

# PREDICTIVE ANALYTICS

## WITH R

### DESCRIPTION

The course has the purpose of teaching the participants how to develop a Predictive Analytics solution with R, test it, and evaluate its accuracy. The topics include a more theoretical part on the functioning of the models, and a practical part, in which we will use some of the R packages to implement and evaluate predictive analytics models. The algorithms that are part of the program of the course are: Naive Bayes, Decision trees, Neural Networks, K-Means Clustering, Association Rules. These algorithms will be applied to realistic cases. The course requires at least a basic knowledge of the R language. However, fundamental concepts will be reviewed to better understand the part devoted to Predictive Analysis.

### MAIN TOPICS

- Data preparation: exploration, variables creation, PCA, MICE, how to deal with NULL
- Predictive Analytics algorithms: Linear regression, Logit, Clustering, Naive Bayes, Decision trees, SVM, Neural Networks
- Ensemble methods: Random forest, bagging/Boosting
- Model evaluation: ROC curve, Cross validation, Bootstrapping
- Integration with other softwares: KNIME, Azure machine learning, etc.
- Time series analysis: decomposition, Exponential smoothing, ARIMA models
- Text analytics: Package tm, other packages

### PREREQUISITES

- The course requires at least a basic knowledge of the R language
- It is suggested to follow the course: “**Data Analysis with R**”

### TAKEAWAYS

Participants will be able to develop predictive analytics solutions from a modelling perspective, as well as implementing it with the R software. They will also be able to test model performances and evaluate whether it is worth using them in real life.

For a deeper understanding of different softwares that can be used for Predictive Analysis, we suggest to follow these courses: “**Predictive Analytics with R**”, “**Predictive Analytics with Azure Machine Learning**”.

# PREDICTIVE ANALYTICS

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PRICE

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1100 euro per person\*



DAYS

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2 days

\*Discounts applicable to groups of attenders  
\*Prices do not comprise travels