Aditya **Narendra**

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Education

May 2021	**Odisha University of Technology and Research**	**Bhubaneswar, India**
May 2017	Bachelor of Technology (B.Tech) in Fashion and Apparel Technology	CGPA: 8.43/10
	UG Thesis - **Generative Models and Recommender Systems for AI-Driven Fashion** [🔗]	

Experience

Present
July 2025 — **Indian Institute of Technology, Indore** — **Indore, India**

Research Assistant | Advisors: Prof. Chandresh Kumar Maurya & Prof. Ayush Tripathi

> Led a team of 3 students on a DST (Govt. of India)-funded project to build an end-to-end pipeline for Indic-language radiology report generation using a two-stage multimodal model framework. [🔗]
> Developed rank-based conformal prediction methods to improve reliability in few-shot pathological analysis pipelines. *(Published at AAAI'26)*

Apr 2025
Aug 2022 — **Tech Mahindra** — **Bhubaneswar, India**

Associate Software Engineer | Supervisor: Mr. Ipsit Misra (Manager)

> Developed a Graph Neural Network (GNN) based accident detection feature for a smart traffic solution for the Govt. of Odisha, improving emergency response time by over 60% .
> Reduced record retrieval time by 42% for a scalable EHR tracking application handling over 100,000+ daily records for a US-based client.
> Taught '*401-Deep Learning*' [🔗] , a DL course to 50+ undergraduates from diverse academic backgrounds.

Jan 2025
Apr 2024 — **University of Cincinnati | Prasath Lab** — **Remote**

Research Intern | Advisor: Dr. Surya Prasath

> Developed conformal prediction methods to enhance uncertainty quantification in pathological cell classification workflows, improving model interpretability and robustness.
> Designed a sampling-based feature bias mitigation technique to address data-driven biases in cervical cytology classification, improving model fairness and reliability. *(Published at WIML, NeurIPS'24)*

Jan 2024
Dec 2022 — **ETH Zürich | Assisted Forest Regeneration Lab** — **Remote**

Research Affiliate | Advisor: Dr. Leland K Werden

> Finetuned a Llama2-13b model for a summarization platform with custom review tags for grey literature of regeneration practices in ASReview Lab and was featured in their monthly newsletter. [🔗]
> Contributed to a unsupervised multi-task learning framework for 3D subtomogram image alignment, clustering, and segmentation in cryo-ET environment.

Sept 2023
Aug 2022 — **Carnegie Mellon University | Xu Lab** — **Remote**

Research Intern | Advisor: Prof. Min Xu

> Worked on a Contrastive Self-Supervised Learning (CSSL) approach for macromolecular structure classification from cryo-ET data with limited labels. [⬡]

Jan 2022
Jul 2021 — **International Institute of Information Technology, Hyderabad (IIIT-H)** — **Hyderabad, India**

Research Assistant | Advisors: Prof. Jayanthi Sivaswamy & Prof. C.V. Jawahar

> Worked on multi-scale attention architecture for COVID-19 detection from Chest-X Rays.
> Assisted in designing a sub-cortical structure segmentation database for young population [🔗] .

Publications

*= equal contribution

P1: Towards Reliable Few-Shot Adaptation of Pathology Foundation Models via Conformal Prediction [PDF]
Aditya Narendra, Subhankar Panda & Chandresh Kumar Maurya
40th AAAI Conference on Artificial Intelligence-2026 **[AAAI]**

P2: UrHiOdSynth: A Multilingual Synthetic Corpus for Speech-to-Speech Translation in Low-Resource Indic Languages [PDF]
Jamaluddin, Subhankar Panda, Aditya Narendra, Kamanksha Prasad Dubey & Mohammad Nadeem
LoResLM Workshop, Conference of the European Chapter of the Association for Computational Linguistics (EACL)-2026   `[Under Review]`

P3: Optimizing Conformal Prediction Sets for Pathological Image Classification [PDF]
Shubham Ojha*, Aditya Narendra*, Abhay Kshirsagar, Shyam Sundar Debsarkar & Surya Prasath
*Pattern Recognition (Impact Factor: **7.6**)*   `[Under Review]`

P4: Ensuring Class-Conditional Coverage for Pathological Workflows [PDF]
Siddharth Narendra, Shubham Ojha, Aditya Narendra, Abhay Kshirsagar & Abhisek Mallick
39th AAAI Conference on Artificial Intelligence-2025   `[AAAI]`

P5: Mitigating Feature Bias in DL Models for Cervical Cytology [PDF]
Subhashree Sahu, Shubham Ojha & Aditya Narendra
WIML Workshop, Neural Information Processing Systems-2024   `[NeurIPS-W]`

P6: Uncertainty Quantification in DL Models for Cervical Cytology [PDF]
Shubham Ojha & Aditya Narendra
Medical Imaging with Deep Learning-2024   `[MIDL]`

Select Projects

Prediction of Future Continuous Motion States from ECoG Recordings [⌀] [Slides]   **Jul 2023 - Aug 2023**
Advisor: Dr. José Biurrun Manresa
> Participated in the 2023 Neuromatch Academy Summer School on Computational Neuroscience [⚭] .
> Designed regression models for future motion state prediction using time series analysis on ECoG data. [Notes]

MoSwasthya: ML Based Application for Cardiac Disease Risk Prediction [⌀] [◼] [Slides]   **Nov 2022 - Dec 2022**
Advisor: Mr. Ipsit Misra
> Created an all-in-one application that provides an ensemble method-based FAPS (First Action Prediction System) that estimates the risk of cardiac disease using non-medical inputs with an accuracy of 91.24%.
> This application also provides user-health analytics and details of healthcare facilities based on user location.

Weakly Supervised Segmentation Techniques for Cardiac Diseases Diagnosis [⌀]   **Jul 2022 - Aug 2022**
Advisors: Prof. Thomas Grenier & Prof. Pierre-Marc Jodoin
> Participated in the 3rd Edition Summer School on Deep Learning for Medical Imaging (DLMI-22) at ETS Montreal.
> Evaluated various weakly supervised segmentation techniques for cardiac diseases diagnosis. [⌀]

Skills & Research Interests

Languages: Python, C, C++, HTML/CSS

Frameworks: PyTorch, Tensorflow, JAX

Misc.: Git, Linux, LaTeX, QGIS

Research Interests: Uncertainty Quantification, Multimodal Models for Healthcare & Human-Centered AI

Relevant Coursework

Classroom (w/Subject Code): Calculus [I-III] (PAM1A001), Linear Algebra (PAT2A001), Introduction to Statsitics & Probability (PMA4E001), Data Structures & Algorithms (PCL1B201), Database Systems (PCL2B201)

Online (w/Marksheet ⚭ & Certificates): Introduction to Algorithms and Analysis (IIT-KGP), Computer Graphics (IIT-G), DataBase Management System (IIT-KGP), Computer Architecture (IIT-M), Deep Learning Specialization (DeepLearning.AI), Machine Learning (Coursera), 6.431x: Probability- The Science of Uncertainty and Data (MITx).

Awards

2022 Smart Odisha Hackathon: Awarded **1st Prize** out of 1000 teams **worth $2500** by the Government of Odisha [⚭] .

2022 Hugging Face Gradio NYC Hackathon: Awarded **2nd prize** out of 100 teams **worth $200** by Hugging Face [⚭] .

OUTR Merit Scholarship: Received tuition scholarships for ranking **1st in the department** during 3rd and 4th UG years.