6320: Modern Algebra 2
University of Utah — *Spring 2023*

Service/Outreach

- **University of Utah** — **Salt Lake City, Utah, USA**
  Graduate Student Advisory Committee

- 2024–2025: **GSAC Co-chair.**
  Liaison between graduate students and department.
- 2023–2025: **Recruitment committee.**
  Welcome prospective graduate students and organize meetings with faculty for them.

Professional Memberships

- American Mathematical Society

Technical skills

Python, SageMath, Macaulay2, Magma, LaTeX