

In collaboration with

upGrad



# Generative AI Mastery Certificate for Data Analysis

Become an AI-Powered Data Analyst with Microsoft Technologies



 Optimize

 Analyze

 Discover

More

# Lead the Generative AI Revolution



# 94%

of business leaders

believe AI skills will be critical for their business success

*(Source: Deloitte)*

# 4X Faster

AI-powered professionals complete tasks up to 4 times faster than their peers

*(Source: CXOtoday.com)*

In collaboration with

**upGrad**

**Microsoft**

To solve these problems for the industry, **upGrad** and **Microsoft** join hands to launch a transformative program!

Transform your career with the exclusive **Generative AI Mastery Certificate for Data Analysis.**

This specialization equips you with in-demand industry-relevant data analysis and management tools from Microsoft such as Excel, Power BI with Copilot, Azure OpenAI, and Fabric that will 10x your efficiency in building and executing data analytics pipelines.

## Get certified by the best in AI and upskilling



Upon meeting the completion criteria below, you can earn up to three certificates\*

### \*Certification Completion Details

**Completion Certificate** – Achieve a minimum 50% score in assessments on the upGrad platform and clear the relevant Microsoft Applied Skills assessment.

**Competency Certificate** – Achieve a minimum 50% score in assessments on the upGrad platform, clear the relevant Microsoft Applied Skills assessment, and pass the Microsoft Global Certification Exam.

**Microsoft Global Certification** – Pass the relevant Microsoft Global Certification Exam.

These certificates are representative, and subject to change at the discretion of upGrad and Microsoft.

# About the Program

The Generative AI Mastery Certificate for Data Analysis is a cutting-edge certification designed to equip you with essential in-demand skills and technologies to thrive in the AI-integrated analytics domain. Learn from top industry experts and gain a Microsoft certification.



**Get sponsorship for the Power BI AI Engineer Associate Global certification**



## 4 Modules

(Comprehensive coverage of essential AI-integrated Microsoft technologies for data analytics)



## 8 Weeks Total

(In-depth mastery of AI-driven data analytics and industry-relevant Microsoft technologies)



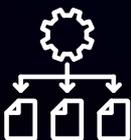
## 8 Hours/Week

(Flexible learning designed for busy professionals)



## Coverage of In-Demand Analytics Tools

(Microsoft 365 Copilot, GPT, Excel, Power BI, Fabric, Azure OpenAI)



## 2 Week Capstone

(Rigorous and domain-specific industry-level capstone project)

# Program Curriculum

## MODULE 1

### Module 1: Data Storytelling and Visualisation

- ▶ **Understand the need for data storytelling**
  - Learn to transform complex data into a narrative that is engaging and easy to understand
  - Combine data with context, visuals, and a clear narrative to convey key insights
- ▶ **Understand the different types of analyses and visualisations**
  - Learn about different types of analyses and when they are suitable
  - Learn about visualisations, such as bar charts, line graphs, and heat maps, to complement these analyses.
- ▶ **Understand the value of interactive visualisations and dashboards**
  - Learn about interactive visualisations to enhance engagement
  - Learn about dashboards, which can provide a real-time, consolidated view of key metrics

#### Activities for Practice

- ▶ **AI-Generated Data Insights:** Upload a dataset and let ChatGPT analyse trends, patterns, and anomalies, then structure its findings into a compelling narrative
- ▶ **Personalised Data Storytelling:** Ask ChatGPT to reframe insights for different audiences- executives, analysts, or social media users- based on the same dataset
- ▶ **Dashboarding Using ChatGPT:** Generate a complete Streamlit dashboard for your data using ChatGPT

Ask anything



#### ▶ Tools

ChatGPT

Streamlit

Python

Microsoft Excel

## Module 2: Data Analytics with Microsoft PowerBI

### ► Overview and Data Preparation using Power BI

- Understand the various capabilities of Power BI and Copilot
- Import, clean, and transform raw data using Power Query Editor

### ► Writing DAX queries and improving query performance

- Learn how to write simple and advanced DAX functions
- Apply the best practices for optimising DAX performance
- Use Copilot to write DAX queries

### ► Creating Visuals in Power BI

- Create customised interactive visuals and filter data using Power BI
- Use Copilot to write summaries and create summary visuals
- Use Copilot to ask questions about the data and improve Q&A visuals

### ► Using Power BI Service

- Generate reports, manage data refresh, and create Power BI dashboards
- Use Copilot to suggest content for a report
- Create a report page using Copilot

### Activities for Practice



- **Data Cleanup Challenge:** Given a messy dataset, use Power Query and Copilot to remove duplicates, handle null values, and format columns correctly
- **Build a KPI Dashboard:** Use Copilot to write DAX queries for key business metrics and design a Power BI dashboard applying best visualization practices
- **Collaboration in Power BI:** Generate a report using Copilot, publish it to Power BI Service, set permissions for different users, and configure scheduled data refresh

