



IT032: Certificate in Data Science and Big Data Analytics

Training Description:

Certificate in Data Science will expose participants to Data Science best practices, introduce them to the essentials of the Big Data ecosystem and opportunities for Artificial Intelligence. It doesn't limit itself to analytics, but to all disciplines to which modern data relates to as well.

By the end of this course, participants will become specialists in techniques and technologies that will allow them to get meaningful knowledge from their data, and deal professionally with experts in all advanced data management fields.

Training Objectives:

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

- ✓ Understand and design data for efficient analysis
- ✓ Compare solutions related to Data Analysis vs. Machine Learning
- ✓ Differentiate between predictive models and pattern finding ones
- ✓ Decide between "proprietary" and "open source" technologies
- ✓ Outline the modern data flow from sources to reports
- ✓ Manage Data Science projects with project management best practices

Training Designed for:

This course is intended for those 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, manufacturing, quality control, app developers and IT analysts from almost any sector, such as banks, insurance companies, retail, governments, manufacturers, healthcare, telecom, transport and distributors.

Target Competencies

- Business data analysis
- Data analytic validity
- Judging AI algorithms
- Evaluating IoT platforms
- Comparing big data results

Training Requirement:

"Hand's on practical sessions, equipment and software will be applied during the course if required and as per the client's request."

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- ❖ **Data Analysis and Visualization**
 - Types of data and data visualization



- Evaluating the representative quality of data
- Using descriptive statistics to summarize data
- Profiling two or more groups with statistical tests
- Visualizing multiple analytics with powerful smart charts
- Simple Linear Regression
- Simple Logistic Regression
- Managing and removing outliers

DAY TWO:

❖ Machine Learning – Supervised

- Multiple linear regressions
- Multiple logistic regressions
- Discriminant analysis: Functions and probabilistic models
- Decision trees: CART – CHAID and Random Forests
- Support vector machines
- K-nearest neighbors
- Naïve Bayes
- Neural networks, deep learning and AI possibilities

❖ Business Intelligence Forecasting – R VS. Python

- Business Intelligence
 - Databases: collection and sources
 - ETL
 - Storage: Data warehouses, data marts and data lakes
 - Analytics: BI Tools, OLAP, Dashboards, etc.
- Forecasting
 - Trends
 - Exponential smoothing: Additive and multiplicative methods
 - Time Series: Additive and multiplicative methods
 - ARIMA models
- R VS. Python
 - Statistical Tests
 - Machine Learning algorithms

DAY THREE:

❖ Machine Learning: Unsupervised

- Principle Component Analysis
- Clustering: Hierarchical and K Means
- Simple correspondence analysis
- Multi-dimensional scaling
- Quadrant analysis

DAY FOUR:

❖ PMP for Data Scientists

- PMP
- Integration, Cost, Scope
- Time, Cost, Quality, Communication
- Risk, Procurement and Stakeholders

DAY FIVE:

❖ IoT and Big Data Ecosystem

- IoT essentials - M2M and Embedded Systems
- Basic IoT protocols
- Big Data: “where” and “when”
- Big Data distributed files with HDFS
- MapReduce vs. Spark Data Sharing
- Big Data Ecosystem bird's eye view: Spark, Mongo DB, Cassandra, Flume, Cloudera, Oozie, Mahout

❖ Course Conclusion

❖ POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant’s manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

Aisha Relativo - Training & Career Development Manager

aisha@cmc-me.com / training@cmc-me.com

Tel.: +971 2 665 3945 or +971 2 643 6653 | Mob.: +971 52 2954615

