Data Science Bootcamp

Length   : 3 days
Delivery Method   : Instructor-led (classroom)

Course Overview

This 3 days training focuses on getting participants started with Data Science technologies. You will get acquainted with the Microsoft Azure Machine Learning studio, R studio, Jupyter Notebook, Spyder with Python for data science. This course includes real world usage of machine learning for regression, classification and product recommendations. Deeper courses are also available for each of these subtopics and product as extensions after attending this overview bootcamp.

Audience Profile

This course is designed for existing programmers and developers who wish move into the Data Science field. It is also suitable for students who aspire for the data scientist career path.
Software Developers / Database developers /BI professionals with 1 year of minimum experience.
Students with minimum 2 years of programming experience in any programming language.

At Course Completion

Upon successful completion of this course, participants will be able build their own data science experiments using the latest technologies.

After the course, you will be able to:

- Design Azure Machine Learning Experiments.
- Deploy Azure models.
- Implement R regression models.
- Design Python Data science experiments.

Pre-Requisites

Participants are required to have previous knowledge and experience of any high level programming language with adequate background in mathematics/statistics.

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Course Outline

Module 1: Introduction to Machine Learning
- What is machine learning?
- Introduction to machine learning algorithms
- Introduction to machine learning languages

Module 2: Introduction to Azure Machine Learning
- Azure machine learning overview
- Introduction to Azure machine learning studio
- Developing and hosting Azure machine learning applications

Module 3: Managing Datasets
- Categorizing your data
- Importing data to Azure machine learning
- Exploring and transforming data in Azure machine learning

Module 4: Building Azure Machine Learning Models
- Azure machine learning workflows
- Using regression algorithms
- Using neural networks

Module 5: Using Azure Machine Learning Models
- Deploying and publishing models
- Consuming Experiments

Module 6: Introduction to R
- Using the R console
- Learning about the environment
- Writing and executing scripts
- Object oriented programming
- Installing packages
- Working directory

Module 7: Variable types and data structures
- Variables and assignment
- Data types
- Numeric, character, Boolean, and factors
- Data structures
- Vectors, matrices, arrays,
- Assigning new values
- Viewing data and summaries

Module 8: Base graphics system in R
- Scatterplots, histograms, bar charts, box and whiskers
- Labels, legends, titles, axes
- Exporting graphics to different formats

Module 9: General linear regression
- Linear and logistic models
- Regression plots
- Interaction in regression

Module 10: Introduction to Python
- Python History
- Users of Python
- Installing Python
- Installing IDE

Module 11: Datatypes
- Numbers
- Sequences
- File
- Tuples
- Dictionaries

Module 12: Data Science Introduction
- Why Python for Data Science?
- Popular packages
- Use cases
- Popular Libraries
- Panda
- Numpy
- Matplotlib
- Scikit-learn