

AI for Data Analysis

About this Course

This 2-day beginner-friendly course introduces non-programmers to the power of GPT models such as ChatGPT and Gemini for business data analysis using Python. Participants will learn how to use GPT as an AI data analysis assistant to clean, analyze, and visualize Excel and CSV datasets — without needing deep programming skills. Through guided prompts and practical exercises in Jupyter Notebook, learners will explore how GPT can generate, explain, and refine Python scripts to automate data workflows. By the end of the course, participants will have the confidence to transform raw data into actionable business insights using AI-assisted automation. This hands-on course empowers professionals to make data-driven decisions faster and smarter through AI collaboration.

Who Should Attend

This course is ideal for working professionals who handle data but are not trained as data analysts or programmers. It is designed for executives, managers, analysts, sales teams, HR personnel, finance staff, operations teams, and anyone who regularly works with Excel, CSV files, or business reports. It is also suitable for entrepreneurs, freelancers, and administrators who want to make faster, data-driven decisions without relying fully on IT or data teams. The course is intentionally designed for beginners — especially those who want to leverage AI to analyze data more confidently, extract insights quickly, and improve productivity through smart automation.

Prerequisites

There are **no formal prerequisites** for this programme. All lessons are designed for complete beginners with **no coding or data analysis background**. However, participants will benefit even more if they have previously attended:

- **AI Foundation** (Course 1 of this series), which builds core AI literacy and prompt engineering basics, and
- **AI Automation for Everyone** (Course 2 of this series), which introduces AI-assisted Python scripting and workflow automation.

These courses help learners progress faster and understand concepts more deeply, but **they are not required**. This programme includes beginner-friendly explanations and guided practice to ensure everyone can follow comfortably.



Learning Outcomes

By the end of the course, participants will be able to:

- Use GPT to generate and understand Python scripts for business data analysis.
- Load, clean, and prepare Excel or CSV datasets using AI-assisted prompts.
- Automate repetitive data preparation and transformation tasks with GPT.
- Generate insightful data visualizations using matplotlib, seaborn, or plotly.
- Summarize key business trends and insights from analyzed data.
- Apply ethical and responsible practices when handling sensitive business data.

Course Outline

Module 1: Introduction to GPT and Python for Data Analysis

- Overview of GPT and how it assists in data analysis workflows
- Introduction to Python basics through GPT explanations (variables, data types, syntax)
- Installing and setting up Jupyter Notebook for beginners
- Exploring the structure of CSV and Excel datasets
- Hands-on: Using GPT to write your first Python script to read and display data

Module 2: AI-Assisted Programming and Data Workflows

- Understanding the “Prompt-to-Python” workflow for data tasks
- How to craft effective prompts for data loading, cleaning, and visualization
- GPT as your coding partner: asking for explanations, debugging, and improvements
- Guided demo: Automating a small data task (e.g., filtering monthly sales by region)
- Hands-on: Iterative prompting — refining GPT responses to get the desired output

Module 3: Data Cleaning and Preparation with GPT

- Using GPT to load and explore business datasets in pandas
- Handling missing values, duplicates, and incorrect data formats
- Filtering, sorting, and renaming columns automatically
- Validating GPT-generated code and checking data integrity
- Hands-on: Cleaning and preparing a sample dataset (e.g., “Employee_Performance.csv”)

Module 4: Data Visualization and Insight Generation

- Using GPT to generate visualizations with matplotlib, seaborn, and plotly
- Choosing the right chart types for business metrics (sales trends, KPIs, comparisons)
- Interpreting and refining visual outputs through GPT-guided iterations
- Summarizing findings and generating insights from charts and reports
- Hands-on: Create and export business dashboards for presentation

Module 5: Mini Project — Business Data Automation Challenge

- Project briefing: Analyze a provided dataset (e.g., “Sales_Report.csv”)
- Define analysis objectives and write GPT prompts for workflow generation
- Build and run the full analysis: cleaning → analysis → visualization → insights
- Present project results and receive peer and trainer feedback
- Discussion: Scaling your automation ideas beyond the workshop

Module 6: Ethics, Reliability, and Data Privacy in AI-Assisted Analysis

- Understanding GPT limitations and verifying AI-generated results
- Avoiding data leakage and managing sensitive business information responsibly
- Ensuring transparency and accountability in AI-assisted workflows
- Best practices for safe and ethical use of GPT in professional environments
- Reflection: Building trust and confidence when working with AI tools

MIND MATRIX SDN. BHD.201301001419 (1031256 P)

Suite 33.01, 33rd Floor, Menara Keck Seng,
203, Jalan Bukit Bintang, 55100 Kuala Lumpur, Malaysia.

Tel: 03-2116 5778 | Fax: 03-2116 5999 | Email: info@skillet.com.my

