

Atrajit Sarkar

PhD Aspirant in Mathematics

Kolkata, West Bengal
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Research Interests

Number Theory, Algebra, Real and Complex Analysis, Topology

Currently exploring Multiple Zeta Values and their analytical structure

Education

2022–2024 **MSc in Mathematics**, Indian Institute of Technology (IIT), Delhi

- Completed rigorous coursework in Algebraic Number Theory, Galois Theory, Commutative Algebra, Functional Analysis, Measure Theory, Algebraic Topology, Complex Analysis.
- **MSc Project:** Reading-based project on 3D manifolds and Morse Theory, under supervision of Dr. Biplab Basak.
- Independently explored introductory Knot Theory (via The Knot Book by Colin C. Adams and online lectures).

2019–2022 **BSc in Mathematics (Honours)**, Belur Ramkrishna Mission Vidyamandira

- Studied foundational topics in Number Theory (Burton), Complex Analysis, L^p Spaces, Group Theory, and Topology.
- **BSc Project:** Reading-based project on L^p Spaces under Dr. Arnab Jyoti Dasgupta.

2019 **Higher Secondary 12th standard**, Nabadwip Bakultala High School

- **Board:** West Bengal Council of Higher Secondary Education
- **Subjects:** Mathematics, Physics, Chemistry, Computer Application, English, Bengali.

2017 **Secondary 10th standard**, Nabadwip Bakultala High School

- **Board:** West Bengal Board of Secondary Education
- **Subjects:** General Science, History, Geography, English, Bengali, Computer Application.

Projects and Independent Study

Multiple Zeta Values Explored lecture notes and coursework by Prof. Henrik Bachmann. Deep interest in developing research in this area.

Knot Theory Self-studied from Colin Adams' The Knot Book, supplemented with YouTube lectures.

Morse Theory Engaged in a structured study of Morse functions and 3D manifolds through a semester-long guided reading project.

Programming & Technical Skills

Languages Python, C

Development Android App Development using Jetpack Compose

Projects Developed a WhatsApp-style messaging app myChattingApp as a personal project

Awards & Achievements

2024 **NET Rank 25 in LS**
Qualified with an All India Rank of 25 in LS category in National Eligibility Test (NET) in Mathematics.

2022 **IIT JAM Rank 81**
Qualified with an All India Rank of 81 in the Indian Institute of Technology Joint Admission Test for Masters (IIT JAM) in Mathematics.

2017–2019 **10th & 12th**, School Second Topper
Awarded for being the second highest scorer in both 10th (94%) and 12th (93.8%) board examinations at respective schools.

2015 **National Talent Search Examination**
Participated and received 1st place in the National Talent Search Examination during class 8.

Statement

I am deeply passionate about the beauty and depth of mathematics, particularly in number theory and analysis. I aim to pursue research that bridges classical problems with modern methods. With a solid foundation and a keen interest in independent exploration, I am looking forward to contributing to your group and the broader mathematical community.

Languages

English Fluent (Academic and Conversational)

Bengali Native

Hindi Proficient

Japanese (日本語) Learning Currently

Personal Information

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Current Location Kolkata, West Bengal, India

Available for PhD April 2026 Session