

SPARK

DATA MANAGEMENT AND BUSINESS INTELLIGENCE

Certificate in Data Science (CDS)

Professional training programme



SPARK TRAINING

Professional training courses for leaders, specialists, and organizations seeking practical capability development.

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— Workshop Overview

The Certificate in Data Science course offers participants an in-depth understanding of Data Science best practices and provides a foundational overview of the Big Data ecosystem and Artificial Intelligence opportunities. It goes beyond analytics, encompassing all disciplines connected to modern data. By the end of the course, participants will gain expertise in advanced techniques and technologies, enabling them to extract valuable insights from data and collaborate effectively with professionals in advanced data management fields.

Why Attend

All analytical methods and solutions are elaborated with step-by-step case studies with practical, hands on experiences. An exhaustive documentation will cover analytical topics with an exclusive face-to-face comparison between SAS, SPSS, STATISTICA, Excel, R and Python.

Who Should Attend

This course is for specialists who aspire to become accustomed with data science components, and how they can be applied coordinately to solve data and business problems, as well as research issues. The course is specifically suited for managers and persons involved in marketing, CRM, research,

— Learning Objectives

- Understand and structure data for effective analysis
- Evaluate solutions for Data Analysis versus Machine Learning
- Distinguish between predictive models and pattern-detection models
- Make informed choices between proprietary and open-source technologies
- Map the modern data workflow from raw sources to finalized reports
- Oversee Data Science projects using project management best practices

— Course Outline

**DAY
1**

Data Analysis and Visualization

- Understanding data types and visualization techniques
- Assessing the representativeness of data
- Summarizing data using descriptive statistics
- Profiling multiple groups with statistical tests
- Creating advanced visualizations with smart charts
- Simple Linear Regression and Logistic Regression
- Identifying and addressing outliers

**DAY
2**

Machine Learning – Supervised

- Multiple Linear and Logistic Regression
- Discriminant Analysis: Functions and probabilistic models
- Decision Trees: CART, CHAID, and Random Forests
- Support Vector Machines and K-Nearest Neighbors
- Naïve Bayes
- Neural Networks, Deep Learning, and AI applications

**DAY
3**

Business Intelligence Forecasting – R vs. Python

- Fundamentals of Business Intelligence
- Data collection and database sources
- ETL processes (Extract, Transform, Load)
- Data storage: Warehouses, marts, and lakes
- Analytics tools: BI platforms, OLAP, dashboards, etc.
- Forecasting methods and trend analysis
- Exponential smoothing (additive and multiplicative)
- Time Series Analysis and ARIMA models
- Comparison of R and Python in statistical tests and ML algorithms

**DAY
4**

Machine Learning: Unsupervised

- Principal Component Analysis (PCA)
- Clustering techniques: Hierarchical and K-Means
- Simple Correspondence Analysis
- Multidimensional Scaling

- Quadrant Analysis

DAY

5

Project Management for Data Scientists (PMP)

- Introduction to PMP for Data Science projects
- Managing integration, scope, and cost
- Handling time, quality, and communication
- Risk management, procurement, and stakeholder engagement
- Day 6: IoT and Big Data Ecosystem
- Essentials of IoT, M2M, and embedded systems
- Basic IoT communication protocols
- Big Data fundamentals: “Where” and “When”
- Distributed file systems with HDFS
- Comparing MapReduce and Spark for data sharing
- Overview of the Big Data ecosystem: Spark, MongoDB, Cassandra, Flume, Cloudera, Oozie, and Mahout

— Upcoming Classroom Dates

DATE	LOCATION	FEE
5 - 9 October 2026	Kuala Lumpur - Malaysia	€1,400
16 - 20 November 2026	Barcelona - Spain	€1,925
7 - 11 December 2026	London - United Kingdom	€2,100
11 - 15 January 2027	Frankfurt - Germany	€1,625
8 - 12 February 2027	Barcelona - Spain	€1,925
8 - 12 March 2027	Frankfurt - Germany	€1,625
12 - 16 April 2027	Rome - Italy	€2,125
10 - 14 May 2027	Kuala Lumpur - Malaysia	€1,400

— Certificate and Registration

Participants who attend and complete the full programme receive a SPARK Training Certificate of Completion. For registration, in-house delivery, or availability questions, contact info@sparktraining.eu or +31 85 115 0004.