Anupam Verma

Engineer 1

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Github
Tableau Public
Linkedin
Portfolio Website
9445864375

SKILLS

Generative AI
RAG, Finetuning, LangChain, LlamaIndex, LangGraph

Deep Learning
TensorFlow, PyTorch, Keras, Scikit-learn

Data Analysis & Visualization
Tableau, Power BI

Programming
Python, C++, C

Web Automation
Selenium

Databases
MySQL

EDUCATION

Post Graduate Diploma in Data Science (PGDDS), Symbiosis Centre for Distance Learning
Jul 2023 – present

B. Tech, CSE, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
2019 – 2023
Passed with 9.08 CGPA

12th,
Kendriya Vidyalaya Sangathan
2018 – 2019
Passed with 83.2%

10th,
Kendriya Vidyalaya Sangathan
2016 – 2017
Passed with 9.2 CGPA

EXPERIENCE

Comcast, Engineer 1
Jan 2023 – present

Generative AI

- Engineered a Retrieval-Augmented Generation (RAG) system with LangChain and LangGraph to efficiently query extensive codebases, comprising millions of lines to suggest code improvements, detect bugs, generate test cases, and document new RDK contributions efficiently.
- Developed an interactive web application using Streamlit, incorporating multiple agents to facilitate querying of RDK documentation and codebase, thereby enhancing accessibility and user engagement.
- Implemented intelligent query routing to direct user inquiries toward RDK documentation, codebase, or patch analysis based on the query's intent, optimizing information retrieval.
- For codebase-related queries targeting specific RDK functions, integrated function dependency retrieval and impact analysis, providing comprehensive insights into code modifications and their potential effects.
- Employed Web Scraping and Selenium automation to extract relevant information about contributions like Test Procedures, Reason for Change and download Patches from the website.
- Offered insightful suggestions for code enhancement and bug detection pre-merger, enhancing code quality and minimizing potential errors.
- Generated thorough documentation of the codebase by meticulously analyzing the program's structure and functionality.
- Subsequently, the results of this analysis were seamlessly updated in Jira tickets via the Jira API, facilitating streamlined communication and tracking of code changes and their impact.

Tableau

- Developed and designed interactive RDK dashboards, including clone metrics portal, code metrics portal, contribution metrics portal, and others, using Tableau, significantly improving data accessibility and efficiency for the stakeholders.
- Leveraged advanced data visualization techniques within Tableau to create visually appealing charts, graphs, and maps that effectively represented complex data, resulting in increased data comprehension among stakeholders.
- Implemented innovative data integration strategies using Tableau Prep Builder for cleansing and transformation of data, leading to enhanced efficiency in loading data into MySQL databases and ensuring a streamlined workflow.

PERSONAL PROJECTS

Sentiment Analysis using NLP [TensorFlow | Keras]

- Developed a sentiment analysis project on Reddit comments using NLP techniques, implementing and comparing various neural network models (Feed-forward, LSTM, GRU, Bidirectional RNN, Conv1D) to classify comments as "Normal" or "Hate," achieving up to 88.5% accuracy on the test set—significantly outperforming the baseline accuracy of 77.25%.

Image Classification using Computer Vision [TensorFlow | Keras]

- Developed an image classification project differentiating cats and dogs using computer vision techniques. Implemented and compared various models—including Random Forest with HOG features and Convolutional Neural Networks (Tiny VGG, overfitted model, reduced overfitting, data-augmented model)—to improve accuracy, achieving up to 72.55% accuracy on the test set.

Movie Recommendation System, [Numpy | Pandas | Scikit-learn]

- Developed a content-based movie recommender system using cosine similarity and K-Nearest Neighbors. Processed and transformed movie metadata—including genres, keywords, cast, crew, and overview—into feature vectors using NLP techniques.

CERTIFICATES

- Fundamentals of Deep Learning by NVIDIA
- AWS Academy Machine Learning Foundations