

Machine Learning and Predictive Models

Course Summary

This course offers a complete overview of supervised Machine Learning algorithms, and their role in the enhancement of predictions in most industries and by most organizations. This course covers all models utilized under different technologies (SAS, Statistics and SPSS), enabling participants to become expert practitioners by evaluating and selecting appropriate solutions with suitable technical packages for their organizations.

Expected Outcome: Participants will:

- Understand Machine Learning
- Comprehend differences between Data Analysis and Machine Learning
- Apply testing and validation samples in models
- Identify the best analytic solutions
- Implement predictive models

Course Methodology: The course includes interactive discussions, exercises, and case studies, with each algorithm demonstrated through step-by-step outputs and sequential screenshots on technologies like SPSS, SAS, Statistica, and Excel.

Objectives:

- Understand Machine Learning
- Differentiate between Data Analysis and Machine Learning
- Apply testing and validation samples
- Select the best analytic solutions
- Implement predictive models

Course Outline:

Data Analysis and Simple Regression

- Data Analysis Logic
- Testing means and proportions for groups
- Simple regression vs. correlation
- Sensitivity analysis

Multiple and Logistic Regressions

- Introduction to Machine Learning
- Gradient Descent logic
- Multiple Regression
- Logistic vs. Multiple regressions
- Stepwise regression

Discriminant Analysis

- Optimized Profiling
- Model Evaluation
- Classification Functions



Decision Trees

- Understanding Decision Trees
- Binary Trees and pruning rules
- CART: Classification and Regression Trees
- Random Forest Tree

Nearest Neighbor, Bayesian, Neural Network, and Deep Learning

- Conditional probabilities
- Nearest Neighbor distances
- Neural Network weights and hidden layers
- Deep Learning
- Introduction to Big Data




Profile of the Facilitator: Mr. Walid Semaan



Mr. Walid Semaan, a Principal Data Scientist with nearly 20 years of experience, leads a data science research and consulting organization. He trains professionals in Data Research, AI, Machine Learning, Statistics, and Big Data. As an SAS partner trainer, he has worked with Etisalat, Statistics Centre Abu Dhabi, and Western Union. He created the award-winning "Triple One Analytics" AI system and holds degrees in Engineering, Finance, Marketing, and an MBA from University Paris-Dauphine-Sorbonne.

Fees: 7000 SAR

Contact & Venue

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