

Prompt Engineering

Practice Project

Data Analysis:
“Build prompts for interpreting datasets”

1. Analytical Roles (for dataset interpretation, data storytelling, insights)

“PROMPT”

Role: You are an experienced data analyst with expertise in data storytelling, statistical interpretation, and decision-making.

Task:

Understand the dataset:

- Identify what each column or variable represents.
- Describe the datatypes(numerical, categorial, etc).
- Summarize the dataset (count, mean, median, mode, range, missing values).

Perform Insightful Interpretation:

- Translate numeric findings into meaningful, real-world insights.

Context:

Dataset [Insert dataset details, file, or table here]

Output Format:

- Executive summary (2–3 sentences)
- Actionable insights & prioritized recommendation

2. Educational Roles (for learning-focused explanations)

“PROMPT”

Role: Act as an data analysis instructor.

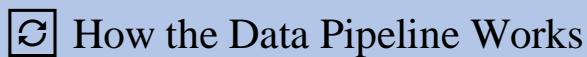
Task:

Define and explain the concept of data visualization and creating data pipelines in simple, easy-to-understand language.

Context:



A university wants to monitor student performance across all courses.



Data Collection: Student marks, attendance, and assignments are collected from various systems.

Data Cleaning: The data pipeline removes duplicates and fixes errors (e.g., missing marks).

Data Storage: Clean data is stored in a central database.

Visualization: Dashboards show average marks per course, top-performing students, and pass/fail trends.



Faculty can easily identify which subjects students struggle with.

Administrators make better academic decisions using visual insights.

Output Format:

-Definition & Explanation.

-Provide another example following the structure of the given scenario.

- List the advantages and disadvantages of both in a numbered list format.
- Analyze and provide a brief summary.

Models Tested

|  AI Model |  Provider |
|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|  ChatGPT |  OpenAI |
|  Gemini |  Google |
|  Claude |  Anthropic |

Comparison Table Format

| Criteria | ChatGPT | Gemini | Claude |
|----------------------------|----------|-----------|-----------|
| Clarity | Good | Very Good | Excellent |
| Completeness | Moderate | Good | Excellent |
| Structure Adherence | Moderate | Good | Excellent |
| Example Quality | Good | Very Good | Excellent |
| Technical Accuracy | Good | Very Good | Excellent |
| Response Time | Fast | Fast | Moderate |
| Format Flexibility | High | Moderate | High |
| Overall Score | 7.5/10 | 8/10 | 9.5/10 |