Arnav Khamparia

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Education

B.Tech in Artificial Intelligence and Machine Learning 2021 – 2025
Madhav Institute of Technology and Science Gwalior, India
Relevant Coursework: Machine Learning, Deep Learning, Data Structures, Algorithms

Professional Experience

Machine Learning Intern May 2024 – Aug 2024
Vivada Tech Chennai, India
-Developed and optimized machine learning models using prompt engineering, improving SDK performance by 20% for AI evaluation and observability tools.
- Designed and integrated REST APIs and SDKs, reducing model deployment time by 15% and enabling seamless interaction with cloud-based ML pipelines.
- Authored technical documentation, increasing team onboarding efficiency by 30%.

Projects

LangGraph Agentic Workflow Feb 2025
Cybersecurity scanner
-Engineered an autonomous cybersecurity scanner using Groq API and LangGraph to orchestrate tasks for Nmap, Gobuster, FFUF, and SQLmap, reducing scan time by 50% (60–240 seconds) via concurrent processing.
- Built a Streamlit dashboard for real-time vulnerability tracking, enhancing user interaction and reporting accuracy for cybersecurity workflows.

Super Resolution Apr 2024
-Developed an ESRGAN model with TensorFlow, achieving 10% better sharpness and detail recovery than state-of-the-art methods for high-resolution image upscaling.
- Optimized training with concurrent programming, reducing computation time by 25%, applicable to real-time image processing tasks.

Skills

Programming: Python, SQL

Machine Learning: TensorFlow, PyTorch, Scikit-learn, LangChain, LangGraph, Prompt Engineering

Tools and Platforms: Tools & Platforms: Git, Streamlit, REST APIs, AWS

Domains: Deep Learning, Computer Vision, NLP, Cybersecurity, Data Structures & Algorithms

Publications

Liver Tumor Segmentation with U-Net, V-Net and AH-Net Using MONAI
Springer Book Series
Co-authored a study comparing U-Net, V-Net, and AH-Net for liver CT scan segmentation, achieving a top Dice score of 0.93 for volumetric analysis, contributing to improved diagnostic accuracy.

Accolades

MITS Alumni Community
Content Coordinator
Developed content strategies for newsletters and social media, increasing alumni engagement by 40% through targeted campaigns and event highlights.

Artificial Intelligence Club
Technical Lead
Led 10+ team projects and workshops on AI/ML, mentoring 20+ students in Python and TensorFlow, resulting in successful project deployments.