Machine Learning using R

Machine Learning using R – Course Syllabus

Introduction to R
What is Machine Learning?
Features and Benefit of Machine Learning
Explain on use and abuse of Machine Learning
Real-time use case Scenarios
Explain on high level Machine Learning Algorithm
What is R?
Why need R?
Pre-requisite to install R
Installing R
Explain on Package and Library
Loading an R package
Environment Setup on R
Scoping Rules

GUI Editor and Command line interface

Explorer on R Studio

Getting helps and blog on R

Orange Techno mind Building Blocks on R

Variable declaration and Syntax on R

Scalars

Vectors

Factors

List

Arrays

Data Frames

Using Cbind,Rbind

Explain on Classes and Objects

Functions

Custom Functions and Arguments

IF-else statements

Lookup tables

Sequential steps

Explain on Parallel Cases

Looping statements like FOR, WHILE, REPEAT

Orange Techno mind Processing Data with R

Understanding Loading and Saving R data structure

Importing and Saving data from CSV files

Importing data from SQL database

Reading and Writing using Excel and SAS

Explain on Structure of data

Visualizing Numeric Variables

Explain Visualizing Relationships

Orange Techno mind Working with Regression and Analysis

Overview of Regression and Analysis

Benefit of Regression

Explain on Baseline Model

Liner Regression

Correlations

Multiple linear Regression

Explain on Regression and Model Trees

Polynomial Regression model with rlm

Definition Correlation

Bigger Regression Models with Biglm

Orange Techno mind Working with Regularization

Explaining on Regularization

Non-Linear Relationships

Test Regression

Orange Techno mind Lazy and Probabilistic Learning

Understanding nearest Neighbor Classification

Depth explain on K-NN Algorithm

Choose data for use with K-NN

Understanding Naive Bayes

Basic concept on Bayesian Methods

Explaining on Probability and joint Probability

Naive Bayes Algorithm

Orange Techno mind Working with Divide and Conquer

Explaining on Decision Trees

Decision Tree Algorithm

Classification Rules

Separate and Conquer

Explain on 1R Algorithm

Explain on RIPPER Algorithm

Orange Techno mind Working with Black Box Methods

What is Neural Networks?

Understanding on Neural Networks

Activation Function

Explain on Network Topology

Explain on Support Vector Machines

Orange Techno mind Working with Finding Patterns

What is Association Rules

Understanding Association Rules and Benefit

Explain on Apriori Algorithm

Setting up rules with Apriori Principle

Orange Techno mind Working with Model Performance

Overview of Model Performance

Classification on Measuring Performance

Prediction data with R

Measure Performance using Confusion Matrices

Explain on F-Measure

Explain on Improving Model Performance

Parallel Computing

Orange Techno mind Best Practices on Machine Learning and Interview Tips