

ADITYA MISHRA



EDUCATION

- **BS-MS in Electrical Engineering and Computer Science (EECS)** 2021 - 2026
Indian Institute of Science Education and Research Bhopal
CPI: 9.15/10 | Minor: Data Science and Engineering
- **All India Senior School Certificate Examination (AISSCE)** 2020 – 2021
Sagar Public School, Bhopal | Percentage: 96.60

FELLOWSHIPS AND HONORS

1. **Heidelberg Laureate Forum Young Researcher 2026** [Award Letter](#)
2. **DAAD – Working Internships in Science and Engineering (WISE) 2024** [Award Letter](#)
3. **Mitacs – Globalink Research Internship 2024** [Award Letter](#)

RESEARCH EXPERIENCE



- **Master’s Thesis | Low-light Signboard Recognition for Autonomous Driving** [Thesis](#)
Curated an Indian night-time traffic dataset and developed a multimodal CLIP-GCNN classifier with adaptive image enhancement for traffic sign recognition. Deployed a lightweight TSR pipeline on NVIDIA Jetson Orin Nano with track-aware temporal stabilization and hysteresis-based label locking.
Supervisors: Prof. Akshay Agarwal and Prof. Haroon Lone, IISER Bhopal
- **Bachelor’s Thesis | Privacy-Preserving Machine Learning Models** [Thesis](#)
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







4. Beyond Benchmarks: Continuous Edge Inference for Fine-Grained Roadside Perception
Authors: A Mishra, HR Lone Status: In Preparation Venue: ACM SenSys 2027
3. Learning Under Low Illumination: A Dataset and Algorithm for Traffic Sign Recognition
Authors: A Mishra, HR Lone, A Agarwal Status: Submitted Venue: ECCV 2026
2. Subject Representation Learning from EEG using Graph Convolutional Variational Autoencoder
Authors: A Mishra, AM Samin, A Etemad, J Hashemi Status: Published Citations: 03 Venue: IEEE - ICASSP 2025
1. DECODE: Data-driven Energy Consumption Prediction leveraging Historical Data and Environmental Factors in Buildings
Authors: A Mishra, HR Lone, A Mishra Status: Published Citations: 55 Journal: Energy and Buildings

CONFERENCES AND AWARDS

4. **Heidelberg Laureate Forum Accommodation and Travel Grant 2026** [Grant Letter](#)
Selected to participate in the 13th Heidelberg Laureate Forum, Germany, connecting young researchers with Fields Medalists, Abel Prize, and Turing Award recipients. Provided travel grant and accommodation support by HLF Foundation.

3. **EECS Research Symposium, IISER Bhopal 2026** Poster 
Showcased my MS research as a poster presentation. **Received** the Best Oral Presentation Award.
2. **Graduate Forum, IndoML 2025**
Presented my BS Thesis research. **Provided** travel, 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
- **Data Analysis:** Pandas, Matplotlib, Seaborn
- **ML Libraries:** sklearn, Keras, TensorFlow, PyTorch
- **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**

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