Rohan Mehra

Curriculum Vitae

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Education

2021 – Present
BS in Electrical Engineering and Computer Science, *IISER Bhopal, India*
- Grade: 8.88/10
- **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 2024 – present
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.
- Currently working with GAN-based approaches for synthetic generation of SWIR images.
- Models worked on include Grounded SAM, YOLO [Sem. Segmentation] and CUT, CycleGAN [GANs]

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.

Teaching Experience

2023 – 2024
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.

2022 **Extraction and Analysis of Social Media Posts**, IISER Bhopal
○ Reviewed literature analyzing social media data to study behaviors linked to eating disorders.
○ Performed web scraping using Twitter APIs for data collection and analysis.

Technical Skills

Languages	Python, C++, C, Java
Frameworks	PyTorch, Tensorflow
Software	ROS, Gazebo, MATLAB, Git, LaTeX, Wolfram Mathematica
OS	Linux, Windows

External/Online Courses

○ 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

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
○ Assisting the placement cell in all placement and internship activities.
○ Acting as a link between students, the department, and the placement cell.

2023 – 2024 **Cultural Secretary**, *IISER Bhopal*, Bhopal, India
○ Elected representative of the general 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: May 10, 2025