URVIL PANCHAL

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Work Experience

JR. DATA SCIENTIST @ NEXUSLINK SERVICES PVT. LTD.   Jun 2024 – Present

- Developed an end-to-end object detection system using the yolo-v8, with deployment on **RunPod** serverless.
- Built a RAG system leveraging large language models (LLMs) for enhanced information retrieval.
- Created and deployed scalable APIs using FastAPI and containerized applications with Docker.
- Managed cloud infrastructure and deployments on **AWS**, optimizing for performance and cost, while handling version control and code management through **GitHub** to streamline team collaboration.

DATA SCIENCE INTERN @ URBAN ETHICS   Jan 2024 – May 2024

- Focused primarily on Machine Learning, gained hands-on experience in various data-related tasks.
- Conducted data cleaning and exploration to prepare datasets for analysis.
- Created visualizations to uncover trends and patterns, and built predictive models, developing a solid understanding of core ML concepts.

Skills

- **Programming Languages:** Python
- **Core Competencies:** Machine Learning, Deep Learning, Natural Language Processing
- **AI/ML Frameworks:** PyTorch, TensorFlow, Langchain, Scikit-Learn
- **Tools & Platforms:** Git, Github, Docker, Amazon Web Services (AWS)
- **Additional Skills:** Flask, Streamlit, FastAPI, LLM Fine-tuning, Ollama, Transformers

Projects

NSFW Detection System

- Developed and trained a YOLOv8 object detection model to detect explicit content by identifying adult imagery. Data was manually annotated to ensure high accuracy.
- Created a Docker container for the detection system, enabling seamless integration and scalability.
- Hosted the system on **RunPod**, providing efficient and scalable cloud-based detection for NSFW content.

AI-Powered Document Q&A System | article

- Developed a Retrieval-Augmented Generation (RAG) application that accepts text and PDF inputs, enabling users to ask questions and get responses based on the content of the files.
- Leveraged **Llama 3.1** as the Large Language Model (LLM) with **Groq** API, utilizing **Faiss** Vector Store for efficient document retrieval.
- Used Langchain as the framework to seamlessly integrate the LLM, document retrieval, and user interaction for an interactive Q&A experience.

RAG Evaluation using RAGAS

- Implemented RAGAS (Retrieval-Augmented Generation Assessment) to evaluate RAG models.
- Analyzed metrics like response accuracy and relevance to assess model performance.

Education

Gujarat Technological University

B.E. in Information Technology   2020-2024