

Aditya Narendra

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Education

May 2017	Odisha University of Technology and Research (OUTR)	Bhubaneswar, Odisha
May 2021	Bachelor of Technology (B.Tech) in Fashion and Apparel Technology <i>Undergraduate Thesis - Applications of Artificial Intelligence in Fashion Industry</i> Courses - Data Structures, Algorithms, Machine Learning, Linear Algebra, Calculus, Probability & Statistics	CGPA: 8.43/10

Experience

Dec 2022 Present	ETH Zürich Assisted Forest Regeneration Lab [🌐] <i>Research Affiliate Advisor: Dr. Leland Werden</i> <ul style="list-style-type: none">> Working on a project on quantification of potential carbon capture and plant biodiversity recovery of forest, savannah, and mangrove assisted restoration projects.> Currently analyzing data related to regeneration practices and creating data pipelines.> Built a transformer based model for summarization of grey literature regarding regeneration practices.	Zurich, Switzerland
Jul 2023 Aug 2023	Neuromatch Academy [🌐] <i>Research Volunteer Advisors: Dr. José Biurrún Manresa & Dr. Xi-He Xie</i> <ul style="list-style-type: none">> Participated in the 2023 Summer School on Computational Neuroscience.> Worked on 'Prediction of Future Continuous Motion States from ECoG Recordings' based on joystick tracking data. [🌐] [Slides]	Remote
Aug 2022 Oct 2023	Center of Excellence - Artificial Intelligence [🌐] Tech Mahindra [🌐] <i>Associate Researcher Advisors: Prof. Jibitesh Mishra & Ipsit Misra</i> <ul style="list-style-type: none">> Built various robust and interpretable deep learning models for deployment of an intelligent health care application [🌐] and a multi-level smart parking system [🌐].> Published 3 papers and 1 Patent at international conferences and journals.	Bhubaneswar, India
Aug 2022 Sept 2023	Carnegie Mellon University Xu Lab [🌐] <i>Research Intern Advisor: Prof. Min Xu</i> <ul style="list-style-type: none">> Built an end-to-end multimodal model for particle picking and subtomogram alignment.> Also worked on modeling continuous conformational changes in cryo-ET images with self-supervised representation learning.	Pittsburgh, USA
Jul 2022 Aug 2022	École de Technologie Supérieure (ÉTS Montreal) <i>Summer School Research Intern Advisors: Prof. Pierre-Marc Jodoin & Prof. Thomas Grenier</i> <ul style="list-style-type: none">> Participated in 2022 3rd Edition Summer school on Deep Learning for Medical Imaging(DLMI) [🌐].> Worked on benchmarking various weakly supervised segmentation techniques for cardiac diseases diagnosis [🌐].	Montreal, Canada
Jul 2021 Jan 2022	International Institute of Information Technology, Hyderabad (IIIT-H) [🌐] <i>Research Intern Advisor: Prof. Jayanti Sivaswamy & Prof. CV Jawahar</i> <ul style="list-style-type: none">> Worked on an attention-based model for Covid-19 detection from Chest-X Rays.> Created a database for the segmentation of sub-cortical structures from MRI scans for the young population.	Hyderabad, India

Skills

Languages: C, C++, Python

Frameworks: Tensorflow, PyTorch, Keras, REST API

Misc.: Git, Linux, \LaTeX , Matlab, QGIS

Research Interests

AI for Social Good

Trustworthy Machine Learning

Human-AI Interaction

Publications

Deep Learning Based Classification of the Big Four Snake Species Using Visual Features [🔗] [📄]

Nishikant Parida, Aditya Narendra, Priyanshu Panda, Pooja K Reddy & Ipsit Misra
14th IEEE International Conference on Cloud Computing, Data Science & Engineering, India

[Confluence '24]

From Robots to Books: An Introduction to Smart Applications of AI in Education (AIED) [🔗] [Slides]

Shubham Ojha, Aditya Narendra, Siddharth Mohapatra, Ipsit Misra
Springer International Conference on Recent Innovations in Computing, Hungary

[ICRIC '23]

Chaurah: Smart Raspberry-Pi Parking System [🔗] [Slides] [📄]

Aditya Narendra, Soumya Choudhury, Asutosh Mishra & Ipsit Misra
International Conference on Communication and Computational Techniques, India

[ICCCT '23]

Patents

AI-Based Emergency Healthcare Solution (Patent No- 202331002146) [🔗]

[India Patents Office]

Ipsit Misra, Jibitesh Mishra, Aditya Narendra, Khirod Behera
[Published and Under Examination]

Select Projects

Satellite Data-based Pollution Forecasting using CNNs [📄]

Jan 2023 - Apr 2023

Advisor: Prof. Jibitesh Mishra

- > Built a CNN-based model to predict Breezometer Air Quality Index (BAQI) using Sentinel-2 images achieving over 87% Accuracy matching existing industry models. [Paper In Preparation]
- > Created a dataset of over 10,000 satellite images at resolution 1280 x 1280 and 10,000 Breezometer air quality data records across 57 cities in India.

MoSwasthya: ML Based Application for Cardiac Disease Risk Prediction [📄] [📺] [Slides]

Nov 2022 - Dec 2022

Advisor: Ipsit Misra

- > Created an all-in-one application that provides a ensemble methods based FAPS (First Action Prediction System) which estimate the cardiac disease risk on non-medical inputs with a real-day accuracy of 91.24%.
- > Won the First Prize worth 2500\$ USD among 4000 participants at the Smart Odisha Hackathon.

Vision-Based Models for Sorting and Segregation of Waste [🔗] [Slides]

July 2022 - Aug 2022

Associated Organization: Omdena

- > Built various vision-based models using state of art architectures for segregation and sorting of waste/trash into 10 commonly occurring classes as a task lead for the model-building team.
- > Evaluated this approach on benchmark datasets and models demonstrating almost matching accuracies in most cases.
- > Worked as a co-task lead for the deployment of the application using the Hugging Faces-Gradio Framework.

CoughVid: Covid-19 Detection from Cough Voice Samples [🔗]

Feb 2021 - Jan 2021

Advisor: Prof. S Behera

- > Developed an RNN and MFCC feature-extraction based model to detect Covid-19 from coughing audio samples.
- > Obtained an overall accuracy of 82.42% in Pfizer Digital Medicine Challenge.

Honors and Awards

Smart Odisha Hackathon, 2022 [📄] [🔗] Awarded 1st Prize worth 2500\$ USD by the Chief Minister of Odisha for Healthcare sector out of 1000 teams nationwide.

Hugging Face Gradio NYC Hackathon [📄] Ranked 2 out of 100s of participating teams and won 200\$ USD worth of Hugging Face store goodies.

OUTR Best Undergraduate Thesis Award, 2021: Nominated for my undergraduate thesis for the batch of 2021 consisting of over 1200 students.