

# Machine Learning & Data analysis for Java Developers

**Course 6970 –24 Hours**

## Overview

Machine learning becomes more and more relevant as applications faces BigData. It is important for server side developers to enter this world since eventually, in a 'Service Oriented' world, there is no way to keep up with rapid data generation and endless ways to analyze it. This course deep dives into ML concepts, methodologies and algorithms. The course then relates to implementing ML in Java using Java based API – WEKA.

## Who Should Attend

- Java developers that want to understand ML terms, methodologies and algorithms
- Java developers that want to implement WEKA API for ML
- Java developers that need to use ML for IT, Marketing, Security or any other BigData resource

## Prerequisites

- Experience in JavaSE
- Familiarity with Java server side techs (Web/Spring/EJB)

## Course Contents

### Machine Learning

- Initial Data Understanding
  - Correlations
  - Outliers Detection
  - Data Types
- Data Preparation
  - Data Normalization
  - Feature Selection
  - Feature Extraction
- Supervised Learning
  - Generalization
  - Bias
  - Variance
  - Classification
  - Regression

- Basic Supervised Learning Algorithms
  - K-NN
  - Decision Trees
  - Linear Regression
  - Logistic Regression
  - SVM
  - Naïve Bayes
- Basic Unsupervised Learning
  - K-Means
  - EM

### **Java ML with WEKA**

- Introduction to WEKA
- Installing & documentation
- Working with ARFF files & DBs
- Main components
- Instances
- Options
- Setting filters
- Classifiers
- Using clusters
- Evaluation
- Attribute selection