

Predictive Analytics with R (Without Time Series Analysis)

Duration: 30 hours

Course Outline:

Data Handling and Visualization in R
Introduction and Overview of R Package
Data Cleaning and Management in R
Data Import/Export of commonly used files, including accessing data tables from databases
Data Manipulation - variable creation/deletion, recoding, restructuring etc.
Data Management - Merging two or more files, appending, stacking files etc.
Logic Building in R
Data Visualization in R

Exercise

Data Modeling & Statistics Refresher
Data Modeling Techniques Overview
Missing Imputations
Multi-collinearity Check

Case Study/ Project

Linear Regression
Regression
BLUE Property
Residual Analysis
Multiple Regressions
Identifying outliers, influences in regression model
Model Building

Case Study/Project

Logistic Regression
Model theory, Model Fit Statistics
Reject Reference, Binning, Classing
Dummy Creation, Dummy Correlation
Model Validation
Model Development (Multicollinearity, WOE, IV, HLT, Gini KS, Rank Ordering, Clustering Check)
Decision Tree Analysis (CHAID, CRT and C5.0) and comparison of decision trees with Logistic/Multi-nominal Logistic Models

Case Study/Project

Analytics | Actuarial Science | IT Security | Corporate Learning Solutions

Factor Analysis & Clustering

Factor Analysis

Cluster Analysis

Perceptual mapping using correspondence analysis and Multi-dimensional scaling

Case Study/Project

Text Mining & Analysis

Extract & Process Unstructured Text Data from Social Media Channels

How to Choose Correct Statistical Tools for Text Analysis

Case Study/Project

Introduction to Machine Learning

How does Machine Learning Work?

Case Study /Project

Projects:

- ♣ Writing custom functions
- ♣ Data Wrangling on Forest Fires Dataset
- ♣ Building a custom dashboard
- ♣ Rossman Sales Store
- ♣ Titanic Survival Prediction
- ♣ Iris dataset clustering
- ♣ Project on decision trees [yet to be decided]
- ♣ Project on perception mapping [yet to be decided]
- ♣ Twitter Text Mining
- ♣ Amazon sentiment analysis