# SAYAN DAS

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## Education

**Jadavpur University** *Aug 2023 - July 2027 (expected)*
Bachelor of Science (Honours) in Mathematics with Research
Minors in Statistics and Computer Science
*Maths courses: Real Analysis, Linear Algebra, Abstract Algebra, Ring Theory, Numerical Analysis, Metric Space & Differential Geometry, Ordinary Differential Equations.*
*NPTEL courses: Algebraic Number Theory.*
*CS courses: Programming Languages, Database Management Systems, Data Structurs & Algorithms in Python.*
*Stats courses: Probability & Descriptive Statistics, Probability Distributions and $\chi^2$-test.*

## Research Interests

I am primarily interested in number theory and open to working with both algebraic and analytic tools. Applied and computational problems also interest me, not just in number theory but also statistics, numerical analysis and computer graphics.

## Research Experience

**Research Internship in Analytic Number Theory** Currently ongoing
*Supervisor: Prof. Dr. Satadal Ganguly* Indian Statistical Institute Kolkata

- Worked through Apostol's *Introduction to Analytic Number Theory.*
- Studied Selberg's proof of the Prime Number Theorem.

## Volunteering

**Content Team Assistant Convenor** Sep 2024 - Present
*Jadavpur Math Society*

- Contributed to the Jadavpur Math Society magazine [1] and daily problems list.
- Set the question paper for and helped organise Mathemagician at JU's annual tech-fest Srijan 2025, which included checking and grading answer scripts.

## Articles

[1] S. Das, *Fermat's last theorem for regular primes, A foray into algebraic number theory*, Link to draft, 2025.

## Projects

**Numerical Analysis** Mar 2025 - May 2025

- Implementations of some common numerical algorithms in MATLAB.
- Contains algorithms for linear systems, nonlinear systems, eigenvalues and eigenvectors of a matrix, differential and integral equations.

## Achievements

Algebraic Number Theory, NPTEL IISc course topper, achieved the highest score: 71%. *May 2025*
Jadavpur BSc Math Entrance Exam, ranked 49 out of 2600 candidates. *June 2023*

## Workshops

**Winter School on CS Theory** Dec 2024
*Indian Institute of Science Bangalore*

- One of only 3 students selected to attend the winter school from Jadavpur.
- Attended lectures on matching theory and differential privacy.

## Skills

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| **Programming Languages** | C, C++, Python, SQL, MATLAB, C#, Java, JavaScript, HTML/CSS |
| **Developer Tools** | Make, CMake, Vim, Neovim, Git, PowerBI, VS Code, Visual Studio, IntelliJ, Eclipse, Unity, Unreal |
| **APIs, Frameworks, & Libraries:** | Pandas, NumPy, Matplotlib, PyTorch, Tensorflow, Scikit, Boost, SFML, Vulkan |

## References


1. Prof. Dr. Shamik Ghosh,
   Professor, Department of Mathematics, Jadavpur University
   Address: Department of Mathematics, Jadavpur University, Kolkata - 700032, India.
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2. Prof. Dr. Subhas Chandra Mandal,
   Professor (Head of Department), Department of Mathematics, Jadavpur University
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