Advanced Analytics: Leveraging Data Science and Machine Learning Techniques to Gain Data Insights

Learn via: **Classroom / Virtual Classroom / Online**

Duration: **1 Day**

https://bilginc.com/en/training/advanced-analytics-leveraging-data-science-and-machine-learning-techniques-to-gain-data-insights-42-training/

Overview

Analytics encompasses many skills and disciplines. Identifying the problem, choosing the modeling approach, selecting the correct features to model, and evaluating the result are at the heart of analytics. The tendency, however, is to focus primarily on the technology rather than the process.

Join us for a problem-focused, applied experience where you learn to apply the analytics process to produce meaningful and valuable insights.

Who Should Attend

Business analysts, data analysts, and data scientists who need to frame analytic problems and choose the most effective ways to solve those problems; business and technical managers who need to understand the nature of analytics and data science work; BI and analytics developers who work with data scientists; anyone who aspires to become a data analyst, business analyst, or data scientist.

What You Will Learn

- To understand and classify different types of data science problems
- How to discern the characteristics of common data science scenarios
- Ways to outline which analytical problems are suited to which analytic models
- To match data science problems to the best-fit models to solve them
- Examples that walk through how to apply different aspects of the analytics process

Outline

Module 1

What is Machine Learning?

- Why Machine Learning?
- Machine Learning
- Statistics in Machine Learning
- Supervised and Unsupervised Learning

Module 2

The Machine Learning Process

- Machine Learning Framework
- Machine Learning Approaches
- Machine Learning Techniques
- Machine Learning Algorithms
- Machine Learning Process

- CRISP-DM

Module 3

Exploratory Data Analysis

- Exploratory Data Analysis (EDA)
- Sampling
- Data Profiling
- Descriptive Statistics
- Data Relationships
- Outliers and Anomalies
- Important Variables
- Output and Interpretation
- Feature Selection Methods

Module 4

Models and Algorithms

- The Anatomy of a Model
- Classification
  - o Decision Trees
  - o Nearest Neighbor
  - o Probability – Bayes Classification
  - o Neural Networks
- Statistical Methods
- Clustering
- Association
- Anomaly Detection
- Application of Machine Learning Models

Module 5

Model Validation Techniques

- The Validation Process
- Fitting a Model
- Bias/Variance Tradeoff
- Validation Techniques
  - o Confidence and Prediction Intervals
  - o Statistical Significance
  - o Classification Accuracy
  - o Prediction Error Methods
  - o Hold-out
  - o Cross Validation