Vishal Vilas Gorule

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Summary

Enthusiastic Data Science and Artificial Intelligence Intern with hands-on experience in developing solutions for fault detection, NLP, and computer vision tasks. Skilled in Python, Machine Learning, and Deep Learning, with proven experience in deploying real-time models and building AI-powered applications.

Skills

Languages: *Python*
Database: *MySQL, AstraDB*
Machine Learning & Deep Learning: *Scikit-learn, Tensorflow, Keras, SciPy*
Natural Language Processing: *NLTK, Spacy, Hugging Face, Transformers, BERT, GPT*
Computer Vision: *YOLO, ResNet50, VGG16, CNN*
Generative AI: *Open-AI, Gemini Pro, LLama, LangSmith*
Audio Processing: *TTS, STT*
Technologies & Tools: *Docker, REST API, FastAPI, Render, Flask*
Version Control & MLops: *Git, GitHub, DVC*

Work Experience

Solar Secure Solutions, Remote *May 2024 – Aug 2024*

AI and ML Intern

- *Developed a powerful multi-modal Question & Answer system leveraging Google's Gemini Pro API for natural language understanding.*
- *Enabled advanced features like text Q&A, image analysis, document (PDF, DOCX) parsing, and YouTube/URL content analysis.*
- *Integrated AstraDB with Sentence Transformers to enable high-performance semantic search using vector embeddings.*
- *Monitored LLM performance and prompt analytics using LangSmith, improving model debugging and reliability.*
- *Designed a modern, responsive Flask web interface to facilitate user interaction.*
- *Deployed using Docker and Render cloud platform for scalable, containerized hosting.*

RacksonIT Developers Pvt Ltd, Pune *Jan 2024 – May 2024*

Data Science and Artificial Intelligence Intern

- *Contributed to AI model development and deployment workflows for solar panel analysis.*
- *Collaborated in building automated systems using Python, OpenCV, and ML frameworks.*
- *Gained experience with REST API design and containerized deployment on the cloud.*

Qsective Solution, Ichalkaranji *2021 - 2022*

Python and Machine Learning Trainee

- *Implemented ML models for regression and clustering tasks.*
- *Performed data preprocessing, feature engineering, and automation scripting using Python.*

Education

SIT, Yadrav *Aug 2020 - Jun 2024*
B.Tech in Artificial Intelligence and Data Science ***CGPA: 7.06/10***
Relevant Coursework: Machine Learning, Deep Learning, Natural Language Processing, Data Mining, Big Data Analytics, Artificial Intelligence, Reinforcement Learning, Computer Vision, Image Processing, Information Retrieval, Probability and Statistics, Discrete Mathematics.

Project Work

QA-System-using-Gemini-Pro-API:

- *Developed a powerful* **multi-modal Question & Answer system** *leveraging Google's* **Gemini Pro API** *for natural language understanding.*
- *Enabled advanced features like text Q&A, image analysis, document (PDF, DOCX) parsing, and YouTube/URL content analysis.*
- *Integrated* **AstraDB** *with Sentence Transformers to enable high-performance semantic search using vector embeddings.*
- *Monitored LLM performance and prompt analytics using* **LangSmith,** *improving model debugging and reliability.*
- *Designed a modern, responsive* **Flask** *web interface to facilitate user interaction.*
- *Deployed using* **Docker** *and* **Render** *cloud platform for scalable, containerized hosting.*

Solar Panel Fault Detection System:

- *Developed a deep learning-based system using* **EfficientNetB3** *to identify and classify* **six types of faults** *with* **~85%** *accuracy.*
- *Built an interactive frontend using* **Gradio** *and integrated with a* **FastAPI-based REST API***.*
- *Utilized* **OpenCV** *for image preprocessing and analysis.*
- *Deployed using* **Docker** *and* **Render** *for GPU-accelerated, scalable cloud inference.*
- *Dataset sourced from* **Kaggle***, supporting batch processing and real-time predictions.*

AI-Based Poultry Disease Detection System:

- *Built a deep learning system using* **VGG16** *with transfer learning to classify poultry diseases with* **~95%** *accuracy.*
- *Developed a* **Flask** *web app and* **REST API** *for real-time image-based disease prediction.*
- *Designed a modular ML pipeline with* **TensorFlow** *for scalable training, evaluation, and deployment.*
- *Employed* **DVC** *for dataset versioning and used data augmentation to boost model robustness.*
- *Deployed on* **Render***,* **AWS***, and* **Azure** *to enable scalable cloud access.*

Publications

The Hospital Management System, IRJMETS, Dec 2024
URL: https://www.doi.org/10.56726/IRJMETS47223

Awards and Certificates

- *Data Science with Python – Simplilearn*
- *Neural Networks and Deep Learning – Coursera*
- *Natural Language Processing with Classification and Vector Spaces – Coursera*