Ankit Rijal

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PROFILE

Aspiring Machine Learning Engineer with a software development background and experience in building scalable applications. Proficient in Python, C#, PostgreSQL, and ReactJS, with knowledge in ML frameworks like TensorFlow, Keras, PyTorch and scikit-learn. Skilled in data processing, system optimization, and developing data-driven solutions to enhance efficiency and innovation.

SKILLS & ABILITIES

Machine Learning: Scikit-learn, TensorFlow, PyTorch, Transformer Architecture, Hugging Face Transformers, Autoencoders, GANs, Reinforcement Learning (PPO), RAG, LangChain, Streamlit

MLOps: Git, GitHub, DVC, MLflow, GitHub Actions, Docker, Kubernetes, FastAPI, Prometheus, Grafana, Apache Airflow

Programming Languages: Python, C#, JavaScript, TypeScript

Database & Cloud: PostgreSQL, SQL, AWS, Render, Railway, Streamlit Community Cloud

Frameworks & Development: .NET, ReactJS, React Native, Flask, HTML, CSS

Version Control & Tools: Git, GitHub, Docker, CI/CD (GitHub Actions)

Soft Skill: Proactive Problem Solver, Continuous Learner, Adaptability, Detail-Oriented

CERTIFICATES

- FUNDAMENTALS OF AI AGENTS USING RAG AND LANGCHAIN, **IBM**
- GENERATIVE AI ADVANCE FINE-TUNING FOR LLMs, **IBM**
- GEN AI LANGUAGE MODELING WITH TRANSFORMERS, **IBM**
- ADVANCED DEEP LEARNING SPECIALIST, **IBM**
- MACHINE LEARNING WITH PYTHON, **COURSERA**

EDUCATION

MASTER'S IN ARTIFICIAL INTELLIGENCE, UNIVERSITY OF THE CUMBERLANDS, KY | CURRENT

BACHELOR'S IN COMPUTER SCIENCE, EAST CENTRAL UNIVERSITY, ADA, OK | 2021

PROFESSIONAL EXPERIENCE

SOFTWARE DEVELOPER | THE REYNOLDS AND REYNOLDS | Jan 2022 – July 2024

- Led and collaborated on the development and maintenance of KeyTrak applications (Desktop, Web, Mobile), impacting over 5,000 automotive dealerships, real estate firms, and corporate offices.
- Spearheaded 20+ feature rollouts using Agile methodologies, improving deployment efficiency by 30% through a robust CI/CD pipeline.
- Developed and optimized 30+ RESTful APIs, implementing SOLID principles for enhanced scalable, maintainable solutions.
- Ensured software reliability by achieving 95%+ unit test coverage with Jest, significantly reducing production defects.
- Collaborated cross-functionally with teams of 10+ developers, ensuring timely delivery of high-impact software solutions.

NOTABLE WORK PROJECTS

SVN to GitHub Repository Migration
- Successfully migrated a large SVN repository to GitHub, improving developer collaboration by 20% and streamlining version control.
- Utilized custom scripts and GitHub Actions, reducing deployment time by 30% and improving CI/CD efficiency.
- Migrated 50+ build processes from Jenkins to GitHub Actions, enhancing automation and reliability.

Database Update Automation
- Created a PowerShell script and console application to automate database updates, reducing manual intervention by 90%.
- Integrated automation into the CI/CD pipeline, decreasing update time by 50%.
- Improved efficiency, ensuring 99% uptime and eliminating critical errors during database updates.

PERSONAL PROJECTS

AI CHATBOT

Technologies: *Python, Flask, ReactJS, LangChain, ChromaDB, Hugging Face, Grok AI, Cartesia*
- Developed a fully functional chatbot using Flask for the backend and ReactJS for the frontend, leveraging LangChain and ChromaDB for retrieval-augmented generation.
- Integrated Hugging Face for embeddings and Grok AI for dynamic responses, significantly enhancing response relevance.
- Implemented dual interaction modes with a smooth typewriter effect for text chat and voice chat enabled through browser speech recognition and Cartesia TTS.
- Enabled persistent chat history storage with SQLite, ensuring contextual continuity and seamless multi-session interactions.

MLOPS PIPELINE FOR HOUSING PRICE PREDICTION

Technologies: *Git, GitHub, DVC, MLflow, Jenkins, GitHub Actions, Docker, AWS EC2, FastAPI, Prometheus, Grafana, Apache Airflow, Evidently AI*
- Built an end-to-end MLOps pipeline to develop, deploy, and maintain a housing price prediction model with automated workflows.
- Implemented version control and CI/CD automation using Git, DVC, GitHub Actions, and Jenkins to ensure reproducibility and continuous integration.
- Containerized and deployed the model with Docker, AWS EC2, and FastAPI, enabling real-time inference.
- Monitored and automated model retraining using Prometheus, Grafana, Apache Airflow, and Evidently AI to track performance and handle data drift.

AI IMAGE ASSISTANT

Technologies: *Python, Streamlit, Google Gemini 1.5 Flash, Streamlit Community Cloud*
- Developed a multimodal web application using Streamlit that enables users to upload images and interact via visual chat or generate creative captions using Google's Gemini 1.5 Flash model.
- Integrated a dynamic UI with mode toggling between caption generation and image-based Q&A, offering an intuitive and engaging user experience.
- Engineered image preprocessing and base64 conversion pipelines to ensure seamless communication with the Gemini Vision API.
- Configured secure API key management with Streamlit Cloud secrets and deployed the app publicly via Streamlit Community Cloud.