HATIM ANEES

Unlocking Data Insights to Solve Organizational Challenges

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Education

Christ University, Bangalore
BBA Decision Science(Industry integrated course with MU SIGMA), Business
Administration and Management, General

06/2023 - 05/2026

Projects

Alumni Management Platform for University Database

[Cant Provide Link Under Deployment]

- **Tech Stack:** Flask, MySQL, Generative AI (Gemini 1.5 Pro), Docker Compose
- Created an alumni management system supporting role-based access (Admin, Student, Alumni, Faculty) for custom features like job and event postings.
- Integrated Gemini 1.5 Pro to automate application screening by generating applicant scores and summaries, and to create SQL queries based on user prompts.
- Used Docker Compose to streamline deployment with MySQL, backend, and frontend components for a fully containerized setup.

Image Search Engine with Knowledge Graph Integration

https://colab.research.google.com/drive/1P5BAJm3_T4EgOoc1GB7rIov7Bamz-F4M

- **Tech Stack:** Python, Flask, Neo4j, ChromaDB, Gemini 1.5 Pro, LLava-3 Groq API, RLHF with Q-Learning
- Developed a search engine that stores image embeddings in ChromaDB and creates descriptive documents using LLava-3, stored in Neo4j for a dynamic knowledge graph.
- Used Gemini 1.5 Pro and Cypher query cheat sheets to build context-aware Cypher queries, retrieving relevant data from Neo4j.
- Integrated Q-learning in an RLHF setup to adjust results based on user feedback ("interested" or "not interested"), improving relevance over time

Automated Financial Report Parsing and Analysis

https://colab.research.google.com/drive/1z2tILEkNozTk9GmxqCVciZo_syyGEJa7

- **Tech Stack:** Python, Unstructured.io, Gemini 1.5 Flash, FAISS, Sentence Transformers, LangChain
- Used Unstructured.io to parse and partition financial reports by text, tables, and images, addressing challenges with table extraction.
- Converted table elements to markdown with Gemini 1.5 Flash, improving readability and structure for stored data.
- Generated embeddings with Sentence Transformers, storing them in FAISS for fast retrieval.
- Enabled interactive financial queries using Gemini 1.5 Flash, providing users with accurate, context-driven answers based on embedded data.

Automated Document Verification: Text Extraction from Marksheet Images

https: //colab.research.google.com/drive/1RnAXMtYhwkjGnUpib9J73qKh1lhkAxZ7

- **Tech Stack:** Python, LLaMA-3.2-90B Vision (Groq API), Regular Expressions (re Library)
- Created an automated verification system that extracts key information from marksheet images, such as student name, roll number, and marks.
- Employed LLaMA-3.2-90B Vision to identify relevant fields with high accuracy, storing data in a dictionary format for easy integration.
- Leveraged the re library to structure extracted data efficiently, optimizing downstream document verification processes.

Content-Based Fashion Recommendation System

https://www.linkedin.com/posts/hatim-anees-4b6ba824b_ai-fashiontech-datascience-activity-7229749271879634945-htPT?utm_source=share&utm_medium=member_desktop

- **Tech Stack:** Python, Flask, Docker, Natural Language Processing (NLP)Developed a recommendation system for fashion items using item descriptions to find similar products.
- Integrated with a Flask web app to provide real-time, personalized recommendations.
- Deployed with Docker for scalability and optimized user experience, with user feedback mechanisms to improve recommendation relevance.

Credit Risk Modeling for Loan Default Prediction

https: //github.com/hatimanees/credit-risk

- **Tech Stack:** Python, XGBoost, Statistical AnalysisBuilt a machine learning model to predict loan default likelihood, leveraging highly predictive features (loan_int_rate, person_income, etc.).
- Applied XGBoost with optimal hyperparameters, achieving accuracy with well-balanced class performance.
- Enhanced interpretability through feature importance analysis, showcasing finance domain knowledge specific to the Indian context.

Projects

AI Lip Sync and Voice Cloning for Video Content

https://drive.google.com/file/d/1_FSB4r96Bn131rGP8A7u1vIfBw-EgT0c/view?usp=sharing

- **Tech Stack:** Wav2Lip, F5 TTS (Voice Cloning), Roop Unleashed (Quality Enhancement)Developed an AI-driven lip sync application, synchronizing video lip movements with generated audio for realistic, synchronized speech.
- Used Wav2Lip for precise lip sync, coupled with F5 TTS for accurate voice cloning to match the intended voice profile.
- Enhanced overall video quality with Roop Unleashed, resulting in smoother and more natural-looking facial animations.

Skills

Python, SQL, Power BI, Tableau, Pandas, NumPy, Scikit-Learn, XGBoost, Flask, LangChain, NLP, Regular Expressions, Feature Engineering, Statistical Analysis, Data Cleaning, Data Visualization, Predictive Modeling, Time Series Analysis, Experimental Design, ML Model Deployment, Docker, Docker Compose, Git, Neo4j, ChromaDB, FAISS, Generative AI (Gemini 1.5 Pro, LLaMA-3.2-90B Vision), Unstructured.io, APIs (LLava-3 Groq API, GROQ API), Reinforcement Learning (Q-learning, DPO, PPO), Financial Analysis, Feature Importance Analysis, Graph Databases, Vector Databases, Embedded Data Processing.