Nehan Tanwar

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Education

Indian Institute of Information Technology Nagpur — Nagpur, India
Bachelor of Technology in Electronics and Communication Engineering — *July 2021 – June 2025*

Technical Skills

Languages: C/C++, Python, SQL, Linux, Bash, Java.
Machine Learning: Tensorflow, NLTK, Pytorch, Sklearn, OpenCV, YOLO, SSD, Spacy, LLM, LangChain
MLOPS: CI/CD, Packaging, Tox, Pytest, Kubernetes, Jenkins, MLFlow, Docker, Streamlit, Whylogs, AWS.
Data Structures and Algorithms : Dynamic programing, BFS/DFS, Recursion, Hash-Maps, Sliding Window etc.

Experience

AI Intern — June 2024 – Ongoing
Volare Technologies Pvt. Ltd. — *Hybrid Mode*

- Developing an AI assistant from scratch using RAG (Retrieval-Augmented Generation).
- Creating a vector database from a postgresql database using searching and retrieving algorithms like cosine-search and KNN.
- Fine-tuning model parameters, including chunk size, chunk overlap, and temperature.

Machine Learning Intern — May 2023 – July 2023
Orbo — *Remote Mode*

- Developed a solution using a pre-trained CNN to apply customizable makeup effects to various facial regions, including lips, eyes, and cheeks, based on user-selected shades and styles.
- Engineered a process to isolate specific facial features using landmark detection, ensuring accurate and realistic application of makeup effects.
- Implemented blending techniques to integrate modified facial regions seamlessly back into the original photograph, enhancing the overall visual quality and realism.

Projects

Product Image Generator for Advertisement using Prompt | *Hugging Face, Stable-Diffusion, OpenCV, Python*

- Developed a novel machine learning model utilizing Hugging Face, OpenCV, Stable Diffusion, and PyTorch to enhance product images for advertisement, enhancing visual appeal and engagement.
- Engineered a solution that takes a product image as input and, guided by user-provided prompts, generates compelling advertisement-ready visuals, streamlining marketing content creation.
- Applied advanced computer vision techniques to seamlessly remove and replace backgrounds, ensuring the final image aligns with the user's creative vision and brand identity.
- Leveraged Stable Diffusion to enhance image quality and realism, achieving visually stunning results suitable for diverse advertising campaigns.

Legal Document Simplification| *Python, RAG, Langchain, LLM, GPT-3 API, Streamlit*

- Integrated OpenAI's GPT-3 to simplify legal documents, automating the generation of plain language explanations.
- Utilized Langchain for document processing tasks, such as loading PDF files, splitting documents into chunks, and creating embeddings using FAISS.
- Employed the Constitution of India as the dataset for training and testing the model.
- Collaborated with legal experts to ensure the quality and clarity of simplified explanations met legal and ethical standards.