BLACKBiRD
FOR TRAINING

Advanced Data Analytics & Predictive Strategies with R

IT & IT Engineering
London (UK)
01 - 05 Sep 2025

UK Traininig
PARTNER

Advanced Data Analytics & Predictive Strategies with R

Ref: 3290_134520 **Date:** 01 - 05 Sep 2025 **Location:** London (UK) **Fees:** 4400 **Euro**

Course Description

This intensive 5-day course equips data scientists and analysts with advanced R programming skills for predictive analytics and machine learning. Participants will learn cutting-edge techniques in data manipulation, visualization, and modeling using R's powerful ecosystem. Through hands-on projects and real-world datasets, attendees will gain practical experience in developing sophisticated predictive strategies.

Learning Objectives

- Master advanced R programming techniques for efficient data analysis
- Develop and implement complex predictive models using machine learning algorithms
- Create compelling data visualizations and interactive dashboards with R
- Apply statistical methods and time series analysis for accurate forecasting
- Optimize R code for improved performance and scalability

Course Modules

Day 1: Advanced R Programming and Data Manipulation

- Functional programming in R
- Advanced data manipulation with dplyr and data.table
- Efficient memory management and performance optimization
- Working with large datasets and databases in R

Day 2: Advanced Data Visualization and Reporting

- Creating complex ggplot2 visualizations
- Interactive visualizations with plotly and shiny
- Automated reporting with R Markdown and flexdashboard
- Geospatial visualization techniques

Day 3: Machine Learning and Predictive Modeling

- Supervised learning algorithms Random Forests, SVM, XGBoost
- Unsupervised learning techniques clustering, dimensionality reduction
- Model selection, validation, and hyperparameter tuning
- Ensemble methods and stacking

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Day 4: Time Series Analysis and Forecasting

- Advanced time series modeling with ARIMA and Prophet
- Multivariate time series analysis
- Anomaly detection in time series data
- Long short-term memory LSTM networks for sequence prediction

Day 5: Advanced Topics and Real-world Applications

- Natural Language Processing with R
- Network analysis and graph analytics
- Bayesian modeling and inference
- Deploying R models in production environments

Practical Wins for Participants

- Develop a portfolio-ready predictive modeling project
- Create an interactive dashboard for data exploration and visualization
- Implement a scalable machine learning pipeline for big data
- Design and deploy a real-time anomaly detection system

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