Nilay Tripathi

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https://nilayt321.github.io/personal-site/

Education:

Michigan State University East Lansing, MI 09/25–Present
Doctor of Philosophy
- Incoming mathematics doctoral student
- Intended area of study: low dimensional topology, algebraic topology

Rutgers University–New Brunswick New Brunswick, NJ 09/21–05/25
Undergraduate Degree
- Summa Cum Laude, CGPA: 3.907
- B.S. in Mathematics, High Honors
- B.A. in Statistics, Highest Honors
- B.A. in Computer Science

Areas of Interest:

Low dimensional topology, knot theory, and algebraic topology.

Talks & Presentations:

At Rutgers (Undergraduate):
- "Integrable Systems in Hamiltonian Dynamics" 05/25
  Independent Study Talk
- "Homology & Its Applications" 11/24
  Undergraduate Seminar Talks by RUMA
- "Smooth Manifolds & Symplectic Geometry" 09/24
  Directed Reading Program
- "de Rham Cohomology" 05/24
  Part of Math 412 at Rutgers
- "Banach & Hilbert Spaces: An Introduction to Functional Analysis" 12/23
  Part of Math 441 at Rutgers
- "An Overview of Hermite Polynomials" 12/23
  Directed Reading Program

Teaching Experience:

At Rutgers (Undergraduate):
Math Department Homework Grader
- Math 350 (Linear Algebra), Math 412 (Mathematical Analysis II) 01/25–05/25
- Math 311 (Introductory Real Analysis I), Math 441 (Introductory Topology I) 09/24–12/24

Learning Assistant
- CS 112: Data Structures (recitations) 01/25–05/25
- CS 111: Introductory Computer Science (recitations) 09/24–12/24
- Math 300: Introduction to Math Reasoning (in-class workshop) 09/23–05/24
- Stat 212: Statistics II (external study groups) 09/22–05/23

Relevant Coursework:

At Rutgers (Undergraduate):

- Math 541, Algebraic Topology II — Spring 2025
- Math 452, Abstract Algebra II (Honors) — Spring 2025
- Math 492, Honors Junior-Senior Seminar — Spring 2025
- Math 540, Algebraic Topology I — Fall 2024
- Math 503, Complex Analysis I — Fall 2024
- Math 451, Abstract Algebra I (Honors) — Fall 2024
- Math 442, Introductory Topology II — Spring 2024
- Math 412, Mathematical Analysis II (Honors) — Spring 2024
- Math 441, Introductory Topology I — Fall 2023
- Math 411, Mathematical Analysis I (Honors) — Fall 2023
- Math 491, Problem-Solving Math Seminar — Fall 2023
- Math 350, Linear Algebra (Honors) — Spring 2023

Honors & Awards:

At Rutgers (Undergraduate):

- Summa Cum Laude
- Dean's List
- Student presentation award for my DRP presentation on Hermite polynomials, given in Fall 2023

Skills:

- Languages: English (native), Hindi (native), French (beginner)
- Programming Languages: Python, C/C++, Java, R, Matlab, LaTeX
- Software Skills: Git/GitHub, MS Office, Linux (Ubuntu, Fedora/RHEL), Jupyter Notebook/JupyterLab