R Programming
Syllabus

Data Science

- Introduction to Data Science
- Need for Business Analytics
- Data Science Life Cycle
- Different tools available for Data Science

R-Programming

- Introduction to R
- Real-world uses of R
- Installation of R (any operating system)
- Installation of R-Studio (any operating system)
- Different types of file creation in R

Basic Concepts Of R

- Types of Variables
- Types of Operators
- Types of Datatype

    a. Vectors
    b. Arrays
    c. List
    d. Matrices
    e. Factors
    f. Data Frames

Control Statement in R

- If-else Flow Control
- Loops in R

  ✓ While
  ✓ For

- Break
- Next
- Switch-Case

Functions in R

- Function declaration with parameters
- Function declaration without parameters
- Built in methods in R
- Built in packages in R

R Data Interface

- Reading CSV files
- Reading XML files
- JSON files
- Scraping data from the Web
- Database connectivity in R

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Statistics in R

- Terminologies of Statistics
- Normal Distribution
- Regression Analysis
- Poisson Distribution
- Time-Series Analysis
- Chi-square Test Analysis

Data Visualization of R

- Pie Chart
- Bar graph
- Line Graph
- Scatter plot
- Stack Plot
- Box-Plot

Machine Learning in R

- What is Machine Learning?
- Supervised Machine learning
- Unsupervised Machine learning
- Application of Machine Learning
- Al vs Machine Learning

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Classification Algorithms

- K-nearest neighbou
- Decision Tree
- Random Forest
- Naive-Bayes
- SVM Classifier

Regression Algorithm

- Regression Learning
- Linear Regression
- Multiple Regression
- Logistic Regression

Clustering

- K-means clustering
- Hierarchical Clustering

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