

# 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 <i>UG Thesis - Generative Models and Recommender Systems for AI-Driven Fashion</i> [🔗]	CGPA: 8.43/10

## Experience

Present	Indian Institute of Technology, Indore	Indore, India
July 2025	<i>Research Assistant   Advisors: Prof. Chandresh Kumar Maurya &amp; Prof. Ayush Tripathi</i> > Worked 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. ( <i>Published at AAAI'26</i> )	
Apr 2025	Tech Mahindra	Bhubaneswar, India
Aug 2022	<i>Associate Software Engineer   Supervisor: Mr. Ipsit Misra (Manager)</i> > Designed 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	University of Cincinnati   Prasath Lab	Remote
Apr 2024	<i>Research Intern   Advisor: Dr. Surya Prasath</i> > Worked on conformal prediction methods to enhance uncertainty quantification in pathological cell classification workflows, improving model interpretability and robustness. > Developed a sampling-based feature bias mitigation technique to address data-driven biases in cervical cytology classification, improving model fairness and reliability. ( <i>Published at WIML, NeurIPS'24</i> )	
Jan 2024	ETH Zürich   Assisted Forest Regeneration Lab	Remote
Dec 2022	<i>Research Affiliate   Advisor: Dr. Leland K Werden</i> > 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	Carnegie Mellon University   Xu Lab	Remote
Aug 2022	<i>Research Intern   Advisor: Prof. Min Xu</i> > Worked on a Contrastive Self-Supervised Learning (CSSL) approach for macromolecular structure classification from cryo-ET data with limited labels. [🔗]	
Jan 2022	International Institute of Information Technology, Hyderabad (IIIT-H)	Hyderabad, India
Jul 2021	<i>Research Assistant   Advisors: Prof. Jayanthi Sivaswamy &amp; Prof. C.V. Jawahar</i> > 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

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**Prediction of Future Continuous Motion States from ECoG Recordings** [Q] [Slides] Jul 2023 - Aug 2023  
Advisor: *Dr. José Biurrun Manresa*  
> Participated in the 2023 Neuromatch Academy Summer School on Computational Neuroscience [Q].  
> 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** [Q] [V] [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** [Q] 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. [Q]

## Skills & Research Interests

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

**Frameworks:** PyTorch, Tensorflow, JAX

**Misc.:** Git, Linux, L<sup>A</sup>T<sub>E</sub>X, QGIS

**Research Interests:** Uncertainty Quantification, Biomedical Image Analysis & Human-Centered AI

## Relevant Coursework

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**Classroom (w/Subject Code):** Calculus [I-III] (PAM1A001), Linear Algebra (PAT2A001), Introduction to Statistics & 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

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

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

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