

# Gautam Kumar

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## EDUCATION

**Indian Institute of Technology Roorkee, India**

Nov 2021 - Present

Bachelor of Technology in Civil Engineering

## PROFESSIONAL EXPERIENCE

**Goblu-EV**

May 2024 - July 2024

Summer Internship

- Built advanced machine learning prediction model using 10+ lacs data, significantly boosting accuracy and performance.
- Leveraged **Dask data** frames for processing and implementing advanced data cleaning to ensure high-quality predictions.
- Implemented **time series forecasting** and regression models, reducing RMSE by 0.12 and increasing correlation by 18%.

## PROJECTS

**Optimization of Aeration Efficiency in Montana Flume**

Jan 2024 - Apr 2024

Civil Engineering Department, IIT Roorkee

- Designed and executed comprehensive testing protocols for machine learning models, resulting in ANN outperforming alternatives with a **root mean square error** (RMSE) of just 0.02, enhancing data reliability for future assessments.
- Performed a comprehensive parametric and sensitivity analysis, uncovering vital inputs for predicting aeration efficiency.
- Predicted flume aeration efficiency using empirical data, achieving 2.7% more correlation and reducing **RMSE** by 0.02.

**Understanding Consumer Segmentation for Targeted Marketing**

Jan 2024 - Apr 2024

Department of Management Studies, IIT Roorkee

- Designed interactive **Power BI** dashboards to analyze sales data and customer trends, enabling proactive business actions.
- Optimized **MySQL** to Star Schema, slashing query runtime by 40% and accelerating dashboard refresh rates by 30%.
- Used 20+ **DAX** formulas to analyze seasonal trends and customer lifetime value, boosting marketing efficiency by 12%.

**Evaluating downscaling methods of GRACE data**

May 2023 - July 2023

Civil Engineering Department, IIT Roorkee

- Adopted advanced validation techniques, notably enhancing the robustness and reliability of downscaled GWS products.
- Implemented **Multilinear** and **Random Forest** ML models to downscale GRACE data, improving Pearson correlation coefficients up to +28.8% and reducing root mean squared error by 2%, enhancing data precision and spatial resolution.
- Analyzed the performance of static **GRACE** downscaling techniques in hydrology, enhancing model precision by 20%.

## ACHIEVEMENTS

- Won Gold medal in Pocket Billiards at Colors Trophy at IIT Roorkee, 2024
- Won Silver medal in Volleyball at Inter-Bhawan General Championship at IIT Roorkee, 2024
- Qualified for NTSE Stage-2 Exam-2018 among 5+ lacs students

## TECHNICAL SKILLS

**Programming & Query Languages:** Python, C++, SQL

**Software Packages:** NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn

**Visualization & Analysis Tools:** Power BI, Microsoft Excel, Microsoft PowerPoint

**Additional Courses:** Probability and Statistics, Linear Algebra, Analytics for Managerial Decision Making

## CERTIFICATIONS

- Google Data Analytics Professional | Coursera
- Introduction to Databases and SQL Querying | Udemy
- Power BI Job Simulation | Forage

## POSITIONS OF RESPONSIBILITY

**Head (Agriculture and Waste Management), Unnat Bharat Abhiyan | IIT Roorkee**

Feb 2022 - May 2024

- Directed a team of **100+** members, implemented socio-economic initiatives, and evaluated their developmental impact.
- Coordinated the setup of vermicompost beds by utilizing data from environmental studies to improve agricultural yield.
- Organized sanitation drives by analyzing community data, leading to **85%** of members adopting sustainable practices.
- Strengthened Public Relations and outreach by analyzing engagement data to increase participation and awareness.

**Executive, National Social Service | IIT Roorkee**

Aug 2022 - June 2023

- Led initiatives promoting widespread awareness of the importance of clean water conservation and sustainability.
- Organized awareness campaigns and public events to educate 1000+ locals on proper sanitation and hygiene practices.
- Designed and executed 10+ behavior change campaigns on sustainable water management and sanitation.