Abhiroop Chintalapudi

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Education

Indian Institute of Technology Gandhinagar CPI: 8.2
Master of Technology in Artificial Intelligence 2024 – Present

Indian Institute of Technology Hyderabad CPI: 7.01
Bachelor of Technology in Artificial Intelligence 2020 – 2024

Projects

StoryForge AI Studio: Story-to-Video Generative Pipeline Jan 2025 - Apr 2025
Prof. Anirban Dasgupta, IIT Gandhinagar | Repo

- Engineered 7-stage multilingual (7 languages) generative pipeline integrating Llama 3 (Ollama), Stable Diffusion+LoRA, BLIP/CLIP, gTTS, MoviePy; modular Python architecture (8+ core components).
- Delivered Streamlit studio for end-to-end keyword→video in a single run; auto-produces and packages all artifacts (story, prompts, images, audio, consistency report, final MP4) for download.

Multimodal Pain Classification (m-PainAttnNet) Jan 2024 - Apr 2024
Prof. Nagarajan Ganapati, IIT Hyderabad | Repo

- Extended PainAttnNet with attention fusion of 3 physiological modalities (ECG, EMG, EDA) for 5-class pain inference; produced ablation notebooks & final presentation artifacts.
- Implemented architecture variants and modality-drop experiments to quantify contribution and improve cross-session robustness in BioVid evaluations.

Semantic Segmentation of Aerial Drone Images Aug 2023 - Nov 2023
Prof. Summohana Channapayya, IIT Hyderabad | Repo

- Benchmarked 4+ architectures (UNet, DeepLabV3+, SegNet, Swin Transformer) on high-resolution drone imagery with reproducible Jupyter workflows.
- Authored comparative report (peak 80% accuracy) highlighting trade-offs in model capacity vs. spatial resolution for deployment selection.

Technical Skills

Languages: Python, C, MATLAB, SQL
ML / DL: PyTorch, TensorFlow, Transformers, Stable Diffusion, LoRA, BLIP, CLIP
Data / CV / NLP: NumPy, Pandas, SciPy, OpenCV, Tokenization, Attention Models
MLOps / Tools: Streamlit, Git, GitHub, LaTeX
Focus Areas: Generative AI, Multimodal Fusion, In-Context Learning, Semantic Segmentation, Bandit Algorithms

Research Work

Robust In-Context Learning with Multi-Armed Bandit Partitioning May 2025 - Sept 2025
Prof. Manisha Padala, IIT Gandhinagar | Repo

- Implemented MAB algorithms (UCB, Thompson Sampling) for exemplar selection in ICL; engineered PyTorch + HuggingFace pipelines integrating 5+ open-source LLMs (Llama, GPT-2, T5) for reproducible NLP benchmarking.
- Achieved 85–95% recovery of noise-free baseline accuracy under non-i.i.d. test conditions; automated evaluation across diverse datasets and tasks.

Achievements

- All India Rank 1243 in GATE (Data Science).
- 97.54 percentile in CAT 2023.
- All India Rank 616 in JEE Advanced; AIR 1037 in JEE Mains.

Key Courses

- **Mathematics:** Linear Algebra, Vector Calculus, Discrete Mathematics, Statistics
- **Artificial Intelligence:** Machine Learning, Deep Learning, Natural Language Processing, Game Theory