VivekYadav

taskmaster-1 | taskmaster | i.am.vivekyadav5223@gmail.com | Portfolio | 9335275223

SUMMARY

Analytical and self-driven aspiring Data Scientist with a solid foundation in statistics, machine learning, and data interpretation. Skilled in transforming raw data into actionable insights through thoughtful analysis and visualization. Proficient in Python, data manipulation, and model building, with a keen interest in solving real-world problems using data. Strong collaboration skills, with focus on continuous learning and delivering data-backed solutions that drive business impact.

WORK EXPERIENCE

Machine Learning Engineer / Data Scientist March 2025 - Present

- **Developed and deployed machine learning models** for hotel channel manager application, implementing predictive algorithms that optimized pricing strategies and increased booking rates by 23%
- **Engineered dynamic pricing algorithms** using time-series forecasting techniques (ARIMA, LSTM) to analyze demand patterns, resulting in 18% improvement in revenue management efficiency
- **Built and maintained RESTful APIs** for real-time model serving, enabling seamless integration of ML predictions into production systems with 99.8% uptime
- **Conducted comprehensive data analysis** of historical booking data and market trends across 500+ hotel properties, identifying key pricing opportunities and seasonal patterns that drove $2M+ in additional revenue

PROJECTS

LearnMate – AI Learning Assistant — Python, OpenAI API, LangChain, Streamlit, Multilingual NLP, GCP

- **Architected and developed a full-stack AI-powered learning platform** serving 30+ languages with 95% accuracy, integrating OpenAI APIs, HuggingFace Transformers, and LangChain framework to revolutionize educational content processing.
- **Built intelligent document processing engine** supporting 15+ file formats (PDF, DOCX, TXT) with 92% extraction accuracy, enabling automated content analysis and interactive document querying for enhanced learning experiences.
- **Implemented multilingual natural language understanding system** with automatic language detection and cultural nuance recognition, processing user queries in real-time with <2 second response times.
- **Designed and deployed advanced learning tools** including AI-powered quiz generators, flashcard creators, and concept mapping features, transforming static content into interactive educational materials.
- **Developed accessible web application** using Streamlit framework with text-to-speech capabilities, voice commands, and screen reader optimization, ensuring inclusive design for users with disabilities.

Sentiment Analyzer WebApp — Python, Deep Learning, TensorFlow/Keras, RNN, Streamlit, Model Deployment

- **Developed and deployed a production-ready sentiment analysis application** using Recurrent Neural Networks (RNN) with TensorFlow/Keras, achieving multi-class classification (Positive, Negative, Neutral) with confidence scoring and real-time text processing.
- **Built end-to-end machine learning pipeline** from data preprocessing to model deployment, implementing custom tokenization, sequence padding, and neural network architecture optimization for natural language processing tasks.
- **Engineered interactive web application** using Streamlit framework with modern UI/UX design, featuring real-time sentiment prediction, visual progress indicators, and emoji-based sentiment representation for enhanced user experience.
- **Deployed scalable ML model to production** on Render cloud platform with optimized performance, enabling real-time inference for movie review analysis with automated model serving and API integration.
- **Implemented comprehensive MLOps practices** including model versioning, pickle serialization for tokenizer persistence, and secure deployment protocols while maintaining 99% uptime for production application.

DeepFake Detection System — Python, Deep Learning, PyTorch, Computer Vision, GAN Detection *(DCGAN, CycleGAN, StyleGAN)*

- **Architected and developed a state-of-the-art DeepFake detection system** using advanced pairwise learning techniques and Convolutional Feature Fusion Networks (CFFN), achieving superior detection accuracy by analyzing inter-image relationships rather than isolated features
- **Engineered robust deep learning pipeline** processing 203k+ real and AI-generated images from multiple GAN architectures (StyleGAN, CycleGAN, DCGAN, ProGAN), implementing custom CNN backbone with DenseNet for enhanced feature extraction and model generalization
- **Implemented advanced loss optimization strategies** using contrastive loss and binary cross-entropy for pairwise image comparison, resulting in improved model performance across diverse deepfake generation techniques and real-world scenarios
- **Built comprehensive evaluation framework** with multiple performance metrics including AUC, precision-recall curves, and confusion matrices, enabling thorough model validation and performance benchmarking against industry standards

EDUCATION

Jaypee University of Engineering and Technology Guna, MP
Bachelor of Technology in Computer Science *July.2022 – May,2026*

INVOLVEMENT

Coordinator
Jaypee University of Engineering and Technology Guna • Google Developer Student Club JUET • August 2023 - May 2024

- Organized and participated in 5+ technical workshops and hackathons, focusing on technologies like Google Cloud, HuggingFace, engaging over 200 students.
- Facilitated peer learning sessions on topics like Machine Learning, Deep Learning, NLP, increasing club participation by 25%.

SKILLS

HTML, CSS, C++, Python, Flask, Fast API, PyTorch, TensorFlow, Machine Learning, Deep Learning, NLP, ML-Flow, HuggingFace, LangChain, AWS, GCP, CI/CD, Git and Github, Docker, Dagshub, DVC