

## **(TR-103) PROMPT ENGINEERING –**

### **Training Day 15 Report:**

#### **Familiarization with AI-Powered Data Analysis Interface and Firebase Studio**

##### **Demonstration of CSV-Based AI Interface:**

Today, we were introduced to an AI-powered interface demonstrated by the faculty. The purpose of this interface was to showcase how Artificial Intelligence can simplify data analysis through a natural language-based approach.

- The interface allowed uploading of CSV files (up to 200MB).
- Once a dataset was uploaded, the user could input natural language queries such as:
  - “Show me the average sales for each month.”
  - “Visualize the top-selling products.”
- Based on the query, the system would automatically generate Python code, typically using libraries like pandas and matplotlib, and execute it in real time.
- The goal was to make data insights accessible even to users who do not have programming experience.
- This type of tool can be extremely useful for business analysts, students, and researchers to extract insights from datasets quickly.

##### **Introduction to Firebase Studio:**

Firebase Studio by Google was also introduced as a powerful platform that supports rapid development and management of web and mobile applications.

##### **Key capabilities include:**

- Realtime Database & Cloud Firestore: Enables seamless data synchronization and storage.
- User Authentication: Offers ready-to-use authentication services including email, phone, and social logins.

- Web Hosting: Secure and fast deployment of web applications with built-in SSL.
- Cloud Functions: Serverless backend logic that runs in response to events or HTTP requests.
- Monitoring & Analytics: Built-in tools for tracking user behavior, app performance, and crash reporting.

Firebase was highlighted as a scalable and developer-friendly platform, ideal for creating modern, data-driven applications with minimal backend configuration.