Anshul Jain

Roll No.:M24CSA002
M.Tech
Artificial Intelligence
Indian Institute Of Technology, Jodhpur

+91-9131113215
anshul.jain.39142@gmail.com
m24csa002@iitj.ac.in
Github | Website
LinkedIn

EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
M.Tech. (AI)	Indian Institute of Technology, Jodhpur	9.1	2024-Present
B.Tech. (Mech)	National Institute of Technology, Bhopal (NIT Bhopal)	8.72	2019-2023
Senior Secondary	CBSE Board	86.2%	2019
Secondary	CBSE Board	10.0%	2017

M.TECH THESIS

- **Negation-Aware Audio Generation and Understanding in Large Language Models**

  M.Tech Project | Guide: Prof. Mayank Vatsa   Jan 2025 – Present
  – Developed a large-scale benchmarking pipeline for **negation handling** in audio generation using **AudioCaps, Clotho, and MACS**, generating negative captions via **LLaMA 3.1, Qwen3, GPT OSS** and converting them to audio with **AudioGen, TangoFlux, AudioLDM2**.Built an **embedding-based evaluation framework** using **MLU Whisper, HuBERT, and Qwen** for audio-audio and text-text similarity analysis, revealing limitations of current models in capturing negation.

PROJECTS

- **AI-Powered Virtual Try-On System**   *Jan. 2025 – Apr. 2025*

  AI-powered virtual dressing system using person and clothing images.   Demo | GitHub
  – Implemented and compared U-Net, GANs, and Diffusion Models for photorealistic virtual try-on using **Python, PyTorch, OpenCV, Streamlit, and Hugging Face**, and deployed an interactive system with real-time garment overlay.

- **CLIP-Based Fake News Detection (Fakeddit)**   *Jan. 2025 – Apr. 2025*

  Designed a multimodal classifier using image + text embeddings to detect fake news.   GitHub
  – Developed a multimodal fake news detector on Fakeddit using **PyTorch, CLIP (ViT-B/32), Cross-Modal Attention, and Contrastive Learning**; enhanced baseline CLIP with attention and NT-Xent loss, improving macro F1 (0.612→0.676), micro F1 (0.674→0.723), and Precision@3 (0.81→0.88).

- **Comparative Study of PCA and ICA in EEG Signal Processing**   *Aug. 2024 – Nov. 2024*

  Evaluated PCA and ICA for EEG denoising and classification.   GitHub
  – Performed a comparative study of EEG preprocessing using **Python, NumPy, SciPy, scikit-learn, and Matplotlib**; built a full pipeline with PCA/ICA decomposition and classification (SVM, Random Forest, Neural Networks), showing PCA improved SNR by +9.39 dB while ICA better isolated independent sources such as eye blinks and muscle noise.

- **Sequential Sketch Generation (Quick, Draw! Dataset)**   *Feb. 2025 – Mar. 2025*

  Built a stroke-based generative model to draw sketches sequentially from object class names.   GitHub
  – Built a sequential sketch generation model using **PyTorch, LSTMs, Attention Mechanisms, NumPy, and Matplotlib**; implemented a Seq2Seq LSTM with Attention on the Google Quick, Draw! dataset (5 classes), and extended it with **Interactive Refinement** (user feedback loop) and **Multi-object Composition** for scene generation.

EXPERIENCE

- **Optimspace**   *May 2023 – July 2023*

  Data Science | Machine Learning Intern   Remote
  – Worked on end-to-end ML workflows including data preprocessing, feature engineering, model training, and performance evaluation using Python, Pandas, Scikit-learn, TensorFlow, and PyTorch. Built interactive dashboards in Streamlit/Matplotlib to visualize insights and collaborated on deployment-ready workflows.

KEY COURSES TAKEN

- Advanced Data Strucute and Algorithms,Deep Learning, Machine Learning, Artificial Intelligence, Computer Vision, OS, VANET, DBMS, Natural Language Understanding, Machine Learning with Big-Data

TECHNICAL SKILLS

- **Programming Tools:** Python, R, C/C++, SQL, Git, Bash, Docker, Jupyter, Gradio, LaTeX, HTML/CSS/JS
- **ML / DL Data Science:** Machine Learning, Deep Learning, PyTorch, TensorFlow, Keras, scikit-learn, Hugging Face Transformers, Pandas, NumPy, Matplotlib, Seaborn, Regular Expressions, Minimax Algorithm
- **Big Data NLP:** PySpark, Spark NLP, TF-IDF, LDA, Topic Modeling, NLP Pipelines

POSITIONS OF RESPONSIBILITY

- **Teaching Assistant,**IIT Jodhpur - DSA, VANET, ICS, M4C   *Jul. 2024 – Present*
- **Team Member,**Aaroha NGO   *Sep. 2019 – Apr. 2023*
- **Core Team Member,**VISION Technical Society, MANIT   *Jan. 2020 – Apr. 2023*
- **Organizing Team Member,**Maffick Cultural Fest, MANIT   *Aug. 2023 – Oct. 2023*

ACHIEVEMENTS

- **GATE CS** Achieved All India Rank **1,500** securing a position in the top **1.2% (98.8 percentile)**.   *2024*
- **JEE Advanced** Achieved a rank in the top **1.5%** of **1M+** aspirants all over India.   *2019*

CERTIFICATIONS

- Complete Python Programming – Basics to Advanced Concepts (Unwired Learning)   *Apr. 2023*
- Data Structure & Algorithm using C++: Zero to Mastery (Udemy)   *Jun. 2021*