



Digital Academy



Program 2

# Mastering the Essentials



Powered by:

In Partnership with:



جامعة  
الجيزة  
الجديدة



CENTRAL BANK OF EGYPT  
Egyptian Banking Institute



## Program (2)

In-Person/Hybrid Delivery Models

### Abstract

 **New Giza University Campus**

This course delivers a practical and structured understanding of AI evolution with a strong focus on banking applications. It covers core AI paradigms, advanced algorithms, generative AI, and deployment practices, enabling participants to design and implement compliant, real-world AI solutions



#### What You'll Learn



**Understand core AI**  
and machine learning paradigms  
and their banking applications



**Build and apply AI algorithms**  
for credit, risk, fraud, and  
customer analytics



**Design, evaluate,**  
and optimize AI models using  
banking-grade metrics



**Implement AI automation,**  
Best practices for integrating AI into  
legacy banking systems



**Prepare AI systems**  
for production deployment,  
monitoring, and future scalability



#### Highlights



End-to-end coverage of AI evolution  
from core ML paradigms to advanced  
generative AI



Strong emphasis on real-world banking  
applications and regulatory compliance



Hands-on workshops, implementation  
exercises, and practical assessments



Focus on production deployment,  
monitoring, and performance  
optimization



Forward-looking perspective on  
emerging AI technologies and future  
banking landscapes



## Modules Program (2)

### A Module

#### Machine Learning Paradigms in Banking

Introduces supervised, unsupervised, reinforcement, and hybrid learning paradigms. Focuses on selecting and applying appropriate ML approaches to banking operations, customer services, and decision-making within local regulatory contexts.

### B Module

#### Algorithms and Applications in Banking

Covers decision trees, random forests, neural networks, and advanced algorithm optimization. Emphasizes building, integrating, and tuning AI models for core banking functions such as credit scoring, fraud detection, and risk assessment.

### C Module

#### Automation & AI Agents

Focuses on evaluating AI models using classification and regression metrics, cross-validation techniques, and performance monitoring systems. Enables learners to design robust evaluation and reporting frameworks aligned with banking standards.

### D Module

#### GAN Architecture and Implementation in Banking

Explores the design, training, and deployment of Generative Adversarial Networks for banking use cases. Includes synthetic data generation, financial pattern analysis, and production-level system integration and monitoring.

### E Module

#### LLM Architecture and Banking Applications

Covers large language model architectures, prompt engineering, bilingual Arabic-English processing, and fine-tuning. Focuses on deploying LLMs securely within banking systems while optimizing performance and compliance.

### F Module

#### Emerging Applications of Generative AI in Banking

Examines emerging generative AI use cases, future banking service models, and transformative technologies. Guides learners in assessing market readiness and developing strategic roadmaps for future AI adoption.



# Digital Academy

Powered by:



In Partnership with:



CENTRAL BANK OF EGYPT  
Egyptian Banking Institute