

ADITYA MISHRA



EDUCATION

- **BS-MS in Electrical Engineering and Computer Science (EECS)** 2021 - 2026
Indian Institute of Science Education and Research Bhopal
Minor: Data Science and Engineering | CPI: 9.07/10 | GPA: 3.78/4
- **All India Senior School Certificate Examination (AISSCE)** 2020 – 2021
Sagar Public School, Bhopal | Percentage: 96.60

FELLOWSHIPS

1. **DAAD – Working Internships in Science and Engineering (WISE) 2024** [Award Letter](#)
2. **Mitacs – Globalink Research Internship 2024** [Award Letter](#)

RESEARCH EXPERIENCE

- **Master's Thesis | Low-light Signboard Recognition for Autonomous Driving** [Thesis](#)
Curated and benchmarked an Indian night-time traffic dataset across Vision-Language Models (VLMs) and standard object detectors and existing frameworks. We developed an adaptive image-enhancement detector and a structured multi-modal CLIP-GCNN classifier. The work has been submitted to CVPR 2026. I am currently involved in the real-world deployment (on edge device) of the proposed model.
Supervisors: Prof. Akshay Agarwal and Prof. Haroon Lone, IISER Bhopal
- **Bachelor's Thesis | Privacy-Preserving Machine Learning Models** [Paper](#)
Developed a mobile application incorporating a novel, personalized machine learning framework that utilized federated learning to promote students' physical well-being by analyzing their lifestyle habits.
Supervisor: Prof. Haroon Lone, IISER Bhopal
- **Representation Learning in Electroencephalography (EEG) Data** [Paper](#)
Proposed a graph convolutional-based variational autoencoder that leverages contrastive learning for subject representation learning from EEG data.
Supervisors: Prof. Javad Hashemi and Prof. Ali Etemad, Queen's University Canada
- **Predicting Energy Consumption within Buildings** [Paper](#)
Developed a state-of-the-art LSTM based framework for energy forecasting in residential and commercial buildings with limited training data leveraging physical and weather parameters.
Supervisor: Prof. Haroon Lone, IISER Bhopal

PUBLICATIONS

3. **Navigating in the Dark: A Multimodal Framework and Dataset for Nighttime Traffic Sign Recognition**
Authors: Aditya Mishra, HR Lone, A Agarwal **Status:** Submitted **Venue:** CVPR 2026
2. **Subject Representation Learning from EEG using Graph Convolutional Variational Autoencoder**
Authors: Aditya Mishra, AM Samin, A Etemad, J Hashemi **Status:** Published **Venue:** IEEE - ICASSP 2025
1. **DECODE: Data-driven Energy Consumption Prediction leveraging Historical Data and Environmental Factors in Buildings**
Authors: Aditya Mishra, HR Lone, A Mishra **Status:** Published **Journal:** Energy and Buildings **Citations:** 40

CONFERENCES AND AWARDS

2. **Graduate Forum, IndoML 2025**
Selected to present research work "RiM: Privacy-Preserving Student Well-being via Personalized Federated Learning". Provided travel grant, accommodation, and registration support by BITS Pilani, Hyderabad.
1. **IEEE International Conference on Acoustics, Speech, and Signal Processing 2025** [Certificate](#)
Chaired the session on Graph Neural Networks and delivered a lecture on Representation Learning on EEG data.

PROJECTS

1. Federated Object Detection and Classification during Nighttime	GitHub Report 
2. Paving the Way: AI-Driven Pothole Detection with Computer Vision	GitHub Report 
3. A Simple-yet-Effective Approach to Semi-supervised Semantic Segmentation	GitHub Report 
4. Pressure Plate: Multi Agent Requirement for Cooperative Learning	GitHub Report 
5. MailPal: Min-Max Optimization for Multi-Agent Task Scheduling in Heterogeneous Systems	GitHub Report 
6. Diabetes Prediction Over Telephonic Health Survey	GitHub Report 

SKILLS

- **Languages:** Python, C, JavaScript, Mathematica
- **ML Libraries:** sklearn, Keras, TensorFlow, PyTorch
- **Data Analysis:** Pandas, Matplotlib, Seaborn
- **Tools:** Arduino, LaTeX, Stata, Bash, HPC, GitHub

EXTRACURRICULAR ACTIVITIES

1. Athlete, Football Team	Sports Council, IISER Bhopal
2. Member, Desk for Universal Design (DUDE) Lab	UG-CREST, IISER Bhopal
3. Head of Logistics, Computing and Networking Council	IISER Bhopal

CERTIFICATIONS

1. Deep Learning Specialization	Coursera
2. Generative AI with Large Language Models	Coursera

RELEVANT COURSEWORK

1. Natural Language Processing	4. Computer Vision	7. Reinforcement Learning
2. Machine Learning	5. Applied Optimization	8. Algorithms
3. Deep Learning	6. Artificial Intelligence	9. Federated Learning

ACHIEVEMENTS

5. Qualified for the Rhode's Scholarship (second-round)
4. Runner's Up in Subroto Football Cup and winner in Inter IISERs Sports Meet 2022 (IISM), Football
3. Received a CSIR scholarship for outstanding performance in CBSE Class-XII examination
2. Earned scholarships for scoring a perfect 100 in CBSE Class-X Mathematics and XII Physical Education
1. Awarded a medal of distinction for securing State rank 12th in National Science Olympiad

RESEARCH INTERESTS

1. Multimodal Learning	2. VLMs	3. Unsupervised Learning	4. 3D Vision
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