Ask anything



 Search



### ► Tools

Power BI

Microsoft Excel

Microsoft 365 Copilot

## Module 3: Data Analysis with Generative AI

- ▶ **Understand the importance of text analytics**
  - Learn about text analytics to extract meaningful insights from unstructured text data
  - Learn about text analytics techniques like sentiment analysis, semantic similarity, topic modelling, and information extraction
- ▶ **Learn Python basics required for text analytics**
  - Understand Python fundamentals which serve as the foundation for implementing advanced text analytics techniques
  - Understanding how to preprocess text using the Natural Language Toolkit (NLTK)
- ▶ **Learn about Azure OpenAI**
  - Learn about Azure OpenAI and how it differs from regular OpenAI
  - Learn about token usage, endpoints, and API keys
  - Make your first Azure OpenAI API call
- ▶ **Perform text analytics using Azure OpenAI**
  - Use Azure OpenAI's chat completions and text embeddings endpoints to perform sentiment analysis, semantic similarity, topic modelling, and information extraction
  - Understand the balance between using more tokens upfront and handling post-processing yourself

### Activities for Practice



- ▶ **Natural Language Processing Visualisations:** Ask ChatGPT to generate visuals for a dataset containing unstructured text data
- ▶ **Personalised Summarisation:** Build a program that can summarise the same document in different ways depending on the audience
- ▶ **Text Analytics Dashboard:** Build a Streamlit dashboard offering users different text analytics functionalities

Ask anything



 Search



### ▶ Tools

Jupyter

Azure OpenAI

Python

Streamlit

## Module 4: AI-Powered Data Management and Governance

### ► Data Processing in Fabric

- Understand how Microsoft Fabric helps in data profiling, data cleaning and automating metadata processing
- Learn how to build and automate metadata processing pipeline

### ► Data Lineage and Governance using AI

- Learn how data lineage tracking and compliance is done using Microsoft Fabric
- Understand how to apply and enforce good data governance policies in Power BI

### ► Creating AI-Powered Data Workflows

- Use AI to build a complete end-to-end pipeline for data quality optimization under standard data governance principles

### ► Scaling and Automation using Fabric

- Learn the best industry practices when scaling and automating for data quality management and governance policy enforcement
- Build a complete end-to-end pipeline and configure the steps for scaling and automating the workflow

### Activities for Practice



- **Metadata Tagging Exercise:** Catalog and tag metadata for a sample dataset using Microsoft Fabric and discuss its impact on data quality
- **Data Lineage Mapping:** Demonstrate how to track and visualize data lineage using Microsoft Fabric to ensure compliance.
- **AI-Powered Workflow Optimization:** Identify areas in business workflows where AI integrations in Power BI or Fabric can enhance data quality and governance

Ask anything



 Search



### ► Tools

Microsoft Fabric

Microsoft Excel

Microsoft 365 Copilot

Power BI

## Modern AI Tools

# Your Path to Analytics Mastery

## Master Analytics Faster with AI-Integrated Tools

Accelerate your data analytics career with tools such as ChatGPT, Microsoft 365 Copilot, Excel, Power BI, Fabric, and Azure OpenAI.

## How Generative AI Can Help?



### Prompt Practice: Master the Art

Learn to craft better prompts and drive AI models such as GPT to generate code and reports as per your business requirement.



### Process Data: Wrangle Better

Use AI and AI-integrated tools to do the heavy lifting for you by handling volumes of data in the way you require.



### Data Analysis: Uncover Insights

Upload data, ask questions in plain English, and get instant visualizations and Insights.



## Master the Tools

Gain proficiency in industry-leading Generative AI tools and platforms for data analysis.

**ChatGPT**

**Copilot**

**Azure OpenAI**

# Learn from Leading AI Experts

This program is led by renowned AI influencers and industry practitioners, bringing real-world experience and cutting-edge knowledge directly to you.



**Manish Shukla**



Manish Shukla is a visionary AI leader and Head of Generative AI Platform at NatWest Group, with deep expertise in OpenAI products, AWS MLOps, and Responsible AI. With over 15 years of experience driving AI innovation across financial services and telecom, he has led the development of scalable, multi-cloud AI platforms and transformative machine learning solutions. His strategic approach to MLOps and ethical AI ensures cutting-edge technology meets real-world demands, making him a powerhouse in AI education and industry advancement.



**Abhishek Vijayvargia**



Abhishek Vijayvargia is a Principal Machine Learning Engineer at Splunk, focusing on large language models to enhance productivity and user experience. Previously, as a Senior Data Scientist at Microsoft, he developed AI-driven security solutions for OneDrive, SharePoint, and Windows Defender, specialising in phishing and malware detection. With expertise in cybersecurity, IoT, and data science, he has led multiple AI projects, mentored professionals, and created widely followed technical content. He holds an M.Tech. in Computer Science from IIT Kanpur and has contributed to research in AI model selection, technical writing, and corporate training.



**Deependra Singh**



Deependra Singh is the VP & Head of Data Science, Gen-AI, and Analytics at Network18, leading AI transformation across 40+ media and digital subsidiaries. With 15+ years of experience, he has built analytics practices from scratch at Jungleee Games, American Express, and National Insurance Company. A specialist in AI-driven marketing, personalisation, and deep learning, he has pioneered solutions in fintech, risk management, and government policy analytics. An award-winning strategist and influential speaker, he mentors professionals and collaborates with top institutes like IIM Bangalore. His career spans leadership roles at Accenture, EXL, and entrepreneurship in AI-powered business solutions.

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