Rohan Mehra

Graduate Student in Computer Science

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Education

2025 - present **MS in Computer Science**, *ISIMA, Clermont Auvergne INP, UCA, France*
- ○ *Specialization:* Data Science.
- ○ *Selected Courses:* Advanced Machine Learning and Data Mining, High Performance Computing, Fundamentals of Optimization.

2021 - 2025 **BS in Electrical Engineering and Computer Science**, *IISER Bhopal, India*
- ○ Grade: 8.92/10
- ○ *Selected Courses:* Data Science and Machine Learning, Multi-agent Reinforcement Learning, Algorithms, Operating System, Computer Organization, Theory of Computation, Probability and Statistics, Linear Algebra, Competitive Programming.

2019 - 2021 **Intermediate/+2 (Class XII), AMU Board**, *SHSSS, Aligarh Muslim University, India*
- ○ Grade: 96.8/100
- ○ First Division with distinction in Physics, Chemistry, Mathematics, Biology, English (core).

Research Experience

May - present 2025
May - July 2024 **Institut Pascal, CNRS, Université Clermont Auvergne, France**, *Research Intern*
- ○ Advised by Dr. Mathieu Labussière as part of ComSee team.
- ○ Demonstrated SWIR images' effectiveness with deep learning models in adverse weather conditions.
- ○ Working with GAN-based and diffusion-based approaches for synthetic generation of SWIR images.
- ○ Models worked on include Grounded SAM, YOLO [Sem. Segmentation] and CUT, CycleGAN, Pix2Pix, BBDM [GANs & diffusion-based]

Jan - April 2025 **IISER Bhopal, India**, *BS Project Student*
- ○ Advised by Dr. Arpit Sharma at the Dept. of EECS.
- ○ Worked on using Zero-Shot Learning model for Sector Classification, utilizing the CrowdRE dataset.
- ○ Used models including Sentence-BERT, All-MiniLM-L12, Bert4RE and BERTOverflow

May - July 2023 **Indian Institute of Space Science and Technology**, *Research Intern*
- ○ Advised by Prof. Deepak Mishra as part of the CVVR Lab
- ○ Worked on robotics and implementation of SLAM through Kalman filter and EFK Methods.
- ○ Used Robot Operating System (ROS), RViz, and Gazebo.

Publications and Preprints

🔗 **Rohan Mehra**, Alexandre Riffard, Mathieu Labussière, Pierre Duthon, Romuald Aufrère, "Would SWIR modality help for detection and segmentation in harsh weather conditions? An experimental study.", *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV) Workshops, 2025.* **[Oral Presentation]**

Teaching Experience

2024, 2023 **Basic Electronics**, *IISER Bhopal*
- ○ Teaching Assistant for an undergraduate class of 180 students twice for 2024-25 & 2023-24 Semester I.
- ○ Conducted tutorial sessions, prepared assignment solutions, and provided one-to-one guidance.

Academic Projects

2025 **Risk-Aware Multi-Epoch Package Delivery Planning**, *IISER Bhopal*
- ○ Used greedy algorithm to solve package delivery problems while balancing risk and reward.
- ○ Developed a GUI-based visualization tool using Tkinter and Matplotlib.

2024 **Training Multi-Robot Warehouse (RWARE) Environment**, IISER Bhopal
- Trained robots for optimized coordination in the RWARE environment.
- Employed Deep Q-Network (DQN) for efficient learning.

2024 **Implementation of Grover's Algorithm**, IISER Bhopal
- Implemented Grover's Algorithm for the 3-SAT problem demonstrating quantum speedup.
- Utilized PennyLane for designing quantum circuits.

2023 **Prediction of Mortality Rate of Heart Failure Patients in ICU**, IISER Bhopal
- Built a classification model to predict ICU mortality in heart failure patients.
- Utilized Random Forest, Logistic Regression, and AdaBoost etc. for model development.

Technical Skills

Languages Python (with PyTorch framework), C++, C, Java

Software ROS, Gazebo, MATLAB, Git, LaTeX, Wolfram Mathematica

External/Online Courses

- CS231n: Deep Learning for Computer Vision - (Offered by Stanford Online)
- Introduction to Deep Learning & Neural Networks with Keras – Coursera (Offered by IBM)
- Machine Learning with Python – Coursera (Offered by IBM)
- Image Processing Onramp, Simulink Onramp, MATLAB Onramp – MathWorks

Achievements/Fellowships

2025 **MIAI Cluster Excellence Scholarship**
Selected for Excellence Scholarship program offered by the Multidisciplinary Institute in Artificial Intelligence (MIAI) in France to pursue Masters at ISIMA, Clermont Auvergne INP.

2024 **IASc-INSA-NASI Summer Research Fellowship** *[Declined]*
Selected for summer research fellowship jointly offered by the Indian Academy of Sciences, Indian National Science Academy, and National Academy of Sciences, awarded to the top ~5% of applicants.

2021 **Indian Maritime University (IMU) Undergraduate Admissions**
Secured All India Rank 9 out of 14,108 ranked candidates, placing in the top 0.1% nationwide.

Positions of Responsibility And Extra-Curriculars

2024 – 2025 **Student Placement Coordinator**, *Department of EECS, IISER Bhopal*, Bhopal, India
- Assisted the placement cell in all placement and internship activities.
- Acted as a link between students, the department, and the placement cell.

2023 – 2024 **Cultural Secretary**, *IISER Bhopal*, Bhopal, India
- Elected representative of the student body for organizing all cultural events at IISER Bhopal.
- Led the team of 70 performers to the the Inter IISER Cultural Meet 2023 held at IISER Mohali.

2022 **NCC 'B' Certificate**, *National Cadet Corps, India*, Aligarh, India
- Passed NCC 'B' certificate training examination from 8 UP BN NCC, AMU Campus.
- *Achievement:* Part of a National Integration Camp, EBSB(VII) between UP and MPCG Directorate.

Languages

- **English** - Full Professional Proficiency
- **Hindi** - Native Proficiency
- **French** - Limited Working Proficiency

Last updated: October 25, 2025