Priyanshu Kumar Pant

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Education

National Institute of Technology Hamirpur (NITH) *2022-2024*
Master of Science in Mathematics and Computing
Final Grade: 8.52/10 CGPA

Doon University, Dehradun *2019-2022*
Bachelor of Science(Honours) Mathematics
Final Grade: 7.96/10 CGPA

Holy Ganges Public School, Haridwar
Central Board of Secondary Education(CBSE)
Class 12th (Intermediate) *Percentage: 91.6%* *2019*
Class 10th (High School) *Final Grade: 9.6/10 CGPA* *2017*

Achievements

- All India Rank 843 in IIT-JAM 2022 (Indian Institute of Technology - Joint Admission Test for Masters) in Mathematics.
- Silver (2nd position) in Astronomical Data Science training by Spartificial, leading to an internship.

Publications

- **Effect of Camber and Angles of Attack on Airfoil Characteristics** *Jan 2024*
  International Research Journal of Engineering and Technology
  I spearheaded the analysis in the paper, investigating how variations in camber and angles of attack affect airfoil characteristics.

- **Understanding the Air Pollution Dynamics in Haridwar** *Mar 2024*
  Heliyon (Accepted, Yet to publish)
  Performed statistical analysis and ML modeling for identifying key meteorological relationships affecting air pollution levels in Haridwar, Uttarakhand, India.

Projects

Comprehensive Machine Learning Modelling for Cloud Burst Event Prognostication
(Master's Project)
Developed a robust and scalable machine learning model to predict cloudburst events in Himachal Pradesh, India. Collected a comprehensive dataset of historical cloudbursts and meteorological data, evaluating algorithms like logistic regression, decision trees, and ensemble methods. The Random Forest model achieved superior predictive accuracy with a balanced precision-recall of 73%. Key drivers identified were precipitation, wind patterns, and temperature. The model informs early warning systems and resilience strategies.

Exploring Finite Groups through Python
(Personal)
Initiated this exploration to check if a given structure forms a group using Python, which led to the inclusion of verifying if the group is Abelian or Cyclic, generating Cayley Tables, identifying subgroups, normal subgroups, and much more. The project stands out due to a feature for visualization of Cayley tables, providing a better understanding of group structures.

Skills

- **Programming:** Python, MATLAB, SPSS, R
- **Tools:** LaTeX, Git/GitHub

Additional Courses & Certifications

Minor Course in Physics, Doon University — *Jul 2019 – May 2021*

National Workshop on Algebra and Analysis, NIT Trichy — *22-26 May 2023*

ML Research Intern, Spartificial — *Oct – Dec 2023*

100 Days of Code (Python), Udemy — *Jun – Dec 2023*