Machine Learning Workshop (level 300)

Duration: 16 hours

Course Description

Data Science and Machine Learning are growing in popularity and importance within enterprises' data strategy. Going from traditional descriptive analytics to prescriptive analytics and new advanced services, from text mining to image analysis, is becoming a very important piece in analytical systems.

Although some of these analytical functionalities are present in the market for some time already, is now with the massive deployment of the power of the Azure cloud and the Azure Machine Learning service when they have become much easier to understand, develop, deploy and be used reducing enormously the amount of time and infrastructure needed.

In this course we will cover the basic concepts of Machine Learning, the problems it can solve and the algorithms to do so, as well as how to implement and deploy a corporate solution based on Azure Machine Learning.

Target Audience

This course is directed to data, Business Intelligence professionals or to any data management professional who wants to learn about the new tools for advanced data analysis and machine learning techniques.

Prerequisites

Before attending this course, it is recommended that participants have at least basic experience in databases, data mining or Business Intelligence and statistics.

Course Objectives

After the completion of this course, attendees will be able of: describe and understand what it is the end-to-end process to run a Machine Learning project, as long as understand the modules and features included in the Azure ML service.

Course Outline

Module 01: Introduction to Machine Learning. (1 hour)

- What is ML?
- SSAS Data Mining vs Azure ML

Lab 01: Introduction to ML (20 minutes)

Module 02: Connecting to the sources. Preparing the data (2 hours)

- Data Providers Supported
- How to read the data
- Data preparation. Transforming the data and creating new attributes
- Data Volume

Lab 02: Connecting and transforming the data (1 hour)

Module 03: Solving problems with ML (5 hours)

- Training the model
- Regression Algorithms
- Clustering Algorithms
- Anomalies
- Recommendations

Lab 03: Solve problems with ML. (1.5 Hours)

Module 04: Deploying and Maintaining ML (2.5 hours)

- Deploying ML Web Services
- Upgrading new versions
- Consuming the ML solution

Lab 04: Deploy and use a ML project (1.5 hour)

Module 05: Advanced ML. (2.5 hours)

- Cross-Validation
- R Integration

Lab 05: R Integration. (1.5 hour)

Module 06: ML API. (1.5 hours)

- Introduction to the Azure ML API
- Using Azure ML Services

Lab 06: ML API Development (1.5 hours)