

# 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 2025 - present **Institut Pascal, CNRS, Université Clermont Auvergne, France, Research Intern**
- Advised by Dr. Mathieu Labussière as part of ComSee team.
- May - July 2024 **IISER Bhopal, India, BS Project Student**
- Working on deep learning models on SWIR images' for road perception in adverse weather conditions.
  - Models worked on include Grounded SAM, YOLO, RF-DETR [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 2024-25/23-24 Sem. 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, L<sup>A</sup>T<sub>E</sub>X, 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)
- Image Processing Onramp, Simulink Onramp, MATLAB Onramp – MathWorks

## Achievements/Fellowships

- 2026 **ELLIS Winter School on Foundation Models** [Upcoming]  
Selected to attend the Winter School on foundation models hosted by the ELLIS unit Amsterdam, among a global pool of applicants (~200 participants in 2025).
- 2025 **MIAI Cluster Excellence Scholarship**  
Selected for Excellence Scholarship program offered by the Multidisciplinary Institute in Artificial Intelligence (MIAI) in France to pursue master's program, awarded to ~20 candidates university wide.
- 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 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