



# AI for Power BI: Intelligent Analytics & Automated Insights

## Learning Mode:

Online via Zoom

## Duration:

3 days

**This course is specifically designed to provide participants with:**

- Understand the fundamentals of AI, ML, and how they integrate with business intelligence.
- Apply Power BI's built-in AI tools such as Key Influencers, Decomposition Tree, Smart Narratives, and Anomaly Detection.
- Build predictive models using Auto ML in Power BI Dataflows.
- Connect Power BI to Azure Machine Learning, Python, and R for custom AI solutions.
- Use Cognitive Services to analyse text, sentiment, images, and more.
- Apply DAX and Power Query with advanced automation functions.
- Build an end-to-end intelligent dashboard that generates automated insights and recommendations.

## Course Overview

### SUMMARY

AI for Power BI: Intelligent Analytics & Automated Insights is a specialised programme designed to equip participants with the skills to integrate Artificial Intelligence (AI) capabilities into Microsoft Power BI for smarter, faster, and more accurate decision-making. This programme bridges business intelligence, machine learning, and data-driven automation, enabling learners to transform dashboards from static reports into intelligent analytics platforms.

Participants will learn to use Power BI's native AI features including AI Insights, Auto ML, Cognitive Services, and natural-language analytics, and integrate external AI/ML models for advanced applications.

This course is ideal for data analysts, business intelligence professionals, executives, managers, and those working in telecom, finance, logistics, utilities, and public sector roles who want to elevate reporting capabilities with augmented analytics and automated insights.

## Course Content

### MODULE 1

#### Module 1: Introduction to AI & Intelligent Analytics (Non-Technical)

- What is AI, ML, NLP & Predictive Analytics
- Traditional BI vs AI-Augmented BI
- Power BI Architecture & Where AI Fits
- Real-world use cases for AI-powered dashboards

### MODULE 2

#### Module 2: Power BI AI Features – Overview & Hands-On

- Key Influencers Visual
- Decomposition Tree
- Smart Narratives
- Q&A Visual & Natural Language Querying
- AI Insights in Power BI Desktop
- Anomaly Detection and Automated Trend Analysis

### MODULE 3

#### Data Preparation for AI in Power BI

- Power Query advanced transformations
- Data cleaning, normalization, and feature extraction
- DAX formulas for automated insights
- Creating calculated tables & advanced relationships

### MODULE 4

#### Auto ML in Power BI

- Introduction to Auto ML
- Creating Dataflows for Machine Learning
- Classification, Regression & Forecasting in Auto ML
- Training, Validation & Performance Metrics
- Deploying ML models into Power BI reports

### MODULE 5

#### Integrating Python & R for AI

- Embedding Python scripts in Power BI
- Data manipulation with pandas & NumPy
- Visualization with matplotlib & seaborn
- R-based predictive analytics (optional)
- Security, gateway & performance best practices

### MODULE 6

#### Azure Machine Learning Integration

- Connecting Power BI with Azure ML
- Publishing & consuming ML models
- Real-time scoring in dashboards
- Auto-scaling & managing AI workloads

### MODULE 7

#### Cognitive Services for Power BI

- Sentiment Analysis (Customer Feedback)
- Key Phrases Extraction
- Vision API (Image Tagging, Object Detection)
- Text Analytics API
- Form Recognizer for document extraction



# AI for Power BI: Intelligent Analytics & Automated Insights

## Course Overview (Continued)

### MODULE 8

#### AI-Enhanced Storytelling & Insight Automation

- Designing intelligent dashboards
- Automated narratives using Smart Narratives
- Generating insights using NLG (Natural Language Generation)
- Custom visuals for AI storytelling
- Best practices for leadership reporting

### MODULE 9

#### Capstone Project – Intelligent Dashboard Participants will build a full AI-powered dashboard that includes:

- Auto ML predictive model
- Cognitive Services API integration
- Anomaly detection & insights
- Smart narratives
- Automated KPI alerts
- Power BI Service deployment

## Tools & Software Required

- Microsoft Power BI Desktop
- Power BI Pro / Premium Per User (PPU)
- Azure ML Workspace (optional but recommended)
- Python 3.8+ / R installed (optional)