Aniruth Sundararajan

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Education

University of Southern California (GPA: 4/4) 2025 – 2027
MS in Computer Science (Artificial Intelligence)
Relevant Coursework: Foundations of AI, Machine Learning

Shiv Nadar University Chennai (GPA: 9.41/10.0) 2021 – 2025
B.Tech in Artificial Intelligence and Data Science
Relevant Coursework: Data Structures, Analysis of Algorithms, Deep Learning, Machine Learning, NLP, Web Development, Computer Vision, Artificial Intelligence, Reinforcement Learning, Foundations of Data Science

Work Experience

Research Intern, Vision and AI Lab, Dept. of CDS, IISc Bangalore Feb 2025 – Jul 2025
– Developed high-fidelity 3D car model and dynamic scene rendering using 3D/4D Gaussian Splatting, 3D reconstruction, geometric computer vision, and deep learning

Computer Vision Developer Intern, IIIT Hyderabad May 2024 – Dec 2024
– Solved classroom group dynamics analysis using deep learning–based multi-person detection, pose estimation, and activity recognition, handling 40+ students simultaneously with 99% object detection accuracy.

Engineering Intern, Class One Exchange Inc (C1X Inc) May 2023 - June 2025
– Built an AI-driven automatic ad generation and end-to-end food recognition & recipe recommendation system using deep learning, transfer learning, and curated dataset of 3000+ labeled images.

Projects

Real Time Travel Agent Link June 2025
Built an AI-driven real-time travel assistant which automates itenary planning, actual hotel and flight availability using Python, RAG, LangChain, LangGraph, vector embeddings, and live data APIs for weather, currency, and attractions.

AI-Powered Answer Paper Grading and Plagiarism Detection Link April 2025
Engineered an AI-driven exam grading system with automated feedback and plagiarism detection using Large Language Models (NLP, deep learning, text similarity), securing INR 10,000 funding for real-world validation.

OCT Image Classification Link June 2024
– Built a deep learning supervised ensemble (ResNet, AlexNet, MobileNet) using PyTorch for OCT retinal scan classification, achieving **99%+ accuracy** with transfer learning and CNN-based feature extraction.

Person Tracking in Crowds using Multiple Cameras Link Oct 2023
– Built a unsupervised multi-camera tracking system with cross-camera synchronization and re-identification for real-time person tracking in crowded environments using computer vision and multi-object tracking.

Publications

UDC-Mamba: Deep State Space Model for Under Display Camera Image Restoration Link Dec 2024
– Achieved State of the Art results with LPIPS of 0.04 in under display camera image restoration using state space models.

Uf-PromptGAN: A Nighttime Flare Removal Network Using Learnable Prompts Link Dec 2024
– Used Uformer to remove the night time flare region, followed by a GAN which uses learnable prompts to inpaint the affected regions

Technical Skills

- **Programming Languages:** Python, C++, C, Java, R, SQL
- **Machine Learning & AI:** PyTorch, TensorFlow, Keras, OpenCV, NLTK, scikit-learn, LangChain, LangGraph, LangSmith, RAG Systems , Hugging Face
- **Data Science & Visualization:** NumPy, Pandas, Matplotlib, Seaborn, Tableau
- **MLOps & Deployment:** Flask, Streamlit, MLflow, Weights & Biases (W&B), LangSmith
- **Version Control:** Git, GitHub , Poetry
- **Mathematical Foundations:** Linear Algebra, Probability, Statistics, Optimization Methods

Honors and Awards

- **Received Academic Excellence Award for exemplary academic and co-curricular performance at Shiv Nadar University (2021–2025).**

- **Awarded Merit Scholarship for outstanding academic excellence at Shiv Nadar University Chennai (2022).**