

ADITYA MISHRA



EDUCATION

BS - Electrical Engineering and Computer Science (Minor - Data Science and Engineering)

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, BHOPAL

CPI: 8.97/10 | GPA: 3.725/4

Bhopal, India | 2021 - 2025

FELLOWSHIPS AND AWARDS

1. DAAD – Working Internships in Science and Engineering (WISE) 2024

[Letter of Invitation](#) | [DAAD Certificate](#)

[AWARD LETTER](#)

2. MITACS – Globalink Research Internship 2024

[AWARD LETTER](#)

RESEARCH AND WORK EXPERIENCE

Bachelor's Thesis | Privacy-Preserving Machine Learning Models

[THESIS](#)

- We present RiM (Record, Improve, and Maintain), a personalized federated learning model that enhances students' physical well-being by analyzing their lifestyle habits while preserving differential privacy. We built an mobile application and ML model using Federated Learning for personalized well-being recommendations for students.

Supervisor: Dr. Haroon R. Lone, Assistant Professor, Department of EECS, IISER Bhopal

Predicting Energy Consumption within Buildings

- The project's goal is to forecast the energy usage of a building using 52-months of historical data. In this project, various linear regression and non-linear regression frameworks are used, and a state-of-the-art LSTM model with exceptional prediction accuracy is proposed for energy forecasting. The research publication for the same has been published to *Energy and Buildings* journal by Elsevier. The arXiv preprint for the same is attached [here](#).

Supervisor: Dr. Haroon R. Lone, Assistant Professor, Department of EECS, IISER Bhopal

Representation Learning in Electroencephalography (EEG) Data

- In this study, we propose GC-VASE, a graph convolutional-based variational autoencoder that leverages contrastive learning for subject representation learning from EEG data. Our findings have been accepted to IEEE-ICASSP 2025. The arXiv preprint for the same is attached [here](#).

Supervisors: Dr. Javad Hashemi & Dr. Ali Etemad, School of Computing, Queen's University-Canada

PUBLICATIONS

2. Subject Representation Learning from EEG using Graph Convolutional Variational Autoencoder

Authors: Aditya Mishra, AM Samin, A Etemad, J Hashemi **Status:** Accepted **Venue:** 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






CONFERENCES

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. **Paving the Way: AI-Driven Pothole Detection with Computer Vision** [GitHub](#) | [Report](#) 
2. **Reproducing & Enhancing Augmentation Matters: A Simple-yet-Effective Approach to Semi-supervised Semantic Segmentation** [GitHub](#) | [Report](#) 
3. **Pressure Plate: Multi Agent Requirement for Cooperative Learning** [GitHub](#) | [Report](#) 
4. **MailPal: Min-Max Optimization for Task Scheduling in Heterogeneous Systems** [GitHub](#) | [Report](#) 
5. **Diabetes Prediction Over Telephonic Health Survey** [GitHub](#) | [Report](#) 

SKILLS

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

CERTIFICATIONS

1. **DEEP LEARNING SPECIALIZATION** COURSERA
2. **GENERATIVE AI WITH LARGE LANGUAGE MODELS** COURSERA

EXTRA-CURRICULAR 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

- Artificial Intelligence
- Computer Vision
- Reinforcement Learning
- Machine Learning
- Applied Optimization
- Algorithms
- Deep Learning
- Natural Language Processing
- Econometrics

ACHIEVEMENTS

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

RESEARCH INTERESTS

- **Machine Learning**
- **Computer Vision**
- **AutoML**
- **Meta Learning**