

Copilot Training for Data Analysts

Section 1: Introduction to AI in Data Analytics

- Evolution of AI in analytics workflows
- GitHub Copilot
- GitHub Copilot vs Microsoft Copilot for Analysts
- How AI interprets prompts in queries and data scripts
- Future of AI in business intelligence

Section 2: Getting Started with GitHub Copilot

- Creating a GitHub account & enabling Copilot
- Installing Copilot extension in VS Code / Jupyter / SQL IDEs
- Configuring workspace for data projects
- Managing data privacy
- Understanding inline suggestions
- Using block suggestions for complex transformations
- Shortcuts and hotkeys for faster workflow

Section 3: Prompt Engineering for Data Analysts

- Crafting prompts to clean and transform data
- Writing SQL queries with natural language prompts
- Converting business requirements into queries and reports
- Debugging prompts to improve query accuracy
- Complex joins, aggregations & filters

Section 4: AI-Powered Data Preparation and Cleaning

- Using AI to write data cleaning scripts
- Generating ETL workflows
- Creating reusable Python (Pandas) data functions
- Automating repetitive data formatting tasks
- Detect anomalies/outliers
- Building quick scripts for data preprocessing
- Documenting transformation steps with inline comments

Section 5: AI for SQL and Query Optimization

- Writing SQL queries from natural language
- Generating aggregations, joins, subqueries
- Optimizing slow queries with AI suggestions
- Automating stored procedures & triggers
- Detecting syntax and logical errors in queries
- Creating data validation queries automatically
- Multi-database support

Section 6: AI in Visualization and Reporting

- Generating Python charts with prompts
- Creating Power BI and DAX expressions with AI
- Automating Excel formulas
- Pivot Tables
- Explaining charts
- Generating dashboard ready queries
- Auto-documenting reports for stakeholders

Section 7: Advanced Analytics with AI

- Using AI to build predictive models
- Automating feature selection
- Writing statistical tests with prompts
- Generating time-series analysis scripts
- Quick prototyping of ML models in Python
- Identifying limitations of AI in analytics

Real-Time Projects

- Sales & Revenue Dashboard
- Customer Segmentation Analysis
- Financial Performance Report
- E-Commerce Product Analytics