Venkata Surya Abburi

Resume_proejct_2_details

Why I did this project

- To apply my AI, data science, and automation skills on a real-world use case involving large datasets and intelligent decision-making.
- To integrate multiple modules — data loading, EDA, segmentation, recommendation, and SQL querying — into one seamless AI-powered system.

Importance in the real world

- Helps businesses quickly analyze, segment, and extract insights from massive datasets without manual effort.
- Can be adapted for industries like e-commerce, healthcare, finance, and marketing for faster, smarter decision-making.

 Groq offers **ultra-low latency** and high processing speed, making it ideal for real-time data analysis and recommendations.

 It is **cost-efficient** compared to other API providers for large-scale, continuous requests.

 Groq integrates smoothly with Python, allowing me to keep the system **lightweight and fast** without heavy infrastructure.

Why Streamlit and not others (2 small points):

- Streamlit is **fast to develop and deploy**, letting me turn Python scripts into interactive apps without extra frontend coding.
- It has **built-in UI components** perfect for data apps, reducing complexity and development time.

ML/DL algorithms used and why (2 small points):

- Used **clustering & recommendation algorithms** to segment data and provide personalized outputs.

- Chosen for their **efficiency in pattern recognition** and suitability for real-time, API-powered decision-making.

Clustering Algorithm & Why (2 points):

- Used **K-Means clustering** for its **simplicity and speed** in grouping similar data points.
- Ideal for **clear segmentation** when the number of clusters is predefined.

Recommendation Algorithm & Why (2 points):

- Used **Content-Based Filtering** to recommend items based on **user-specific preferences and attributes**.
- Works well when there is **rich item feature data** and limited user interaction history.