Anirban Nath

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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 Technolgies** *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

- **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*