What is Machine Learning? Discover the main benefits of Machine Learning

Self-driving cars, assistants that translate instantly from one language to another or personalized purchase suggestions. Complex tasks that used to be a fantasy are now possible thanks to Machine Learning, a discipline that allows computers to learn by themselves and perform tasks autonomously without the need to be programmed.

One of the most outstanding fields within Artificial Intelligence (AI) is automatic learning.

In his book On Intelligence, published in 2004, Jeff Hawkins defined intelligence as the ability to predict the future, for example, the weight of a glass we are going to lift or the reaction of others to our actions, based on patterns stored in the memory (the memory-prediction framework). This same principle is behind Machine Learning (ML), also known as automatic learning.

WHAT IS MACHINE LEARNING AND WHAT IS IT FOR?

Machine Learning is a discipline within the field of Artificial Intelligence which, by means of algorithms, provides computers with the ability to identify patterns from mass data in order and to make predictions (predictive analytics). This learning method allows computers to perform specific tasks autonomously, that is, without the need to be programmed.

The term was first used in 1959. It has, however, gained relevance in recent years due to the increase in computing capacities and the huge increase in data. Automatic learning techniques are, in fact, a fundamental part of Big Data.

DIFFERENT MACHINE LEARNING ALGORITHMS

Machine Learning algorithms are divided into three categories, the first two being the most common:

Supervised learning: these algorithms have prior learning incorporated in them and are based on a tag system associated with data that allow them to make decisions or make predictions. An example is a spam detector which tags an e-mail as spam or not, depending on the patterns it has learned from the history of e-mails (sender, text/image ratio, subject key words, etc.).

Unsupervised learning: these algorithms do not have previous knowledge. They face a data chaos with the objective of finding patterns that somehow allow the organization thereof. For example, in the field of marketing they are used to extract patterns from mass data obtained from social networks and to create highly segmented publicity campaigns.

Reinforced learning: its objective is for an algorithm to learn from its own experience. In other words, it will be able to make the best decision in different situations according to a trial-and-error process in which the correct decisions are awarded. It is currently being used to enable facial recognition, make medical diagnoses, or classify DNA sequences.