

Machine Learning With R

Description

Machine learning is a branch in computer science that studies the design of algorithms that can learn. Typical machine learning tasks are concept learning, function learning or “predictive modeling”, clustering and finding predictive patterns. These tasks are learned through available data that were observed through experiences or instructions, for example. Machine learning hopes that including the experience into its tasks will eventually improve the learning. The ultimate goal is to improve the learning in such a way that it becomes automatic, so that humans like ourselves don’t need to interfere anymore. This small tutorial is meant to introduce you to the basics of machine learning in R: more specifically, it will show you how to use R to work with the well-known machine learning.

Expectations and Goals

The course aims at providing an accessible introduction to various machine learning methods and applications in R. The core of the courses focuses on unsupervised and supervised methods. The course contains numerous exercises to provide numerous opportunities to apply the newly acquired material. To help students to build a project self-dependently.

Prerequisites

Need some knowledge about any programming language and need some concepts about statistics.

Course Schedule

Module	Topic
Module 1	Introduction About R language R Studio Reserved Words Variables and Constants R Operators Operator Precedence DECISION AND LOOP R Programming if...else R if else () Function R for Loop R while Loop R break and next Statement R repeat loop
Module 2	R functions R Functions R Return Value from Function R Recursive Function R Infix Operator R switch () Function
Module 3	R data structures R Vector R Matrix R Lists R Data Frame R Factors
Module 4	Graphs & charts R Bar Plot

	<ul style="list-style-type: none"> R Histograms R Pie Chart R Box Plot R Strip Chart R Plot Color
Module 5	<ul style="list-style-type: none"> More on plotting in R R Plot Function R Multiple Plots Saving a Plot in R R 3D Plot
Module 6	<ul style="list-style-type: none"> Machine learning concepts Introduction to Machine Learning Data upload in R system Data Processing
Module 7	<ul style="list-style-type: none"> Concepts on various ml algorithms Regression Analysis: <ul style="list-style-type: none"> Simple Linear regression Logistic regression Support Vector machine Decision Tree Regression Classification: <ul style="list-style-type: none"> Decision Tree Classification Random Forest Classification Naive Bayes Clustering: <ul style="list-style-type: none"> K-Means C-means Hierarchical
Module 8	Implementation or practical of various machine learning algorithms on cloud environment
Module 9	Project work and documentation