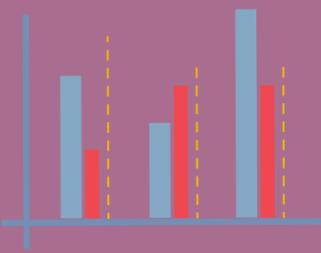# 10 KEY TYPES OF DATA ANALYSIS METHODS

Data mining does not have own methods of data analysis. It uses the methodologies and techniques of other related areas of science.

Mathematical and Statistical Methods

Methods Based on The Artificial Intelligence, Machine Learning and Heuristic Algorithms

DESCRIPTIVE ANALYSIS

It does what the name suggests -"Describe". It looks at data and analyzes past events for deciding how to approach the future.

REGRESSION ANALYSIS

It allows modeling the relationship between a dependent variable and one or more independent variables.

FACTOR ANALYSIS

Factor analysis is a regression based data analysis technique, used to find an underlying structure in a set of variables.

DISPERSION ANALYSIS

Dispersion is the spread to which a set of data is stretched. It is a technique of describing how extended a set of data is.

DISCRIMINANT ANALYSIS

The discriminant analysis utilizes variable measurements on different groups of items to underline points that distinguish the groups.

TIME SERIES

It is the process of modeling and explaining time-dependent series of data points. The goal is to draw meaningful information (rules, patterns) from the shape of data.

NEURAL NETWORKS

They present a brain metaphor for information processing.

These models are biologically inspired computational models. They consist of an interconnected group of artificial neurons and process information using computation approach.

DECISION TREES

The decision tree is a tree-shaped diagram that represents classification or regression models.

It divides a data set into smaller and smaller sub data sets while at the same time a related decision tree is continuously developed.

EVOLUTIONARY ALGORITHMS

A common concept that combines many different types of data analysis using evolutionary algorithms. Most popular of them are: genetic algorithms, genetic programming, and co-evolutionary algorithms.

FUZZY LOGIC

Fuzzy logic is an innovative type of many-valued logic in which the truth values of variables are a real number between 0 and 1.

In this term, the truth value can range between completely true and completely false.