

Anirban Nath

Roll No.: 2104101001

MS (by Research) - Computer Science and Engineering

Indian Institute of Technology Indore

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EDUCATION

Degree/Certificate	Institute	CGPA/Percentage	Year
MS (by Research)	Indian Institute of Technology Indore	9.50 (Current)	2021-Present
B.Tech.	Kalyani Government Engineering College	8.28	2021
Senior Secondary	Don Bosco School, Bandel	93.75%	2016
Secondary	Don Bosco School, Bandel	86.20%	2014

EXPERIENCE

- DynamoFL - YC'22 Startup** Feb. 2022 - May 2022
Deep Learning Intern (Remote) **San Francisco, CA**
 - Performed various experiments in Federated Learning (FL) to identify issues on the DynamoFL platform.
 - Implemented SOTA NLP models such as MobileBERT and SentenceBERT on the Microsoft MIND Dataset for news classification and user-preference analysis/user clustering.
 - Studied and implemented SOTA research papers about Lottery Ticket Networks/FL for use in Neural Collaborative Filtering Models that get more performant and lighter with training.
 - Implemented a Semi-Supervised FL model that takes sensor data from wearables and generates mood predictions.
- Indian Institute of Technology Indore** Aug. 2021 - Present
Research Scholar **Indore, India**
 - Actively researching Universal Vision Transformers coupled with Federated Learning and Differential Privacy to make efficient and secure medical imaging models.
 - Teaching Assistant for Machine Learning. (CS-603)
 - Teaching Assistant in the C Programming Lab. (IC-151)
- Vidgyor Media Technologies** Dec. 2019 - Feb. 2020
Computer Vision Intern **Bengaluru, India**
 - Improved upon the existing ML-based tech stack by implementing Deep Learning Convolutional Neural Networks to achieve significant performance boosts for custom logo detection within live TV news feed.
 - Optimized the model for faster than real-time (approx. 40 fps) detection speeds, while simultaneously solving the multiple instance detection and dimensionality mismatch problems.
 - Curated all the training dataset needed for the detector from scratch and then wrote a script to automate dataset generation. The script was further developed by the company as a standalone product.
- Analytics Vidhya**
Freelance (Remote)
 - Wrote a two-part article about automating the process of generating labeled data for Convolutional Neural Networks for continuous training using the SIFT Algorithm/OpenCV.

PROJECTS

- Automated Ad-Detection using Convolutional Neural Networks** Jan. 2021 - Jun. 2021
Supervisor: Prof. Md. Iqbal Quraishi (Dept. of I.T., Kalyani Government Engineering College)
 - Implemented a deep learning pipeline using ConvNets for ad distinction/detection within a livestream feed by creating unique signatures for each ad. These signatures were then used to differentiate among hundreds of different advertisements in real time.

TECHNICAL SKILLS

- Programming:** Python, C/C++
- Tools/Frameworks:** PyTorch, OpenCV, Keras, Tensorflow
- Operating Systems:** Windows, Linux, MacOS* * Elementary proficiency

KEY COURSES TAKEN

- Mathematics:** Linear Algebra, Calculus, Discrete Maths, Probability & Random Processes
- Computer Science:** Advanced Algorithms, Machine Learning, Computer Vision

POSITIONS OF RESPONSIBILITY

- Mentor of Projects Team**, Cynaptics Club, IIT Indore Aug. 2021 - Present
- Core Member**, KeyGen Coders, Kalyani Government Engineering College Sep. 2019 - Jul. 2021

ACHIEVEMENTS

- Second Place**, Word Wars 3.0: General Debate, DebSoc: IIT Indore 2022
- Fourth Place**, Axelrod Duels, Equinox'22, IIIT Lucknow 2022
- First Place**, Data-Hack, TechTix: Espektro'20, Kalyani Government Engineering College 2020
- First Place**, Biz-Quiz, E-Summit'19: KGEC E-Cell, Kalyani Government Engineering College 2019