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

- *Polynomial invariants of GL_2: Conjugation over finite fields*   arXiv:2501.15080 (2025)

- *Splitting the difference: Computations of the Reynolds operator in classical invariant theory*
                                                                          arXiv:2412.18841 (2024)

- *Monomial ideals with minimal generalized Barile-Macchia resolutions*, with Trung Chau and Tài Huy Hà
                                                                          arXiv:2412.11843 (2024)

- *Minimal cellular resolutions of powers of graphs*, with Trung Chau and Tài Huy Hà
                                                                          arXiv:2404.04380 (2024)

- *Linear quotients of connected ideals of graphs*, with H. Ananthnarayan and Omkar Javadekar
                                                                          arXiv:2401.01046 (2024)

Talks

Seminars

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.

Technical skills

Python, SageMath, Macaulay2, Magma, LaTeX