

Nilay Tripathi

☎ (732) 910-4157

✉ ntripathi2003@gmail.com

AREAS OF INTEREST:

Algebraic topology, low-dimensional topology (including knot theory), differential geometry.

EDUCATION:

Rutgers University–New Brunswick
New Brunswick, NJ

09/2021 – Present

- B.S. in Mathematics (GPA: 4.000)
- B.A. in Statistics (GPA: 3.961)
- Minor in Computer Science
- CGPA: 3.956

TALKS & PRESENTATIONS:

- November 2024: “Homology & Its Applications”; Rutgers Undergraduate Mathematics Association (RUMA) Seminars
- September 2024: “Smooth Manifolds & Symplectic Geometry”; Rutgers Directed Reading Program
- May 2024: “de Rham Cohomology”; given as a part of Rutgers course Math 412
- December 2023: “Banach & Hilbert Spaces: An Introduction to Functional Analysis”; given as a part of Rutgers course Math 441
- Fall 2023: “An Overview of Hermite Polynomials”; Rutgers Directed Reading Program

EXPERIENCE:

Learning Assistant, Rutgers University–New Brunswick
New Brunswick, NJ

09/2022 – Present

- Implement best pedagogical practices, as supported by scientific literature for various classes.
- 2024-2025 Academic Year: CS 111 (Introduction to Computer Science); independently-led recitation sections
- 2023-2024 Academic Year: Math 300 (Introduction to Mathematical Reasoning); problem-solving workshops during lecture.
- 2022-2023 Academic Year: Stat 212 (Statistics II); independently led study groups.

RELEVANT COURSEWORK:

At Rutgers University:

- Math 540, Algebraic Topology I (Fall 2024)
- Math 503, Complex Variables I (Fall 2024)
- Math 451, Abstract Algebra I (Fall 2024)
- Math 442, Introductory Topology II (Spring 2024)
- Math 412, Mathematical Analysis II (Spring 2024)
- Math 441, Introductory Topology I (Fall 2023)
- Math 411, Mathematical Analysis I (Fall 2023)
- Math 350, Linear Algebra, Honors (Spring 2023)
- Math 300, Introduction to Mathematical Reasoning (Fall 2022)

HONORS & AWARDS:

- Dean's List 2021-2022 academic year
- Dean's List 2022-2023 academic year
- Dean's List 2023-2024 academic year

SKILLS:

Programming Languages:

- | | |
|----------|-----------------------------------|
| • Python | • R |
| • Java | • Matlab |
| • C/C++ | • L ^A T _E X |

Software Expertise:

- | | |
|---|-----------------------------------|
| • Python modules & frameworks: NumPy, pandas, scikit-learn, matplotlib, PyTorch | |
| • Git/GitHub | • MS Office |
| • Linux (Ubuntu, Fedora/RHEL) | • Statistical Software (SAS, JMP) |
| • Jupyter Notebook/Jupyter Lab | |

Languages:

- English (native)
- Hindi (native)