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informatech CERTIFIED GLOBAL LEADERSHIP CONSULTANTS

DATA MANAGEMENT AND BUSINESS INTELLIGENCE | COURSE

Machine Learning and Predictive Models

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Course content

Why Attend

With advancements in technology, predictive models are now accessible to a wide range of users. This course provides a comprehensive overview of supervised Machine Learning algorithms and their critical role in enhancing predictions across industries and organizations.

Participants will explore various models across different technologies, including SAS, Statistica, and SPSS. By the end of the course, they will be equipped to evaluate and select the most suitable solutions and technical packages tailored to their organization's needs, becoming expert practitioners in the field.

This course includes interactive discussion and the use of exercises and case studies. Each Machine Learning algorithm is supported by its own case study with step-by-step outputs that go in parallel with its multi-stage analysis. All algorithms are detailed with sequential screen shot applications on comparative technologies such as SPSS, SAS, Statistica and Excel.

By the end of the course, participants will be able to:

• Gain a clear understanding of Machine Learning concepts

• Differentiate between Data Analysis and Machine Learning methodologies

• Apply testing and validation techniques to Machine Learning models

• Present an overview of optimal analytic solutions

• Build and fine-tune predictive models for accurate estimations

Any level of professional interested in how Machine Learning can assist their organization, would benefit from this course. These include professionals from industries including, but not limited to, banking, insurance, retail, government, manufacturing, healthcare, telecom, and airlines.

• Predictive Analysis

• Predictive Models

• Data Analysis

• Data Analytic Models

Course outline

Course content

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Data Analysis and Simple Regression

- Fundamentals of Data Analysis Logic
- Comparing two groups: Means and proportions testing
- Visualizing group profiles in a single chart
- Analyzing multiple groups: Means and proportions testing
- Profiling multiple groups in one chart
- Introduction to Simple Regression
- Regression vs. Correlation
- Sensitivity analysis for quantitative variables

Multiple and Logistic Regressions

- Overview of Machine Learning principles
- Understanding Gradient Descent logic
- Differences between Multiple and Simple Regression
- Variability analysis in estimations
- Utilizing dummy variables in models
- Key distinctions between Logistic and Multiple Regressions
- Simplifying complex models through Stepwise Regression

Discriminant Analysis

- Optimized profiling techniques
- Two-Group Discriminant Function Analysis
- Case attribution and model evaluation

Course content

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- Classification functions and Mahalanobis squared distances
- Probability-based methods and model reduction
- Generalized Discriminant Analysis

Decision Trees

- Introduction to Decision Trees
- Binary Trees and their quality assessment
- Rules and techniques for pruning
- CART Models: Classification and Regression Trees
- CHAID Trees and Random Forest Trees

Nearest Neighbor, Bayesian, Neural Network and Deep Learning

- Understanding conditional probabilities for prediction
- Prediction using probability models
- Distance-based predictions (Nearest Neighbor)
- K-Nearest Neighbors methodology
- Neural Network models: Weights, hidden layers, pros, and cons
- Introduction to Deep Learning concepts
- Overview of Big Data principles

Seminar dates

Available seminar dates

Live dates and pricing for Machine Learning and Predictive Models generated from the course details page.

Date	Location	Format	Fee
6 - 10 July 2026	Frankfurt - Germany	Classroom	**€3,250.-**
10 - 14 August 2026	Barcelona - Spain	Classroom	**€3,850.-**
14 - 18 September 2026	Barcelona - Spain	Classroom	**€3,850.-**
5 - 9 October 2026	Rome - Italy	Classroom	**€4,250.-**
16 - 20 November 2026	Munich - Germany	Classroom	**€3,450.-**
7 - 11 December 2026	Amsterdam - Netherlands	Classroom	**€4,250.-**

Live online option	Online delivery is available at €1,850.-.