MANAGEMENT/ADMINISTRATION

Business Analytics with Data Mining

The course covers data mining techniques and their use in strategic business decision making. Familiarity with data mining and business analytics is highly sought-after in today's competitive market. This course will give you an appreciation and experience in deriving value from data.

Certification Issued By

Leadership & Management Global Organization (LMGO - Switzerland) The Leadership and Management Global Organization (LMGO ®) is a global provider of leadership development and management research and certifications. Ranked among the world's top providers of executive accreditation and standardization, LMGO helps clients leverage leadership and management to drive results that matter.

Membership Benefits

High Authority Council for Arab Managers HACAM believes that this certificate will be a valuable resource for professionals within the Arab world in order to understand how these and other processes for organizational improvement are interrelated. HACAM provides training program in the Middle East and targets Managers of quality-focused organizations/industries, professionals aiming to increase their effectiveness/ productivity and anyone interested in the field of quality.

Student will be able to:

- ✓ Be aware of the business intelligence potential of today's data rich environment
- ✓ Gain a practical understanding of the key data mining methods of classification, prediction, data reduction and exploration
- ✓ Know how to decide when to use which technique
- ✓ Understand how to implement major techniques using Excel add-ins
- ✓ Become a smart and critical consumer of data mining techniques
- ✓ Gain the intellectual capital required to provide business analytics services

Course Parts

- ✓ Course Overview (data mining vs. statistical inference; examples)
  - o Intro to Data Mining
  - o Data Mining vs. Statistics
  - o Data Mining vs. Text Mining
  - o Applications of Data Mining
- ✓ Prediction (Linear regression for prediction; over-fitting; data partitioning; predictive metrics;)
  - o Define linear regression
  - o Identify errors of prediction in a scatter plot with a regression line
- ✓ Prediction vs. classification
  - o Definition
  - o Classification vs. Prediction
  - o Classification Steps
  - o Issues of Classification and Prediction
- ✓ Data Preparation & Visualization
  - o Quickly access and prepare data from all sources including big data, traditional sources
  - o Interactive exploration of dashboards that can incorporate complex analytics including time series and telemetry data, real-time geo mapping and predictive analytics
- ✓ Dimension Reduction (Reducing # categories; Principal Components Analysis)
  - o Projective Methods
  - o Reducing number of Categories
  - o Manifold Modelling
  - o Principal Components Analysis
- ✓ Unsupervised learning: Cluster Analysis
  - o Introduction
  - o Cluster analysis
  - o New Methods
  - o Computing
  - o Comparisons
- ✓ Classification Goals
  - o Problem Description
  - o Approximation Algorithms
  - o Statistics
- ✓ Classification Performance
  - o Classification techniques
  - o Models
  - o Evaluations of Classification
- ✓ Classification and Regression Trees
  - o Prediction Trees
  - o Regression Trees
  - o Classification Trees
- ✓ Logistic Regression
  - o understand the statistical model of logistic regression.
  - o know the binary logistic regression algorithm and how to program it.
  - o know the multi-class logistic regression algorithm.
  - o understand some similarities and differences with LDA.
- ✓ Association Rules
  - o Assess data centricity
  - o Mapping observation
  - o Problem assesment
  - o Data sensing
- ✓ Team Presentations