

# Ish Shah

✉ [irs51@scarletmail.rutgers.edu](mailto:irs51@scarletmail.rutgers.edu)

🌐 [ish-shah.github.io/](https://ish-shah.github.io/)

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## Education

2022–2026 **Bachelor of Science**, *Rutgers University*, New Jersey, US, GPA: 4.0.  
(expected) Majors: Mathematics, Computer Science

## Interests

Harmonic analysis and analytic number theory.

## Research Experience

2024 **DIMACS REU**, *When Fourier analysis meets ergodic theory and number theory*,  
Mentors: Mariusz Mirek and Leonidas Daskalakis.

2023–2024 **Aresty Research Assistant Program**, *Mathematical Adventures in One-Dimensional Physics*,  
Mentor: Shadi Tahvildar-Zadeh.

## Publications

1. *Pointwise ergodic theorems along fractional powers of primes* (with Erik Bahnsen, Leonidas Daskalakis, and Abbas Dohadwala), preprint (submitted), arXiv:2412.07055.

## Teaching Experience

### At Rutgers University

Fall 2024 **Grader, Part-Time Lecturer/Teaching Assistant**, *CS 344 (Design and Analysis of Algorithms)*, Professor: Mario Szegedy.

**Learning Assistant**, *Math 152 (Calculus II)*.

Spring 2024 **Grader, Part-Time Lecturer/Teaching Assistant**, *CS 344 (Design and Analysis of Algorithms)*, Professor: Mario Szegedy.

**Learning Assistant**, *CS 112 (Data Structures)*.

Fall 2023 **Learning Assistant**, *BAIT 370 (Management Information Systems)*.

## Awards

Sep. 2024 **Excellent TA/PTL/Grader Award**, *Department of Computer Science, Rutgers*.

Aug. 2024 **Maurice M. and Adrienne R. Weill Scholarship**, *Department of Mathematics, Rutgers*.

Feb. 2024 **Alan Marc Schreiber Memorial Scholarship**, *School of Arts and Sciences, Rutgers*.

## Relevant Coursework

### At Rutgers University

- Graduate level real analysis/measure theory, complex analysis, topics course on automorphic forms and  $L$ -functions, functional analysis.
- Undergraduate level honors calculus, probability theory, combinatorics, honors linear algebra, formal languages and automata/theory of computation, honors real analysis (Rudin), honors abstract algebra (Artin).
- Directed reading analytic number theory (Stein and Shakarchi, *Complex Analysis*, ch. 6-7), partial differential equations (Evans, *Partial Differential Equations*, ch. 2-4).

## Talks

1. Rutgers Undergraduate Math Association Seminar (Rutgers University, New Jersey, US), November 2024.

## Service

2024–2025 **Board Member (2024–2025)**, *Rutgers Undergraduate Math Association (RUMA)*.

## Computer Skills

- Proficient in  $\LaTeX$ .
- Proficient in Python (including NumPy, SciPy, and Matplotlib).
- Familiar with Java, C/C++, JavaScript.