

## Prompt Engineering Training for Data Analytics

### Section 1: Introduction

- What is Prompt Engineering in Data Analytics?
- Importance of AI-powered analytics
- Tools overview: ChatGPT, Copilot, Gemini, etc.
- Benefits for data professionals

### Section 2: Core Prompting Techniques

- Structure of an effective prompt
- Role-based prompting for analytics tasks
- Zero-shot, few-shot, and chain-of-thought prompting
- Converting business problems into AI prompts

### Section 3: Data Preparation & Exploration

- Prompts for data cleaning & preprocessing
- Exploratory Data Analysis with AI
- Data profiling & anomaly detection
- Generating synthetic data samples

### Section 4: Data Visualization with AI

- Prompting for chart & graph recommendations
- Auto-generating Python visualization scripts
- Power BI/Tableau prompt-assisted dashboarding
- Storytelling with data visuals

## **Section 5: Statistical & Predictive Analysis**

- Writing prompts for descriptive
- Inferential statistics
- Hypothesis testing
- Regression & correlation analysis via AI prompts
- Time-series forecasting

## **Section 6: Machine Learning with Prompts**

- Selecting suitable ML models through prompts
- Generating code for training & evaluation
- Hyperparameter tuning with AI assistance
- Explaining ML model results in plain English

## **Section 7: Business Insights & Reporting**

- Auto-summarizing insights from datasets
- Prompting for KPI-based decision support
- Generating executive reports & presentations
- Data storytelling using AI

## **Section 8: Advanced Prompt Engineering**

- Multi-step and chained prompting for deeper analysis
- Prompting for SQL query writing & optimization
- What-if analysis & scenario modeling
- Automating analytics workflows