

# Aryaman Maithani | Curriculum Vitae

✉ [maithani@math.utah.edu](mailto:maithani@math.utah.edu) • [arXiv](#) [Homepage](#)

## Education

<b>University of Utah</b> <i>Ph.D. student in Mathematics</i> Advisor: Anurag K. Singh	<b>Salt Lake City, UT</b> 2022–present
<b>Indian Institute of Technology Bombay</b> <i>B.S. in Mathematics with Honors</i>	<b>Mumbai, India</b> 2018–2022

## Awards/Fellowships

<b>Simons Dissertation Fellows in Mathematics</b>	<b>Simons Foundation</b> 2025–2027
<b>Pure Mathematics Fellowship</b>	<b>University of Utah</b> Fall 2024, Fall 2025
<b>Institute Gold Medal</b>	<b>IIT Bombay</b> 2022
<b>Institute Academic Prize</b>	<b>IIT Bombay</b> 2020, 2021

## Research Interests

Commutative Algebra.

### Publications

6. *Minimal cellular resolutions of powers of graphs*, [arXiv](#)  
with Trung Chau and Tài Huy Hà  
*Electronic Journal of Combinatorics* (To appear)
5. *Edge ideals with linear quotients and without homological linear quotients*, [arXiv](#)  
with Trung Chau and Kanoy Kumar Das  
*Mediterranean Journal of Mathematics*, Volume 23, Article 31 (2026)
4. *Monomial ideals with minimal generalized Barile–Macchia resolutions*, [arXiv](#)  
with Trung Chau and Tài Huy Hà  
*Vietnam Journal of Mathematics*
3. *Splitting the difference: Computations of the Reynolds operator in classical invariant theory* [arXiv](#)  
*Bulletin of the London Mathematical Society*
2. *The Scarf complex of squarefree powers, symbolic powers of edge ideals, and cover ideals of graphs*, [arXiv](#)  
with Trung Chau and Nursel Erey  
*Communications in Algebra*
1. *Linear quotients of connected ideals of graphs*, with H. Ananthnarayan and Omkar Javadekar [arXiv](#)  
*Journal of Algebraic Combinatorics*, Volume 61, Article 34 (2025)

### Preprints

3. *Abelian extensions of equicharacteristic regular rings need not be Cohen-Macaulay*,  
with Anurag K. Singh and Prashanth Sridhar [arXiv:2511.19800](#) (2025)
2. *Homological properties of invariant rings of permutation groups* [arXiv:2511.07718](#) (2025)
1. *Polynomial invariants of classical subgroups of  $GL_2$ : Conjugation over finite fields* [arXiv:2501.15080](#) (2025)

## Talks

---

### Seminars.....

<b>Commutative Algebra Seminar</b> Polynomial invariants of $GL_2$ : Conjugation over finite fields	<b>Purdue University</b> <i>September 2025</i>
<b>Commutative Algebra Seminar</b> Polynomial invariants of $GL_2$ : Conjugation over finite fields	<b>UC San Diego</b> <i>February 2025</i>
<b>Commutative Algebra Seminar</b> Polynomial invariants of $GL_2$ : Conjugation over finite fields	<b>University of Utah</b> <i>February 2025</i>
<b>Commutative Algebra Seminar</b> Invariant theory of commutative rings	<b>IIT Bombay</b> <i>August 2024</i>
<b>Commutative Algebra Seminar</b> Linear quotients of connected ideals of graphs	<b>University of Utah</b> <i>March 2024</i>
<b>Dualities in Topology and Algebra</b> Gorenstein rings	<b>ICTS, India</b> <i>May 2023</i>

### Graduate Student Seminars.....

<b>Ideal Conversations, Commutative Algebra Graduate Student Seminar</b> Invariant theory of commutative rings	<b>Purdue University</b> <i>September 2025</i>
<b>BIKES, Commutative Algebra Graduate Student Seminar</b> Splittings in Classical Invariant Theory	<b>University of Utah</b> <i>August 2025</i>
<b>BIKES, Commutative Algebra Graduate Student Seminar</b> Examples of badly-behaved rings	<b>University of Utah</b> <i>August 2024</i>
<b>BIKES, Commutative Algebra Graduate Student Seminar</b> Linear quotients of connected ideals of graphs	<b>University of Utah</b> <i>February 2024</i>
<b>Commutative Algebra Graduate Student Seminar</b> Invariant theory of commutative rings	<b>University of Michigan</b> <i>October 2023</i>
<b>BIKES, Commutative Algebra Graduate Student Seminar</b> Invariant theory of commutative rings	<b>University of Utah</b> <i>September 2023</i>

### General Math Talks.....

<b>Graduate Student Colloquium</b> Shut your $\pi$ hole!	<b>University of Utah</b> <i>March 2024</i>
<b>Math Circle</b> Fun with graphs	<b>University of Utah</b> <i>March 2023</i>
<b>Graduate Student Colloquium</b> Chaos theory	<b>University of Utah</b> <i>February 2023</i>

## Teaching Experience

---

### Instructor of Record.....

<b>MATH 1220: Calculus II</b> <i>University of Utah</i>	<i>Spring 2025, Summer 2024</i>
<b>MATH 1090: Business Algebra</b> <i>University of Utah</i>	<i>Spring 2024</i>
<b>MATH 1060: Trigonometry</b> <i>University of Utah</i>	<i>Fall 2023</i>
<b>MATH 1010: Intermediate Algebra</b> <i>University of Utah</i>	<i>Summer 2023</i>

## Graduate Teaching Assistant.....

### MATH 2250: Differential Equations and Linear Algebra

University of Utah

Spring 2023, Fall 2022

## Teaching Assistant for Workshops.....

### Recent Developments in Commutative Algebra

IIT Dharwad

24–29 June 2025

### Pre-REU 2025: Introducing undergraduates to research

University of Utah

6–30 May 2025

## 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,  $\text{\LaTeX}$