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GENERATIVE AI PROGRAM: 20 WEEKS MODULE PLANNER

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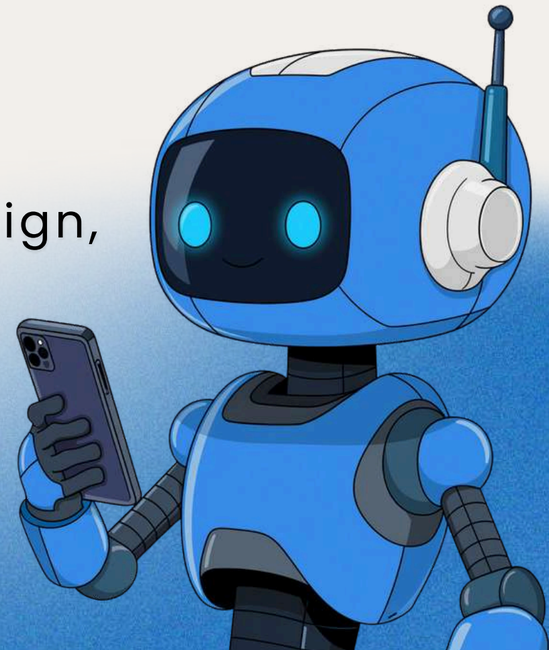
PROGRAM OVERVIEW

Program Name: Generative AI Program

Tools Covered: Excel, SQL, Power BI, Tableau, Python, Machine Learning, Deep Learning & Generative AI

Duration: 20 Weeks

Overall Outcome:
Learners will be able to analyze data, build ML & DL models, and design, fine-tune, and deploy Generative AI applications.



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MODULE 1: INTRODUCTION TO DATA SCIENCE & GEN AI

Week 1 – *Data Science & Gen AI Basics*

- Data Analytics and Data Science Overview
- Introduction to Data

Outcome: Understand the fundamentals of data science and Gen AI.

Week 2 – *Gen AI Workflow*

- Gen AI Lifecycle
- Business Use Cases of Gen AI
- Basic Introduction of Gen AI

Outcome: Understand how Gen AI is applied in real-world scenarios.



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MODULE 2: ADVANCED EXCEL

Week 3 – *Excel for Data Management*

- Introduction to Excel
- Data Manipulation and Management in Excel

Outcome: Clean, organize, and manage data efficiently using Excel.

Week 4 – *Excel Data Visualization & Advanced Techniques*

- Data Visualization in Excel
- Advanced Excel Techniques

Outcome: Create meaningful reports and summaries using Excel.



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Module 3: SQL

Week 5 – *SQL Fundamentals*
- Introduction to SQL
- Basic SQL Commands

Outcome: Retrieve and analyze data using basic SQL queries.

Week 6 – *Advanced SQL*
- Advanced SQL Concepts
- SQL Joins & Conditional Logic
- Complex Queries & Doubt Session

Outcome: Write complex queries to analyze data from multiple tables.



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MODULE 4: POWER BI

Week 7 – *Power BI Fundamentals*
- Introduction to Power BI
- Data Import & Data Transformation

Outcome: Prepare and model data in Power BI for reporting.

Week 8 – *Power BI Reporting*
- Creating Reports and Dashboards
- DAX (Data Analysis Expressions)
- Sharing and Collaboration

Outcome: Build and share interactive dashboards.



Power BI

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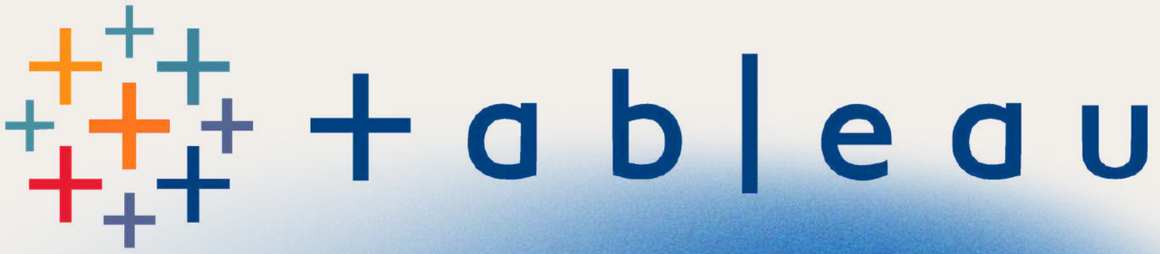
MODULE 5: TABLEAU

Week 9 –*Tableau Data Visualization*

- Introduction to Tableau
- Connecting to Data Sources
- Creating Visualizations
- Dashboard Design Best Practice

Outcome: Create professional dashboards using Tableau.



