

# Pranshu Mangal

3rd Year Undergraduate

Department of Mathematics and Scientific Computing

Email : pranshum21@iitk.ac.in

Phone : +91-8410311786

## Academic Qualifications

Year	Degree/Certificate	Institute	CPI/%
2021 - Present	B.S	Indian Institute of Technology, Kanpur	6.6/10
2020	CBSE(XII)	SS Public School, Agra	95.6%
2018	CBSE(X)	Tagore Public School, Agra	90.4%

## Scholastic Achievements

- Secured **All India Rank 2411** in **JEE Advanced 2021** among the 1.4 Lakh shortlisted candidates.
- Secured **All India Rank 2641** in **JEE Mains 2021** among the 10 Lakh candidates.

## Key Projects

- MathData: Empowering Data Science with Mathematical Tools**, Stamatics Society, IIT Kanpur (May'23- Jul'23)
  - Proficient in Probability, Statistics, diverse sampling techniques, and probabilistic methodologies.
  - Proficient in creating impactful data visualizations using **Matplotlib** and **Seaborn** to enhance dataset understanding.
  - Successfully implemented **Linear and Logistic regression** models on datasets of E-commerce and advertising-company.
  - Applied **Random forest and Decision tree algorithms** from **Scikit-learn** to effectively analyze the kyphosis dataset.
- Escaping The Caves**, Course Project CS641, Prof. Manindra Agarwal (Jan'23- Apr'23)
  - Conducted decryption of **substitution cipher** by employing frequency analysis and applying logical substitutions.
  - Cracked **Vigenere cipher** using frequency analysis, Index of Coincidence, and Kasiski Test to determine key length.
  - Decrypted **6-round DES** encryption through differential characteristics, input generation, and brute force techniques.
  - Analyzed modified **AES** cryptosystem, identified lower triangular key matrix, and decrypted plaintext by pattern observation.
- Portfolio Website with E-commerce Integration, Games, and Music App**, Self-Initiated Project
  - Created the whole website using **HTML, CSS and JavaScript**.
  - Created a basic **shopping website Frontend** using HTML and CSS.
  - Created a **To-do list** Website and **Music Website** with features like running a song on a loop and shuffling songs.
  - Created interactive games, including a **memory game** and a **rock-paper-scissors** game, utilizing HTML, CSS, and JavaScript.

## Technical Skills

- Programming Languages:** C, C++, HTML, CSS, Python, JavaScript
- Software and Libraries:** Git, AutoCAD, Pandas, Numpy, Beautifulsoup, Reactjs

## Positions of Responsibility

- Student Guide, Counselling Service Team** (Oct'22-Jul'23)
  - Guided and mentored **6 freshmen** students in acclimatizing to the Environment of the Institute.
  - Helped them with their academics by arranging meetings with their mentors and maintaining a good rapport with them.
  - Coordinated with the Counselling Service and helped in the organization of **Orientation Programme 2022**.
  - Helped in the **registration** of more than **800 students**, aided by other student guides
- Junior executive, Udghosh'21** (Dec'21-Mar'21)
  - Communicated with **50+** students in all over India for **NOOSQ'21**.
  - Collaborated with a team to ensure the smooth execution of various events and activities.
  - Helped in Conducting the Whole event successfully in a team of **10 junior executives**.
  - Showed dedication and commitment to delivering a successful Sports festival experience for participants and attendees.

## Relevant Courses

Fundamentals of Computing Introduction to Electronics Set theory and logic Abstract Algebra Learn to Build a Real-Time Website*(online)	Probability and Statistics Modern Cryptology Linear algebra and Differential Equations Advanced Real Analysis Basics of JavaScript*(online)
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## Extra-Curricular Activities

- Campaigner in Senate elections.
- Participated in volleyball Team in intra-hall and inter-hall sports events.
- Volunteered For Entrepreneurship cell in the conduction of E-Summit'21.