Sandeep Kumar
UG (V Year II Semester)
IMSc Applied Mathematics
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Registration No: 20312032/2025

Indian Institute of
Technology
Roorkee

Area of Interest

Data structure & Algorithm, Full Stack Developer, Problem Solving

Education

Year	Degree/Examination	Institution/Board	CGPA/Percentage
2024	Int. M.Sc. 5th Year	Indian Institute of Technology, Roorkee	7.395
2020	Intermediate (Class XII)	Subhash international school , Gaya Bihar (CBSE Board)	88.00 %
2018	Matriculate (Class X)	Subhash international school , Gaya Bihar (CBSE Board)	86.40 %

Internships

Research Consultant | WorldQuant Brain   June 2023 - Present
- Developed equity long-short market neutral trading algorithms **(Alpha)** using build reversion, fundamental data, price-volume and sentiment data strategies along with various data-fields and operators Backtested and simulated the strategies over the last 6 years of data on WorldQuant's Proprietary software to ensure the strategies' profitability and performance.

Software Development Intern | Standard Chartered GBS   May 2024 - July 2024
- Developed a real-time dashboard for the ICDMS and CRC teams to track pending, completed, and overdue cases, and visualize data through interactive charts and graphs.
- Created a query builder with a user-friendly GUI for executing SQL operations like joins, group by, and aggregations (sum, count, min, max, average), and saving results for dashboard visualization.
- Utilized a tech stack including React, Java Spring Boot, PostgreSQL, Maven, and VS Code.

Crypto Quant Analyst | Acube   February 2024 - April 2024
- Interned as a Quantitative Analyst at Binance, proficient in API data retrieval and analysis. Developed successful trading strategies leveraging data from Binance API. Applied quantitative methods to optimize trading performance. Contributed to the creation and implementation of effective algorithms.

Projects

Analysis of Advection Diffusion Reaction using PINN | IIT Roorkee   January 2023 - May 2023
- Experienced project lead utilizing Physics-Informed Neural Networks (PINNs) to estimate Advection Diffusion Reaction equation solutions.
- Conducted comprehensive analysis of error metrics for point selection, leveraging First Derivative Constraint (FDC), orthogonal grids, and uniform selection methods to optimize training accuracy.

Training Neural Networks to play Connect-4 game | IIT Roorkee   August 2022 - November 2022
- Transformed gaming with advanced machine learning, crafting a brilliant AI opponent that outshines with superior decision-making.
- Created the bot utilizing a cutting-edge hybrid approach, combining a mini-max algorithm with neural networks, resulting in a highly competitive and adaptable game-playing AI
- Demonstrated the potential of neural networks for gaming applications.

Awards / Scholarships / Academic Achievements

- Global rank 71 Starters 104 Division 1
- Meta Hackercup 2023 Round 2
- National finalist in International Quant Championship 2023
- Global Rank 8 Codechef Starters 72, 2023
- Global Rank 13 International Quant Championship (World Quant Round-1), 2023
- Global Rank 44 Codechef Starters 92, 2023
- Global Rank 64 Codeforces Round 867, 2023
- Global Rank 141 ICPC 2023 Online Spring Challenge powered by Huawei,2023
- Global Rank 180 Codechef Starters 95,2023
- Global Rank 249 Codeforces Round 888
- Global Rank 651 Codeforces Round 862, 2023
- Global Rank 659 Educational Codeforces Round 140,2022
- Global Rank 855 Codeforces Round 865,2023
- Global Rank 896 Codeforces Round 858,2023
- Global Rank 990 ICPC Asia Amritapuri first round programming contest,2021
- Secured an AIR of 6476 in JEE Advance'20
- Scored 99.36 percentile in JEE Main'20

Skills

Computer languages	C++ | Java | Javascript | Python | SQL
Software Packages	React, Spring boot, Pandas, Numpy, Scikit-Learn, Excel, Latex, Git
Additional Courses	Data Structure , Design and Analysis of Algorithms, Data Mining, DBMS , Graph Theory, Number Theory, Google Advanced Data Analytics(Coursera)
Languages Known	English , Hindi

Positions of Responsibility & Extra Curriculars

Mentor | Student Mentorship Program, IIT Roorkee   September 2024 - Present
- Served as a mentor to 5 students to provide a broader perspective of the opportunities and challenges at IIT Roorkee. Mentored them for academic as well as overall development.

Participant | Meta   October 2023
- Meta Hackercup 2023 Round 2

Competitive Programmer | Online judges   September 2021 - Present
- Active member on various online judges including Codeforces, Codechef, Atcoder and Leetcode
- Codechef maximum rating : 2066 (Handle: bestbeingsande)
- Codeforces maximum rating : 1692- Expert (Handle: Sandeep5445)
- Atcoder maximum rating : 1031 (Handle: Sandeep1132)

Maintenance Council Member | Radhakrishnan Bhawan IIT Roorkee   October 2022 - Present
- Working as Maintenance Council Member in Radhakrishnan Bhawan.
- Collaborate with other council members and hostel management to develop a maintenance plan for the hostel.

Member | Hockey IIT Roorkee   January 2022 - August 2022
- Member of the institute's hockey team. Secured 2st position in Institute Colors Trophy 2022 (Silver)

Candet | NCC   November 2020 - Present
- Proficiency holder in NCC, and participated in various campus activities. The NCC aims at developing character, comradeship, discipline, a secular outlook, the spirit of adventure and ideals of selfless service amongst young citizens.

References

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Ram Krishna Pandey
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