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MODULE 6: PYTHON FOR DATA ANALYTICS

Week 10 –*Python Basics*
- Python Basics
- Python Syntax & Data Types
- Data Structures & NumPy

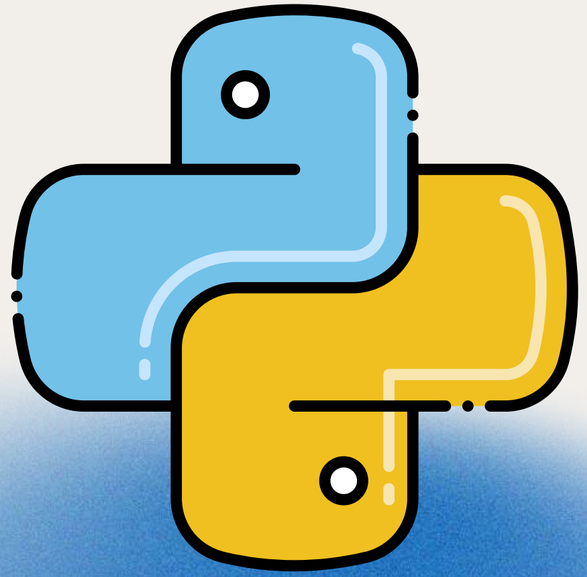
Outcome: Use Python for basic data handling and numerical analysis.

Week 11 –*Python Data Analysis*
- Data Manipulation with Pandas
- Data Visualization using Python

Outcome: Analyze and visualize data using Python libraries.

Week 12 – *Statistical Analysis*
- Statistical Analysis

Outcome: Apply statistical concepts in data science.



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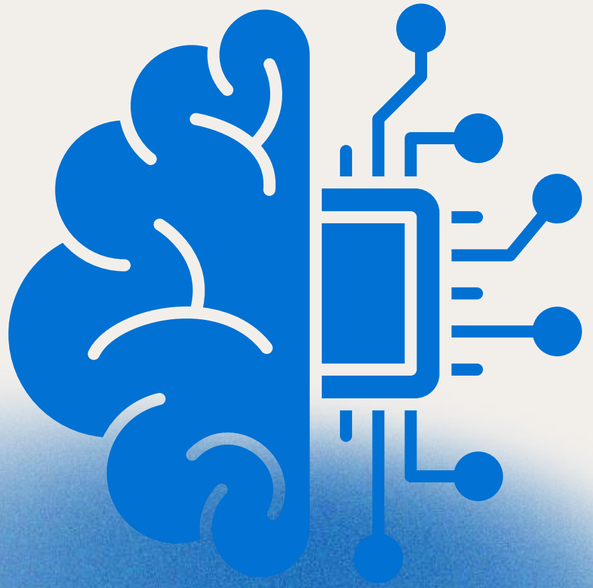
MODULE 7: MACHINE LEARNING

Week 13 – *Machine Learning Foundations*
- Introduction to AI & Machine Learning
- Supervised Learning – Regression Models

Outcome: Understand machine learning concepts and regression models.

Week 14 – *Machine Learning Models*
- Classification Models
- Unsupervised Learning
- Model Evaluation & Optimization

Outcome: Build and evaluate machine learning models.



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MODULE 8: DEEP LEARNING

Week 15 – *Deep Learning Fundamentals*
- Deep Learning & Neural Networks

Outcome: Understand deep learning concepts.

Week 16 – *Advanced Deep Learning*
- CNNs for Image Processing
- RNNs for Sequential Data

Outcome: Apply deep learning techniques.



