Kevin Patel

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EDUCATION

Master of Science in Data Science	Michigan State University, June 2024	(4.0 /4.0 GPA)
Bachelor of Technology in Computer Engineering	Pandit Deendayal Energy University, May 2022	(9.59 / 10.0 GPA)

PROFESSIONAL EXPERIENCE

Data Science Intern (VERN.AI (Tucknologies Holdings Inc.), East Lansing, USA) **May 2023 – Aug 2023**

- Developed a user-centric offline Question-Answer bot using the **Vicuna(7B) model** and **Langchain**. Leveraged **sentence transformers all-MiniLM-L6-v2** to generate embeddings for efficient searching within **Vector DB** and ensuring targeted information retrieval using semantic search and summarizing using Vicuna-7B. It further processed by **Langchain** for accurate question-answer sequences with managing context within the session.
- Build an interactive bot tailored for symptom checking and providing user-centric recommendations. The bot integrates **Dialogflow NLU** for accurate query processing and rich response rendering. Utilized GCP's Translate and Speech API for supporting multilingual interactions, ensuring accessibility for diverse users. The backend leverages Azure storage for symptom documentation, used **Azure OpenAI's GPT model** for **data summarization** and **response generation**.

Research Data Science Intern (Indian Meteorological Department**,** Bhopal, India) **Aug 2021 – July 2022**

- Developed an **AWS SageMaker** predictive model, surpassing RADAR accuracy issues at low altitudes, revolutionizing harsh weather forecasting for wind data.
- Introduced **New Approach of Deep Clustering** for Multi-level Image Segmentation of Remote Sensing Imageries utilizing properties based on different disjoint feature-sets. With the help of combining the **DB-Scan** and **K-means with adaptive K** for big data system, we were able to improve clustering accuracy by 51% to baseline models.

ML Intern (Pragnakalp Techlabs. Pvt. Ltd, Ahmedabad, India) **May 2022 – July 2022**

- Contributed to the company product Docsaar - the website for **document parsing**.
- Hand gesture digit-detection system using **CNN** using self-generated dataset by detecting ROI for each data.

PROJECTS

- **Natural Language Query Interface with GPT-3 and MySQL**: Designed and implemented a Natural Language Interface to interact with a **MySQL database** using OpenAI's GPT-3 API. Leveraged the **text-davinci-003** model of **GPT-3** to translate natural language queries into SQL statements. Post data retrieval utilized the text-DaVinci model from GPT-3 to craft a user-friendly response based on the SQL query and its results. The entire backend was seamlessly integrated with a Streamlit-based user interface for enhanced user interaction.
- **Cricket World-Cup Data Analysis:** Created **Power BI** report to identify top players for a cricket team on the **scrapped data** from espncricinfo with Brightdata website tool, perform ETL on data with pandas and SQL and evaluate various performance metrics for players. This can be helpful to team-management to select team and it reduce time by 5-6 hours per match. [link]
- **Hospital Data Analysis:** Perform data cleaning, data engineering as well as missing value imputation before performing **EDA**. Developed web-dashboard using **Streamlit** and deployed it on **Heroku**. Derived conclusive story and business insights using **statistical tests** like hypothesis and distribution analysis of data and built **predictive model** to predict approximate stay length of new patient using **regression analysis**.
- **Bharat HandiCraft Website (E-commerce) :** Utilized **ReactJS** with **React-Routes** for the frontend, creating a dynamic and responsive user interface, **NodeJS** and **MongoDB** for the backend, establishing a RESTful API to manage product listings, user authentication, and order processing. Deployed the website on a cloud hosting platform.
- **Disk-Scheduling and shortest path-finding Algorithm Visualizer** : website to visualize the working of disk scheduling algorithm like FCFS, LOOK , C-LOOK, SCAN & C-SCAN. Build **React App** to visualize how path finding algorithms with tackling obstacle in the path.

PUBLICATION

K. Patel and R. K. Gupta, "Song Playlist Generator System Based on Facial Expression and Song Mood," *2021 International Conference on Artificial Intelligence and Machine Vision (AIMV)*, Gandhinagar, India, 2021(link)

SKILLS

Python, R, C++, Statistics, Probability, Data Structure and Algorithms, EDA, Prompt-Engineering, LLM, NLP, Deep Learning, Machine Learning, GAN, GNN, AWS, Tableau, Sciket-Learn, TensorFlow, SQL, Mongo-DB, No-SQL, React and React-JS, NodeJS , Web Development, Power BI.