Jigyashu Saxena

B.Tech.
CSE with specialization in AI and ML
Vellore Institute of Technology

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EDUCATION

Vellore Institute of Technology Bhopal,India
Bachelor of Technology in Computer Science with specialization in AI and ML   September 2021 - May 2025
CGPA : 7.91

TECHNICAL SKILLS

Languages: Python, JS
Developmental Skills: LLM,TensorFlow ,PyTorch,PEFT,Generative AI, Natural Language Processing (NLP) , Streamlit, FAISS,LangChain (RAG Framework) , Fine-Tuning
Cloud: AWS , Automation
Developer Tools: Git, VS Code, Postman, Replit ,Google Collab, Hugging-Face, Streamlit
Certifications: AWS Certified Solutions Architect - Associate, Applied Machine Learning (University of Michigan),AWS Certified Cloud Practitioner, Intro to SQL

EXPERIENCE

Machine Learning Intern Jun 2024 - Aug 2024
Intership Studio Remote
- Built and evaluated multiple regression models, achieving R^2 scores ranging from X1% to X2%, ensuring optimal predictive performance through hyperparameter tuning and cross-validation.
- Engineered datasets using feature scaling (StandardScaler, MinMaxScaler) and one-hot encoding via ColumnTransformer, enhancing model compatibility and convergence across diverse machine learning pipelines.
- Conducted in-depth performance analysis using Matplotlib, Seaborn, and SHAP values, generating actual vs. predicted plots, residual diagnostics, and feature importance visualizations to derive key insights.

PROJECTS

Chat with Multiple Pdfs | *Python, Sentence Trasformer, Streamlit,FAISS* Aug 2024 - Oct 2024
- Developed a Streamlit application that enables users to chat with multiple PDFs using FAISS for vector search and Hugging Face Transformers for LLM-based query responses.
- Utilized LangChain's Retrieval-Augmented Generation (RAG) framework, SentenceTransformer embeddings, and Hugging Face's Flan-T5 model to generate accurate and context-aware responses.
- Designed an intuitive Streamlit UI, integrated PDF parsing with PyPDF2, and optimized text chunking with LangChain's CharacterTextSplitter for effective document processing.

QuoteAI – Quote Generation | *LoRA, Fine-Tune, Hugging-Face* Jul 2024 - Aug 2024
- Fine-tuned Gemma-2B using LoRA (Low-Rank Adaptation) and 4-bit quantization (BitsandBytes) for memory-efficient inference on Collab-T4-High RAM.
- Preprocessed and tokenized an English quotes dataset using Hugging Face Datasets and Transformers for causal language modeling.
- Fine-tuned the model with PEFT (Parameter Efficient Fine-Tuning) and TRL (Transformers Reinforcement Learning), leveraging FP16 mixed precision for performance optimization.

AI SaaS Platform | *Next.js, Google-t-5-flan* Sept 2024 - Present
- Building an AI-powered SaaS platform integrating 5+ generative tools, including custom AI agents like a Financial Agent for intelligent automation and insights (Ongoing).
- Designed and integrated Clerk-based authentication with role-based access control (RBAC) to ensure secure user management and seamless login experiences for 5+ users.
- Leveraged Google Flan-T5-Large for text generation and AI-driven automation, enhancing query responses, data retrieval, and front-end performance.

ACHIEVEMENTS

- Developed a Chrome extension using JavaScript, HTML, and CSS to detect and highlight dark patterns in e-commerce websites, enhancing consumer transparency.Achieved state-level victory (MP) at MNIT Bhopal and advanced to the national level in the DBPH Hackathon, showcasing innovation in ethical UX design.
- Won the Central Zone round at IIT Indore in the Pan India G20 Debate Competition, advancing to the finals at IIT Hyderabad, showcasing strong argumentation and critical thinking.
- Competed in one of the seven debate categories, demonstrating expertise in global issues and policy discussions at a prestigious national platform.

ADDITIONAL INFORMATION

- Language Proficiency: English, Hindi