Data Mining and Big Data Analytics Using SPSS

Transforming
Business for Good

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Course content

Why Attend

The amount of data collected in recent years has risen exponentially, and this has created the collection of datasets on customer interactions, sales, logistics, and production processes. Large retailer companies handle up to ten million transactions and five thousand items per second. This also enabled companies to introduce analysis of this data and achieve reduction in their lead times, reduce overheads, optimize workflows and increase customer satisfaction, while at the same time increasing their profits. There are many software packages for Big Data mining and Big Data Analytics, however many of these tools are mainly programming languages, and although free, they require a knowledge of computer programming.

As the data rises, the number of people who can perform the Data Mining and Big Data analytics should also rise, to handle the tide, and by using one of easiest to handle, big data analytics software is SPSS.

This training course will feature:

Use of SPSS software packages
Data mining and visualization with SPSS
Data analytics of Big Data with the use of SPSS packages
Advanced uses of SPSS and its interoperability with other software
Using the Big Data analytics for the benefits of the companies

What are the Goals?

By the end of this training course, participants will be able to:

Understand the power of Big Data and Big Data Analytics
Harness the benefits of graphical interface of SPSS for Big Data Analytics
Learn the concepts of data analysis and visualization
Apply the drag and drop functionality for data visualization
Acquire the knowledge of advanced analysis of big data, like sentiment analysis in SPSS

Who is this Training Course for?

This training course is designed for all people involved in data mining and data analysis, as well as planning and forecasting, and especially the ones who are inclined to the use of graphical software interface, and their busy schedules are not allowing them to learn or apply programming languages like JAVA, R or Python. This course is for those who do want to harness the power of Big Data but are not programmers themselves.

This training course is suitable to a wide range of professionals but will greatly benefit:

CTOs, CIOs and Engineers
Data Scientists, Data Analysts
Statisticians and technology personnel
Marketing and research specialists

Course content

Course Outline

Day One: Introduction to SPSS

Getting to know SPSS
Starting SPSS and Working with data files
Descriptive Statistics
Frequencies (categorical variables)
Central tendency, standard deviations, and range (continuous variables)
Getting help and running tutorials

Day Two: Manipulating the Data and Initial Data Visualization

Using graphs to describe and explore the data
Histograms
Bar graphs
Boxplots
Line graphs
Calculating total scale scores
Transforming variables
Recode procedure
Compute procedure
Select cases procedure
Split file procedure
Reliability analysis using coefficient alpha (also known as Cronbach's alpha)

Day Three: Inferential Statistics

T-test, one sample t-test, independent and dependent sample t-test
Analysis of variance (ANOVA)
Correlation and Pearson r correlation coefficient
Linear regression-simple and multiple linear regression
The chi-square goodness of fit and test of independence procedures
Autocorrelation and time series analysis

Day Four: Advanced Statistics with SPSS Modeller

SPSS Modeler and its main elements
Clustering analysis, using k-means
Association rules and apriori algorithm
Logistics regression
Forecasting using the Autoregressive Integrated Moving Average (ARIMA) model
Building a decision tree model
Sensitivity analysis of texts in SPSS

Day Five: The Integration of SPSS with Python and R

Big Data Analytics programs
Brief introduction to R
SPSS Modeler-R integration
Introduction to Python
SPSS Modeler Python Integration
Putting it all together

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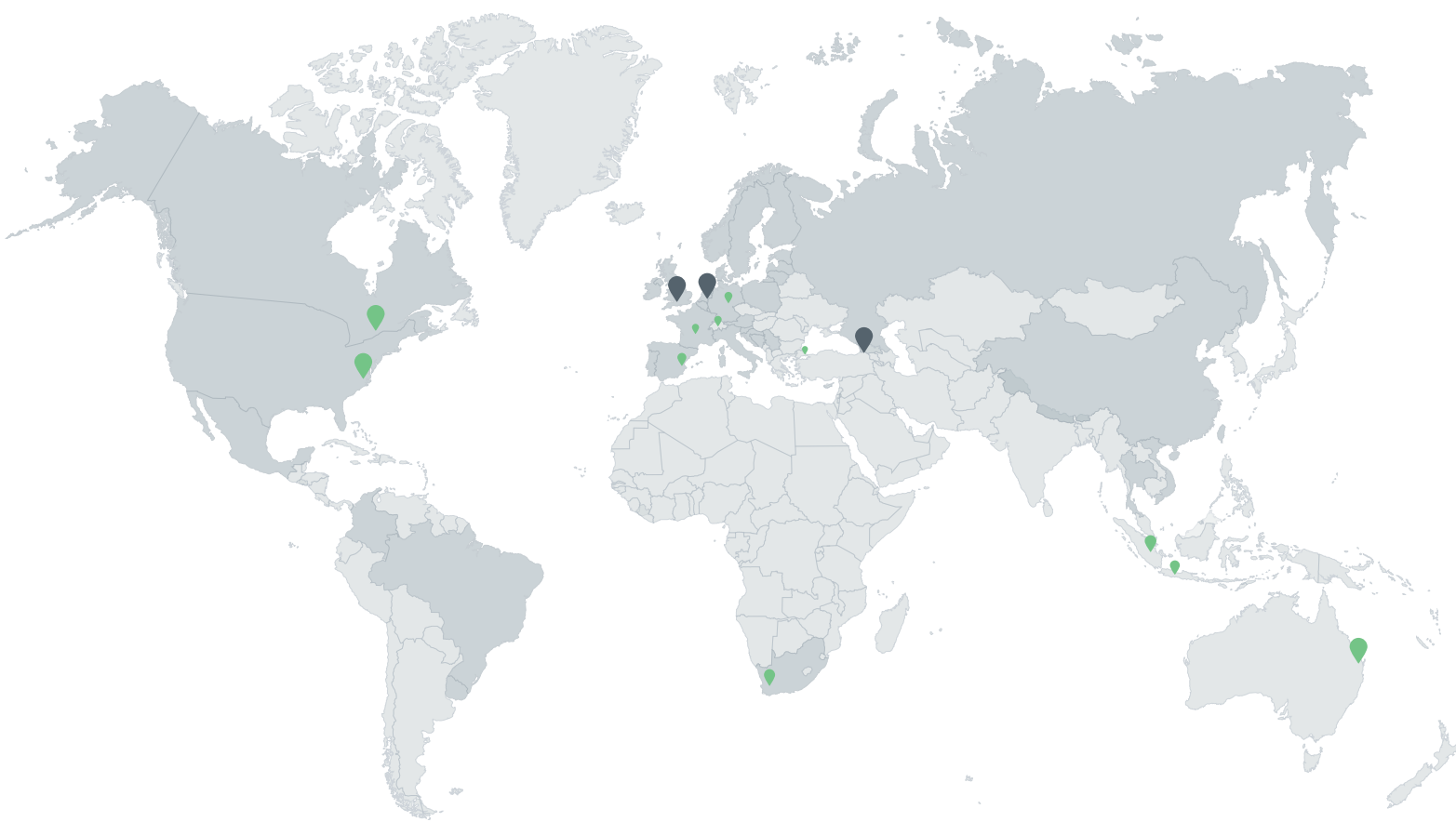
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