

Machine Learning

BI100

40 hours

Course Outline:

Understanding the basics of artificial intelligence and machine learning. During the course we will get to know and apply the development cycle of data science (information gathering, information analysis, information preparation, model building, training, analysis of results), we will learn the leading algorithms in Machine Learning - and we will understand when to use each algorithm and different control processes.

Who should attend the course?

Developers of any kind or bi people

Prerequisites:

Knowledge of Python is required

Course Contents:

Module 1 - Machine Learning Introduction

- Introduction to ML
- Bias-Variance tradeoff
- Types of ML
- CRISP-DM methodology - the typical work cycle of the Machine Learning project
- Managing Data science projects
- Methods for evaluation.
- Monitoring ML models

Module 2 - Exploratory data analysis (EDA)

- Data representation types: Scatters, pie, column diagram
- Cleaning the data
- Data completion, Data normalization and scaling
- Feature selection: forward and backward selection
- Feature extraction
- Balancing the data

Module 3 - ML algorithms

- Supervised learning algorithms (Random Forest, Knn etc.)
- Unsupervised learning algorithms