

Machine learning





Introducing



Toulouse

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

- Properties and limits of the main machine learning algorithms.

- Bias - variance trade-off, model selection.

- Algorithms for risk estimation: bootstrap, cross validation.

- Optimization and algorithmic implementations with R and Python (Scikit-learn) of the studied algorithms.

- Ethical and legal concepts of artificial intelligence.

The student will be able to:

- Analyse big data sets from various domains: insurance, marketing, industry, by using R and Python libraries.

- Execute the main machine learning methods and algorithms (discriminant analysis, k-nn, support vector machines, classification and regression trees, random forests, neural networks..)

- Optimize hyper-parameters values and construct pipelines for automating.

- Optimize the missing values management.

- Detect ethical or legal failures (bias, discrimination, opacity) of machine learning algorithms.

Practical info

