



Certified Full Stack Artificial Intelligence Program

Prospectus

About Us

At **Analitqa**, we believe that AI doesn't have to be complicated. Our mission is to simplify your journey into the world of data through structured, hands-on, and industry-ready education.

We are an **EdTech platform** built for **learners, career switchers, and working professionals** who want to master **Full Stack AI** from Python to Machine Learning, from SQL to MLOps and Gen AI with clarity, confidence, and real-world application in the form of Capstone Projects.

AI: The Language of Tomorrow's Jobs

McKinsey
& Company

Organizations that leverage data in decision-making are **23 times more likely to acquire customers, 6 times as likely to retain them, and 19 times as likely to be profitable.**

1.3 million new AI jobs created between 2023–2025, AI-related roles dominate LinkedIn's "**Jobs on the Rise 2026**" list

The LinkedIn logo, consisting of the lowercase letters "in" in white on a blue square background.The Glassdoor logo, featuring a white stylized "G" icon above the word "glassdoor" in white lowercase letters, all on a green square background.

A **Glassdoor survey** listed "Data Scientist" among the **Top 3 Best Jobs in the US** for multiple years, based on salary, job satisfaction, and availability.

Curriculum

Module 1: Introduction

- Introduction to Data Science
- Introduction and Overview of Program
- Guide to LMS

Module 2: Python Programming

- Introduction to Python Programming
 1. Introduction to Python and Installation
 2. Jupyter Notebook
 3. Running Code from Terminal
 4. Google Colab
- Python Basics (Variables, Operators, Conditional Statements, Loops)
- Data Structures
 1. Lists
 2. Sets
 3. Tuples
 4. Dictionaries
- User Defined Functions
- Decorators, Docstrings
- Modularisation
- Lambda, Map, Filter, Reduce
- File Handling
- Exception Handling

Module 3: SQL for Data Science

- Basics of DBMS
- DBMS and Data Models
- Data Type, Operators, Key Attributes
- DML, DDL, DQL, TCL
- SQL Basics (SELECT, WHERE, ORDER BY, GROUP BY, HAVING)
- SQL Constraints and Aggregation Functions
- SQL Joins
- Subqueries, Stored procedure, Temporary table, Views
- Window and Ranking Functions

Module 4: Mathematics for Data Science

- Matrices, Determinants, Sets
- Functions
- Derivatives and Integration

Module 5: Statistics for Data Science

- What is Statistics?
- Population vs Sample
- Types of Variables
- Measure of Central Tendency
- Measures of Dispersion
- Covariance and Correlation
- Types of Categorical Plot
- Types of Continuous Plot
- Probability and its Applications
- Inferential Statistics
- Hypothesis Testing

Module 6: Python Packages

- Numpy Arrays
- Array Operations, Indexing, Slicing
- Broadcasting
- Working with NaN and missing data
- Introduction to Pandas
- Data Manipulation using Pandas
- Sorting, Filtering, Ranking, Aggregation Functions
- Working with Excel and CSV Files

Module 7: Object Oriented Programming (OOPS)

- Introduction to OOP, Classes & Objects
- Attributes, Methods & Constructor (`__init__`)
- Instance vs Class Variables
- Encapsulation (public, protected, private)
- Inheritance, Method Overriding & `super()`
- Polymorphism

Module 8: Data Visualisation

- Matplotlib
 1. Anatomy of Matplotlib (Figure, Axes)
 2. Line Charts, Bar Charts, Pie Charts, Scatter Plots
 3. Customising - Colors, Labels, Legends, Titles
 4. Plotting Multiple Variables
 5. Saving Plots as PNG/SVG
- Seaborn
 1. Distribution Plots (Histplot, Distplot)
 2. Categorical Plots (Box plot, Violin Plot)

3. Bivariate and Multivariate Plots (Scatter Plot, Heatmap)

- Plotly for Interactive Plots

Module 9: Power BI

- Introduction to Power BI
- Different Sections and Components
- Charts and Visuals
- Interactive Dashboard Creation

Module 10: Exploratory Data Analysis (EDA)

- Introduction to EDA
- Univariate, Bivariate and Multivariate Analysis
- Missing Value Analysis
- Outlier Detection
- Column Standardisation
- Treating Categorical Variables
- Feature Importance and Feature Engineering

Module 11: ML Fundamentals

- Types of ML Problems
- Validation Techniques
- Curse of Dimensionality
- Handling Imbalanced Datasets
- Evaluation Metrics (Accuracy, Precision, Recall, F1-Score, ROC-AUC Curve)
- Bias Variance Trade-off

Module 12: ML - Supervised Learning Part 1

- Naive Bayes
- Linear Regression
- Logistic Regression
- K- Nearest Neighbours (KNN)
- Support Vector Machine (SVM)
- Decision Trees

Module 13: ML - Supervised Learning Part 2

- Ensemble Methods
- Random Forests
- Boosting
 1. AdaBoost
 2. XGBoost
 3. LightGBM
 4. CatBoost

Module 14: ML - Unsupervised Learning

- Unsupervised Learning Basics
- K-Means Clustering
- Hierarchical Clustering
- DBSCAN

Module 15: Advanced ML And Model Tuning

- Cross-Validation Techniques
- GridSearchCV And RandomizedSearchCV

Module 16: Deep Learning – Part 1

- Introduction
- Perceptron and Neural Network Basics
- Loss Functions
- Backpropagation
- Batch Normalisation
- Optimisers

Module 17: Deep Learning – Part 2

- ANN, CNN and RNN Introduction
- Image Classification with CNN
 1. Padding
 2. Pooling
- RNN
- Time Series with LSTM

Module 18: Natural Language Processing (NLP)

- Introduction to NLP
- NLP Pipeline
- Text Preprocessing
- Text Cleaning and Tokenisation
- Bag of Words (BOW), Word2Vec, TF-IDF
- POS Tagging

Module 19: Time Series Analysis

- Introduction to Time Series and Forecasting
- Components of Time Series
- Statistical Time Series Model (ARIMA and SARIMA)
- ADFuller Test, Seasonality and Trend Analysis
- AutoForecast
- Prophet

Module 20: MLOPS

- Docker
- ML Flow
- Airflow
- Fast APIs

Module 21: Generative AI AND LLMs

- Basics of Gen AI
- Langchain Overview and its Components
- Prompt Engineering
- Retrieval Augmented Generation (RAG)
- LLM and Fine Tuning

Module 22: Agentic AI

- Introduction
- LangGraph
- How to Build MCP Client
- Advanced Agentic Systems

Module 23: Final Capstone Project

To be Presented by Students for final Certification

Placement Assistance

“Complete, Submit, Succeed—with our post-project support”

100% Guaranteed Interviews with Companies

We connect you with real hiring companies, so you can land your dream job



Mock Interviews by Expert Data Scientists

Sharpen your interview performance with personalized practice

Resume Preparation Session

Build an impactful resume tailored for data science and analytics roles.



Job Portals Profiles Optimization

Enhance your visibility on platforms like Naukri, LinkedIn.

GitHub Profile Optimization

Showcase your projects and code effectively to impress tech recruiters.



ISO Accredited Certificate



CERTIFICATE OF COMPLETION

This is to certify that

Student Name

has successfully completed the
Full Stack Artificial Intelligence Program
offered by ANALITIQA

Their dedication, perseverance, and passion for learning are truly commendable.
We wish them continued success in all future endeavors.

Date

28th Aug 2026



Team
ANALITIQA

Contact Us

Discover more about the program online or reach out to us directly at:



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