AATIF NISAR DAR

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Webpage , LinkedIn , Medium , GitHub

RESEARCH INTERESTS

Computer Vision, Human-Computer Interaction, Human-Centered AI, Algorithmic Governance, and Fairness AI.

EDUCATION

Master of Science in Computer Science *2020 - 2022*
South Asian University, New Delhi, India CGPA: 7.87/9.0 (Second Rank)

Relevant Courses: Mathematical Topics on Computer Science, Artificial Intelligence, Data Mining, Machine Learning, Linear Programming, Advanced Data Structures & Algorithms.

Bachelor of Science (Honours) in Computer Science *2017 - 2020*
University of Delhi, New Delhi, India CGPA: 7.77/10.0

RESEARCH EXPERIENCE

Project Scientist, IIT (Indian Institute of Technology), Delhi. *Jun '22 - Present*
(Prof. Chetan Arora and Prof. Nandana Sengupta)

- Working on the project "Enhancing India's Science, Technology, and Innovation Policy Analysis Capabilities" in the Vision Lab at the Indian Institute of Technology, Delhi.
- Investigating possibilities of automated estimation of household level economic variable – income and assets, typically measured using a detailed household survey.
- Utilizing Transfer Learning techniques, specifically using Vision Transformers, and Metric Learning techniques to analyze images from four North-east states of India for the purpose of predicting household income and assets.

(Master's Dissertation) Generative Adversarial Networks and its Applications, South Asian University. *May '21 - May '22*
(Prof. Reshma Rastogi)

- Executed GAN on MNIST Digit dataset and MNIST Fashion dataset with Self Attention Module and Spectral Normalization in both Generator and Discriminator. Added TTUR (Two Time Scale Update) to stabilize the training of the GAN.
- Implemented CycleGAN, Pix2PixGAN, StyleGAN, SMIT, and AttentionGAN on the CelebA dataset.
- Outcome of my dissertation was a novel architecture called MLGAN (Multi-Label Generative Adversarial Network), which was designed to address the challenge of data imbalance in multilabel datasets.

PUBLICATIONS

"Economic Status Prediction Using Deep Learning on Household Images," with Prof. Chetan Arora and Prof. Nandana Sengupta. (Working Paper)

Aatif Nisar Dar, Reshma Rastogi, "MLGAN: Addressing imbalance in multilabel learning using generative adversarial networks," ICETCI 2023. (To Appear)

OTHER WRITINGS

Aatif Nisar Dar, "Principal Component Analysis," Global Scientific Journal, GSJ: Volume 9, Issue 7, July 2021, Online: ISSN 2320-9186. (Lightly Peer-reviewed)

Aatif Nisar Dar, "How to Choose the Best Classification Model," "Partial Multi-Label GANs," and "Image-To-Image Translation via Generative Adversarial Networks (GANs)," Medium.

INDUSTRY EXPERIENCE

Omdena-Iraq Local Chapter *Sept '21 - Oct '21*
Prevent Gun and Gang Violence Internship

The Sparks Foundation *Aug '21 - Sep '21*
Business and Data Analytics Internship

Rani.ai *Aug '21 - Oct '21*
Big Data and ML Internship

AWARDS AND HONORS

Best Presenter Award at the ICETCI 2023 conference for the paper entitled "MLGAN: Addressing Imbalance in Multilabel Learning Using Generative Adversarial Networks." *21-23 Sept '23*

Received a **Travel Grant** to present a poster at the IndoML Conference held at IIT Bombay. *Upcoming*

Member of **AISCF** (AI Safety Careers Fellowship), enhancing understanding of AI systems and safety measures. *Current*

Second position at **Hackathon** organized by Department of Computer Science, Ramanujan College, University of Delhi. *Feb '20*

Second position for Essay Writing Competition on the topic 'No Voter to be Left Behind,' Chief Electoral Officer. *May '18*

LEADERSHIP ACTIVITIES

Students Union Representative at Computer Science Department of Keshav Mahavidyalaya, University of Delhi. *Sept '18 - Sept '19*

Secretary at NSS (National Service Scheme). *Aug '17 - Aug '19*

Attended Ethical Hacking Workshop at DTU (Delhi Technological University). *Feb '18*

Engaged in MUN (Model United Nations) activities at Jamia Milia University. *Oct '18*

SKILLS

Proficient in:
Python, Computer Vision, Generative Adversarial Networks GANs (Master's Thesis), Natural Language Processing, C++, Machine Learning, Neural Networks, Data structures and Algorithms, Data mining, Linux, and Latex.

Familiar with:
Matlab, R, Java, Big Data (PySpark), PHP, HTML, CSS, and JavaScript.