DATA SCIENCE WITH R

COURSE CURRICULUM

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Data Science with R – Complete Industry-Ready Course

Introduction to Data Science in R
◆ Basics of R programming and RStudio setup
◆ Data types, variables, and operators
◆ Writing functions and control structures
◆ Data exploration and manipulation fundamentals

Data Manipulation with dplyr & tidyr
◆ Filtering, selecting, and arranging data
◆ Grouping and summarizing data
◆ Merging and reshaping datasets
◆ Handling missing values and outliers

Data Visualization with ggplot2
◆ Basics of data visualization in R
◆ Creating bar charts, histograms, scatter plots
◆ Customizing themes, labels, and colors
◆ Visual storytelling using plots

Statistical Analysis & Hypothesis Testing
◆ Descriptive and inferential statistics
◆ Correlation and regression
◆ ANOVA, chi-square, and t-tests
◆ Confidence intervals and p-values

Machine Learning with R (caret / mlr)
◆ Supervised learning: Regression and Classification
◆ Unsupervised learning: Clustering (K-means, Hierarchical)
◆ Cross-validation and model performance
◆ Dimensionality reduction and feature selection

Text Mining with R (tm / tidytext)
◆ Basics of text preprocessing and cleaning
◆ Tokenization and frequency analysis
◆ Word cloud, sentiment analysis
◆ Document-Term Matrix (DTM) and topic modeling

Time Series Analysis with R
◆ Time series components and decomposition
◆ ARIMA, ETS, and forecasting models
◆ Plotting and evaluating time-based data
◆ Real-world forecasting applications

Capstone Project & Real-Time Applications

♦ Build end-to-end data science project using R

♦ Examples: Sales Forecasting, Sentiment Analysis, Health Analytics

♦ Model deployment and storytelling with reports

♦ Create reproducible reports with R Markdown

Thank you

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Thank You for Going Through Data Science with R Curriculum
We hope this guide has provided a clear and structured learning path
to strengthen your skills in Data Science with R.

📌 **NEXT STEPS**
- Start practicing with real-world use cases and hands-on exercises
- Build personal or client-based projects for your portfolio
- Keep exploring updates and best practices in the industry
- Join discussions and stay connected with the community

📞 **Need Help or Guidance?**
Feel free to contact our course support team:
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