

Aryaman Maithani | Curriculum Vitae

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Education

University of Utah <i>Ph.D. student in Mathematics</i> Advisor: Anurag K. Singh	Salt Lake City, UT 2022–present
Indian Institute of Technology Bombay <i>B.S. in Mathematics with Honors</i>	Mumbai, India 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.....

7. *The Scarf complex of squarefree powers, symbolic powers of edge ideals, and cover ideals of graphs,*
with Trung Chau and Nursel Erey [arXiv:2503.13337](#) (2025)
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 Polynomial invariants of GL_2 : Conjugation over finite fields	UC San Diego February 2025
Commutative Algebra Seminar Polynomial invariants of GL_2 : Conjugation over finite fields	University of Utah February 2025

Commutative Algebra Seminar Invariant theory of commutative rings	IIT Bombay August 2024
Commutative Algebra Seminar Linear quotients of connected ideals of graphs	University of Utah March 2024
Dualities in Topology and Algebra Gorenstein rings	ICTS, India May 2023

Graduate Student Seminars.....

BIKES, Commutative Algebra Graduate Student Seminar Examples of badly-behaved rings	University of Utah August 2024
BIKES, Commutative Algebra Graduate Student Seminar Linear quotients of connected ideals of graphs	University of Utah February 2024
Commutative Algebra Graduate Student Seminar Invariant theory of commutative rings	University of Michigan October 2023
BIKES, Commutative Algebra Graduate Student Seminar Invariant theory of commutative rings	University of Utah September 2023

General Math Talks.....

Graduate Student Colloquium Shut your π hole!	University of Utah March 2024
Math Circle Fun with graphs	University of Utah March 2023
Graduate Student Colloquium Chaos theory	University of Utah 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
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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

<ul style="list-style-type: none"> University of Utah Graduate Student Advisory Committee 	Salt Lake City, Utah, USA
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- 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