Vineet Kumar

PG (II Year II Semester)
M.Tech. Applied Mathematics and Scientific Computing
Contact No: 9012712504
Email: vineet_k@amsc.iitr.ac.in
Registration No: 23572016/2025

Indian Institute of
Technology
Roorkee

VERIFIED

Area of Interest

Data Science, Data Analytics, Statistics, Machine Learning, Deep Learning, NLP,

---

Education

Year	Degree/Examination	Institution/Board	CGPA/ Percentage
2024	M.Tech. 2nd Year	Indian Institute of Technology, Roorkee	7.350
2015	Postgraduate (PG)	M.B.GOVT. P.G.COLLEGE, HALDWANI (NAINITAL) KUMAUN UNIVERSITY	66.59 %
2013	Graduate (UG)	M.B.GOVT. P.G.COLLEGE, HALDWANI (NAINITAL) KUMAUN UNIVERSITY	57.85 %
2009	Intermediate (Class XII)	GOVT I C BARA UDHAM SINGH NAGAR UTTARAKHAND BOARD	47.20 %
2006	Matriculate (Class X)	GOVT H S S SURYA NAGAR UDHAM SINGH NAGAR UTTARAKHAND BOARD	54.17 %

Internships

"ARIMA and LSTM for Streamflow Time Series Forecasting: A Statistical and Machine Learning Approach". |
National Institute of Hydrology, Roorkee   June 2024 - August 2024

- We aimed to **predict** and **forecast** the inflow data for the **Mosul Reservoir, Iraq** ,using historical monthly inflow data from Jun 1972 to May 2008.
- The primary objective of this analysis is to understand and anticipate future water inflow patterns, which is critical for efficient reservoir management and planning.
- This objective achieved using three different time series forecasting models, **ARIMA, SARIMA, and LSTM Neural Network.**

Projects

Optimizing Hydropower Generation through Evolutionary Algorithm Technique of Karun Reservoir | Applied
Mathematics and Scientific Computing IIT Roorkee   May 2024 - July 2024

- This study aims to enhance a **Genetic Algorithm (GA)** method to optimize weekly hydropower generation for the **Karun Reservoir Dam** in **Iran** over **13.5 years.**
- The study includes time series data for reservoir inflow, storage, environment flow, maximum outflow, total Reservoir outflow, and minimum power load requirements.
- The aim is to use the GA to optimize water resource management.

Advertising Sales Prediction by using Machine Learning | Applied Mathematics and Scientific Computing IIT Roorkee
December 2023 - January 2024
- Advertising **sales prediction** refers to the process of using data and predictive analytics to forecast the future sales performance of advertising inventory or space.
- This prediction is crucial for advertising agencies, media companies, and publishers to **optimize their sales strategies , allocate resources effectively** , and **maximize revenue.**

EDA on Titanic Dataset | Applied Mathematics and Scientific Computing IIT Roorkee   December 2023

- The Titanic dataset is popular for data analysis .
- It contains information about the passengers onboard the Titanic, including features like age, gender, fare, cabin, and survival status.
- We will perform exploratory data analysis (EDA) on the Titanic dataset using Python in this project.

EDA on Airline Booking Dataset | Applied Mathematics and Scientific Computing IIT Roorkee   November 2023

- The project encompasses a comprehensive exploration of **British Airline Dataset** , comprising essential phases such as data cleaning, feature engineering, data visualization, query analysis, and comprehensive analysis. It reveals **patterns and insights related to booking trends, customer demographics, and flight preferences.**
- The study not only sheds light on the current state of the airline industry but also provides actionable recommendations for improving overall operational efficiency, customer experience, and revenue management.
- This EDA serves as a foundational exploration of the airline database, **laying the groundwork for further in-depth analyses and predictive modeling.** Verified by Prof. Millie pant

---

Awards / Scholarships / Academic Achievements

- QUALIFIED THE GATE MATHEMATICS 2023 WITH AIR 3006

Skills

Computer languages	Python, SQL
Software Packages	NumPy, Pandas, MS Excel, MS Office, Power Point, VS Code
Additional Courses	1- Probability and Statistics, 2-Statistical Modeling, 3-Logistics and Supply Chain Management, 4-Linear Algebra
Minor/Honors Courses	IBM Data Analysis with Python
Languages Known	HINDI, ENGLISH

Positions of Responsibility & Extra Curriculars

Wellness volunteer | IIT Roorkee   September 2023 - Present
- Actively participated in promoting mental and physical well-being among students and staff.
- Organized and facilitated workshops, seminars, and events focused on stress management, mindfulness, and healthy living.
- Provided peer support and guidance to fellow students, creating a supportive and inclusive environment.
- Collaborated with wellness professionals to develop and implement wellness programs and initiatives.
- Assisted in the development and distribution of wellness resources and materials.

Attendee | Applied Mathematics and scientific Computing IIT Roorkee   December 2023
- Engaged in a Collaborative workshop on Data Analytics using Minitab by IIT Roorkee and ExcelR, gaining practical insights into statistical analysis for decision making.

Attendee | GeeksforGeeks in IIT Roorkee   November 2023
- Participated in an AI and ML workshop organized by GeeksforGeeks (GFG) in collaboration with Cognizance , IIT Roorkee. Explored key concepts and practical applications of Artificial Intelligence and Machine Learning, gaining valuable insights and hands-on experience in cutting-edge technologies.

Volunteer | IIT Roorkee   August 2023
- Engaged in department of Applied Mathematics and scientific Computing VOLUNTEERED during the 12th International Conference on Soft Computing for Problem Solving held at IIT Roorkee during 11th to 13th August 2023

Subject matter expert | Chegg india private limited   May 2020 - January 2022
- The company operates direct-to-student learning platform that supports students on their journey from high school to college and into their career with tools designed.

References

Dr. Millie Pant
professor
Department of Applied Mathematics and Scientific
Computing IIT Roorkee
pant.milli@as.iitr.ac.in
9759561464

Dr. Saurav Samal
Assistant professor
Department of Applied Mathematics and Scientific Computing
IIT Roorkee
sourav.sasmal@amsc.iitr.ac.in