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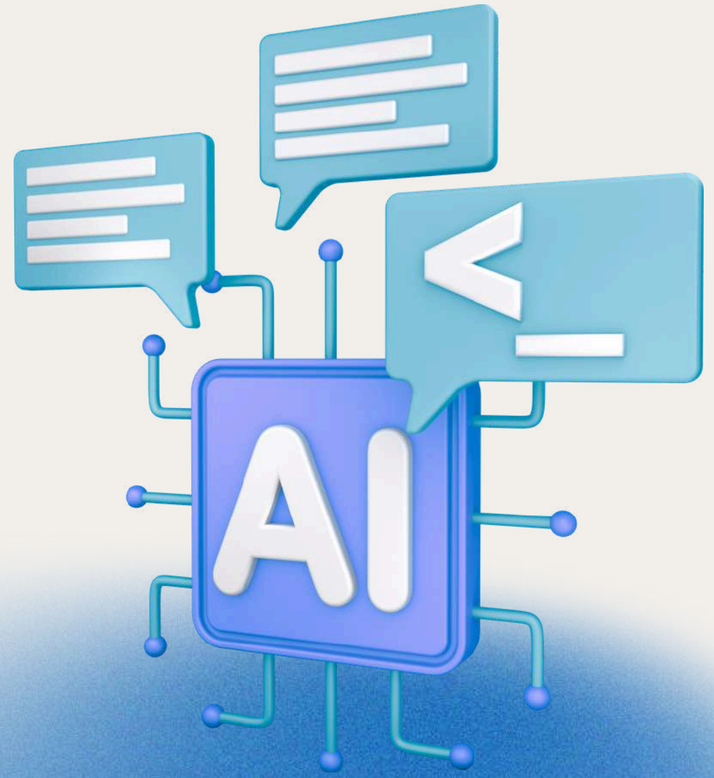
MODULE 9: GENERATIVE AI

Week 17- *Generative AI Foundations*
- Introduction to Generative AI
- Foundations of Generative Models

Outcome: Understand Generative AI basics.

Week 18- *GANs & LLMs*
- Generative Adversarial Networks (GANs)
- Transformer Models & LLMs

Outcome: Work with modern generative architectures.



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MODULE 10: GENERATIVE AI APPLICATIONS

Week 19- *LLM Applications*

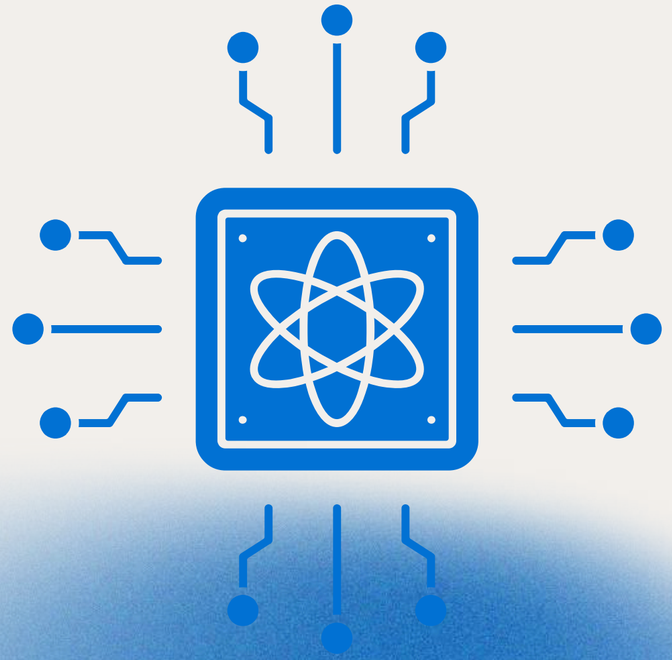
- Fine-Tuning & Deployment of LLMs
- RAG
- Multimodal AI

Outcome: Build production-ready GenAI systems.

Week 20- *Ethics & Capstone*

- Ethical Considerations & Challenges
- Capstone Project

Outcome: Deliver an end-to-end GenAI project.



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Thank you!

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For further enquiry: operation@nextleapeducation.com