

**ChatGPT Advanced Data Analysis**

**Course Number:** AI-118WA  
**Duration:** 2 days

**Overview**

This ChatGPT Advanced Data Analysis training course teaches attendees how to transform raw data and analyze data with ChatGPT to enhance data-driven decision-making. Students learn how to prepare, upload, and process a variety of data formats such as CSV, Excel, PDF, and multimedia files. This course covers ChatGPT's advanced data analysis features to clean and preprocess data, generate insightful reports and dynamic visualizations, and build predictive machine learning models. Participants explore practical use cases across business analytics, social media insights, and scientific and market research.

**Prerequisites**

All attendees must be familiar with programming, AI basics, machine learning, and analytics concepts.

**Materials**

All Analyze Data with ChatGPT training students receive comprehensive courseware.

**Software Needed on Each Student PC**

All attendees must have a modern web browser and an Internet connection.

**Objectives**

* Craft effective prompts to unlock the full potential of large language models (LLMs) for various applications
* Understand LLM evolution, architecture, and real-world use cases to effectively leverage their capabilities
* Prepare and analyze diverse data sources within ChatGPT for insightful reporting and informed decision-making
* Apply advanced prompting techniques, including zero-shot, few-shot, and chain-of-thought prompting, to achieve optimal results
* Leverage ChatGPT for practical applications in business analytics, social media insights, scientific research, and market research

**Outline**

* Introduction
* Understanding the Prompt
  + The Basics
  + Pitfalls
  + Highlighted Techniques
  + Understanding the Limitation
* Introduction to Large Language Models
  + Historical Context
  + How LLMs (Large Language Models) Evolved
  + Trends in LLMs
  + Today’s Cloud and Offline LLMs
  + How LLMs Work
  + LLM Use Cases
  + The Importance of Prompt Engineering
* Techniques for Crafting Effective Prompts
  + Factors Affecting Prompt Effectiveness
  + Ways of Structuring Prompts
  + Prompting with Examples
* Advanced Prompting Techniques
  + Zero-Shot Prompting
  + Few-Shot Prompting
  + Chain-of-Thought Prompting
  + Combining Multiple Techniques
  + Self Consistency Prompting
  + Generated Knowledge Prompting
  + Tree of Thought Prompting
  + Automated Prompt Engineering
  + Retrieval Augmented Generation
* Data Preparation and Upload in ChatGPT
  + Uploading and Preparing Data
  + Activating Advanced Data Analysis
  + File Upload Process
  + Data Cleaning and Preprocessing
  + Supported File Formats
  + CSV: Tabular Data Analysis
  + Excel: Interpreting Spreadsheet Data
  + Text and Image Files: Analysis Applications
  + Full Documents: Insights from PDFs and Other Formats
  + Audio and Video: Multimedia Data Exploration
* Analysis and Reporting with ChatGPT
  + Generating Reports and Visualizations
  + Report Generation: Summarizing Key Findings
  + Visualizations: Creating Graphs and Charts
  + Saving Work: Preserving Analysis Results
  + Practical Use Cases
  + Business Analytics: Sales, Customer Behavior, Financial Metrics
  + Social Media Insights: Trends, Sentiment, Engagement Analysis
  + Scientific Research: Data Exploration, Statistical Tests, Visualization
  + Market Research: Trend Analysis, Competitor Analysis, Consumer Preferences
* Conclusion