Ankit Kumar

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Summary

Experienced applied economics post-graduate with a knack for creating data-intensive applications. Adept at tackling machine learning, NLP, and computer vision challenges. Skilled in utilizing key technologies like PyTorch, YOLO, Transformers, LangChain, AWS, and more to deliver robust solutions.

Skills

Python · R · SQL · Excel/Tableau/Power BI · Git · GitHub · AWS · Flask · Streamlit · Linux · Data Visualization · Data Analysis · Machine Learning · Deep Learning · NLP · Computer Vision · Image Processing · Feature Engineering · Web Scrapping · Statistics · Econometrics · Matplotlib/Seaborn/ggplot · Pandas/Numpy/Scikit-learn · PyTorch/TensorFlow · NLTK · HuggingFace · LangChain · LLMs · OpenCV/YOLO · OCR · Cuda

Projects

1. Chat with PDFs

Streamlit-hosted Python **web app** enabling users to upload multiple PDFs and engage in ChatGPT like conversations based on the PDF content.

- Designed and implemented a user-friendly web application hosted on Streamlit, serving as the primary interface for PDF upload and conversation initiation.
- Utilized the PdfReader library to extract textual content from uploaded PDFs, optimizing data retrieval for subsequent processing.
- Implemented the CharacterTextSplitter component to segment extracted text into smaller, more manageable chunks.
- Leveraged the 'BAAI/bge-small-en' model from HuggingFace to embed segmented text chunks, resulting in the creation of a comprehensive vector store.
- Utilized Langchain and ChatOpenAI to dynamically construct conversation chains, enhancing the conversational experience by utilizing the embedded vector store.

2. Licence Plate Reader

Vehicle License Plate Recognition using Computer Vision.

- Demonstrated proficiency in utilizing pre-trained YOLOv8 and SORT models to successfully detect and track vehicles within provided video.
- Developed and trained a personalized model to accurately identify license plates, showcasing understanding of machine learning techniques.
- Executed an image processing pipeline to crop and manipulate license plate images, followed by text extraction using the EasyOCR library.
- Employed optimization strategies to enhance text recognition accuracy, contributing to the creation of a structured data frame for efficient information management.
- Leveraged data interpolation techniques to intelligently fill gaps within the data frame, resulting in a polished video output with smooth transitions and consistent visual quality.

3. SQL: Danny's Diner Use-Case Resolution

Leveraged PostgreSQL to successfully address the renowned **Danny's Diner case study**, showcasing my adept SQL skills.

- Demonstrated expertise in SQL through the application of foundational concepts including SELECT, GROUP BY, and aggregation functions.
- Progressed to more sophisticated techniques such as JOINs, Common Table Expressions (CTEs), CASE statements, DENSE_RANK, and Window functions.
- Skillfully utilized SQL to analyze and extract insights from the dataset, offering actionable recommendations for business optimization.

Experience

Thomson Reuters   Bengaluru
Correspondent: North America Resources   07/2022 - 07/2023

- Conducted vigilant monitoring of North American resource stocks encompassing commodities such as oil, gold, and various metals.
- Employed a proactive approach to track and dissect emerging trends within companies that influenced stock movements.
- Performed comprehensive analysis of macroeconomic developments, assessing their potential ramifications on the resource sector.
- Crafted industry-focused news pieces encompassing topics such as deals, quarterly earnings, production statistics, and more.

Experience

JPAL South Asia
Data Analyst (Intern)

Remote
06/2022 - 07/2022

- Spearheaded the cleaning, transformation, and in-depth analysis of raw primary survey data, pivotal for research on behavioral nudges.
- Led and mentoring a team of college juniors, successfully orchestrating the creation of a comprehensive analysis roadmap.
- Engineered a sub-group-wise Nutritional Deficiency Index derived from the dataset, enhancing insights into nutritional trends and disparities.

Sri Satya Sai Annapoorna Trust
Application Developer (Intern)

Remote
05/2021 - 06/2021

- Demonstrated adeptness in application development on the Zoho Creator platform, yielding impactful solutions.
- Engineered the initial iteration of the Employee Attendance application, showcasing technical prowess and problem-solving skills.
- Innovatively proposed and integrated a Leave Tracker application into the Employee Attendance system, enhancing the application's functionality and user experience.

Education

Christ University
Master of Arts in Applied Economics │ CGPA: **8.2** / 10

Bengaluru
2020 - 2022

St. Xavier's College
Bachelor of Arts in Economics │ CGPA: **6.4** / 10

Ranchi
2017 - 2020

Achievements

Research Under Review for Publication: Nutritional Deficiency Index

Led data-intensive research to assess state-wise nutritional deficiencies in India and devised evidence-based policy recommendations for their mitigation.

Guest Lecturer: Empowering Data-Driven Research

As a Guest Lecturer at Christ University, I offered valuable guidance to researchers, sharing expertise on enhancing research projects through data-driven methodologies.

Languages

English Proficient

Hindi Proficient

Nagpuri Proficient