Data Science Track

People Develop Countries… We Develop P.E.O.P.L.E.

Program Admission Arrangement

Who May Apply?

- **Applicants must have a first degree from a recognized university or institution of higher education or provide documentation indicating that they will earn such a first degree before enrolment in the 9-month program. Admission Requirements for Students vary depending on the student's area of study.**

Prerequisites

Applicants preferred to have adequate knowledge in Database Fundamentals and Basic Knowledge about technical concepts
- **Database Fundamentals** https://maharatech.gov.eg/course/view.php?id=740
- **Career Talk in Data Analytics** https://maharatech.gov.eg/course/view.php?id=514
- **Good Fundamentals for Statistics, ML and understanding the Data Analytics life cycle**
- **ITI values that could be found here:** https://iti.gov.eg/about-us

Selection Process

- **Phase 1: IQ and Problem-Solving exam | English exam**
- **Phase 2: Technical Exam**
  Computer-based technical exam in the field of your interest
- **Phase 3: Technical Interview**
  Those applicants would be discussing with the interviewing panel their pre-work -"Before You Apply"- in a one-to-one interview
- **Phase 4: Interpersonal Skills Interview**
  Those how pass phase 3 will be promoted to this interview

Delivery Approach

- 75% face to face Learning| 25% Online
- Hardware requirement: Core i7 laptop with at least 16 GB of RAM

Students' Deliverables

- Each student must deliver at lest ONE **freelancing** job and an international **certificate** based on his track

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1 Programs Offered

- ☑ **Professional Training Program:**
  - Data Science
- ☑ **Intensive Code Camps:**
  - Data Analysis
  - Data Analysis & Visualization
- ☑ **Online Services (MaharaTech, ITI Tech Leap)**

2 Industry/Academy Stakeholders

- Pluralsight
- Splunk
- BBI Consultancy
- IBM
- SAS Institute

3 Targeted Outcome

- **Employability**

- Vodafone Egypt
- VOIS
- BBI
- EFG Hermes
- Etisalat Egypt
- AAIB
- Fawry
- Aman
- CyShield
- CIB
- Orange Egypt
- Valeo
- Integrant
- IBM

4 Certifications

AWS Certified Machine Learning Specialty
EMC Data Science and Big Data Analytics
Azure Data Scientist Associate

5 Graduates Job Profiles

Data Scientist
A Data Scientist is responsible for building predictive and descriptive analytics models and data analysis services to be used to mine an organization's data. Occupants of this role also models complex problems, discovers insights and finds opportunities through out the use of statistical, algorithmic, mining and visualization techniques.
They also validate the findings using experimental and iterative approaches. In addition to communicating the results and ideas to key decision makers and stakeholders in an understandable way.

Data Analyst
A Data analyst collect process and perform statistical analyses of data as well as identifying patterns and trends in data sets. They discover how data can be used to answer questions and solve problems. A data analyst's job is to take that data and use it to help companies make better business decisions.
Ultimately, the work of a data analyst provides insights to the organization that can transform how the business moves forward and grows successfully.

Big Data Analyst
Big Data Analyst is able to draw relevant information from the huge amounts of data being processed every minute. They are Importing, Collecting, cleaning, converting and analyzing the data to find insights and make conclusions. They are presenting data using graphs, charts and visualize trends, patterns and correlation of complex data sets

MLOps Engineer
build and maintain a platform to enable the development and deployment of machine learning models. They typically do that through standardization, automation, and monitoring.

ML Engineer
Develop, train, and deploy machine learning models to solve real-world problems using structured and unstructured data. Collaborate with cross-functional teams to build scalable data pipelines and integrate models into production systems.

GenAI Engineer
Build and fine-tune generative AI models such as large language models (LLMs) and diffusion models for tasks like text generation, summarization, or image synthesis. Integrate GenAI capabilities into products and workflows, ensuring performance, safety, and responsible AI use.

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Program Content Structure

Essential Courses
- Operating Systems Fundamentals
- Computer Networks Fundamentals
- Database Fundamentals
- Object Oriented Paradigm Using Java
- Red Hat System Administration I
- Introduction to Generative AI and Prompt Engineering

Business courses
- Financial Accounting
- Enterprise Systems
- Project Management

SQL & Scripting Courses
- Introduction to Oracle SQL and PL/SQL
- Oracle Advanced PL/SQL
- Analytical SQL
- Bash Shell Scripting

Data Science & Big Data Tools
- Data Analysis using Excel
- Data Scientist Toolkit
- Applied Analytics Using SAS Enterprise Miner
- Apache Hadoop Essentials
- Apache Spark Essentials
- Data Science and Big Data Analytics

Programming for Data Science
- Python for Data Science
- R Programming for Data Science
- SAS Programming Essentials

Core Courses
- Introduction to Agile Software Development Methodologies
- Cloud Computing Fundamentals
- Data Warehousing Fundamentals and Data Modeling
- Business Statistics
- Systems Thinking
- Introduction to Modeling & Operations Research
- Machine Learning
- Advanced Machine Learning & Deep Learning
- Optimization and Simulation Methods for Analytics
- Visualization & Storytelling
- Data Preparation & Preprocessing
- Time Series Analysis
- Calculus for Data Science
- Numerical Optimization for Data Science
- Linear Algebra for Data Science
- Machine Learning Operation (MLOps)

Workshops
- Transformers and LLMs
- Agentic AI Workflow
- Generative Modeling
- Data Structures and Introduction to Algorithms

Soft Skills Courses
- Best Practices For Remote Working (Workshop)
- Communication Essentials for Professionals
- High Impact Presentations
- Job Seeking Skills
- Professional Demeanor (Workshop)
- Progressive Teamwork (Workshop)

NSE05 16%
NSE01 40%
NSE04 8%
NSE03 12%
NSE02 24%