

# Mayur Mankar

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## Education

### Indian Institute of Science Education and Research Bhopal

BS-MS (5-year), Department of Data Science and Engineering

2020 - Present

CGPA: .97/10

## Work Experience

### PawScan.AI

Co-founder

- Early stage startup providing end-to-end AI-based surveillance systems combining gait recognition and face recognition for precise and robust human identification.
- Pre-incubated at IICE-IISER Bhopal and PIEDS-BITS Pilani.

## Research Experience

### Indian Institute of Technology Delhi

ACM IKDD: Uplink Internship Program | Guide: [Dr. Srikanta Bedathur](#)

**Project Title** - Adversarial Attack and Defense on Temporal Graphs

### iHub Anubhuti-IIIT Delhi Foundation

CHANAKYA PG fellowship | Guide: [Dr. Vaibhav Kumar](#)

**Project Title** - Advanced precise and robust human identification mechanism combining 3D point cloud gait recognition and video face recognition

### Indian Institute of Technology Roorkee

Google Research Sponsored Mentorship Program | Guide: [Dr. Neetesh Kumar](#)

**Project Title** - Anomaly detection in road traffic

### Shiv Nadar Institute of Eminence

Mentoring of Engineering Students by INAE Fellows | Guide: [Dr. Prasun K. Roy](#)

**Project Title** - Comparing Robustness of Neuroimaging Segmentation Models to Adversarial Attacks

### Shiv Nadar Institute of Eminence

INSA-IASc-NASI Summer Research Fellowship Program | Guide: Dr. [Dr. Sandeep Sen](#)

**Project Title** - 3D Point Cloud Semantic Segmentation of Indoor Scenes using Few-shot Learning

### Indian Institute of Technology Ropar

Energy Mentors - IIT Ropar Internship Program

**Project Title** - Developing a Digital Twin for a Hybrid Energy System

## Achievements

**IEEE Travel Grant** for Winter School on Biometrics 2024, SUSTech, China.

**Student Travel Grant** for IndoML 2023, IIT Bombay.

**Short Presentation** at Frontiers Symposium in Data Science 2024, IISER TVM.

**Invited Participant** at Workshop on Reinforcement Learning 2024, IISc Bengaluru.

**2nd Place** in a Hackathon conducted at IIT Roorkee.

## Technical Skills

**Programming Languages/Software:** Python, R, C++, MATLAB, Stata

**Platforms:** 3DEXPERIENCE, QGIS, FSL, CityEngine, Blender, Cloud Compare

**Web Development:** HTML, CSS, Javascript

**Office automation:** LaTeX, Word, Excel, PowerPoint

**Frameworks:** PyTorch, TensorFlow

**Databases:** MySQL, PostgreSQL

**Operating Systems:** Windows, Linux

## Poster Presentations

**3D Point Cloud Semantic Segmentation of Indoor Scenes using Few-shot Learning** [[Poster](#)]

Mayur Mankar\*, Sandeep Sen, Vaibhav Kumar [IndoML 2023]

## Enhancing Diagnostic Accuracy by Remediation of Adversarial Attacks on Deep Learning-Based Neuroimaging Systems [\[Poster\]](#)

Mayur Mankar\* , Parth Joshi, Prasun K. Roy [NAMSCON 2023]

## Ready Trans-Information based Assessment of Neurocognitive Saliency level Electrophysiologically [\[Poster\]](#)

Parth Joshi\* , Pratik Purohit, Mayur Mankar, Prasun K. Roy [NAMSCON 2023]

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## Selected Projects

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### Using LocalGPT to interact with biopharma-related databases

Nov 2023

Guide: [Dr. Parthiban Srinivasan](#)

[\[GitHub\]](#)

- Obtained the first 10 full-text review papers from PubMed, published in 2022, focusing on “triple-negative breast cancer”.
- Configured LocalGPT (LlamaCpp-Python) and initiated interactive discussions with the documents.

### Docker Environment for face detection

Oct 2023

Guide: [Dr. Vinod Kurmi](#)

[\[GitHub\]](#)

- Created a Docker environment for face detection using the “Ultra-Light-Fast-Generic-Face-Detector-1MB” repository.
- Implemented multi-threaded matrix multiplication on a (1000x1000) matrix.

### Balanced MSE for Imbalanced Visual Regression

Feb 2023 - Apr 2023

Guide: [Dr. Vinod Kurmi](#)

[\[GitHub\]](#)

- Reproduced all the results of the paper. In the process, some bugs in the code were fixed.
- The whole analysis is done on a new dataset (AgeDB). Also, two new loss functions are introduced namely sMAPE and logcosh.

### Multilingual abusive comment detection in Hindi, Tamil, Malayalam, Kannada, and Telugu text

Nov 2022

Guide: [Dr. Parthiban Srinivasan](#)

[\[GitHub\]](#)

- Implemented transformer-based models for the detection of offensive text in languages such as Hindi, Tamil, Malayalam, Kannada, and Telugu.
- Conducted experiments on the dataset, providing a comprehensive analysis of performance and errors, thereby establishing a valuable baseline for future comparisons.

## Key Courses

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- **Mathematics:** Calculus of One Variable, Linear Algebra, Multivariable Calculus, Discrete Mathematics-I, Probability and Statistics
- **Data Science and Engineering:** Data Structure and Algorithms, Machine Learning, Deep Learning, Artificial Intelligence, Natural Language Processing, Computer Vision, Spatial Data Science and Applications, Machine Learning for Biopharma, Applied Accelerated Artificial Intelligence
- **Economics:** Econometrics-I, Econometrics-II, [Money, Banking and Financial Markets]

## Teaching Experience

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**Teaching Assistant** - DSE313-Artificial Intelligence taught by Dr. Vaibhav Kumar, IISER Bhopal

## Positions of Responsibility

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**Chair** - IISER Bhopal ACM Student Chapter

Jul 2024 - Present

**Working Team Member** - Student Development Council, IISER Bhopal

Aug 2022 - Aug 2023

## Volunteering and Extracurricular Activities

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**ISMIR 2023** - Student Volunteer

**Singularity 2022, IISER Bhopal** - Treasure Hunt Coordinator

**Open House 2022, IISER Bhopal** - Representative of DSE department