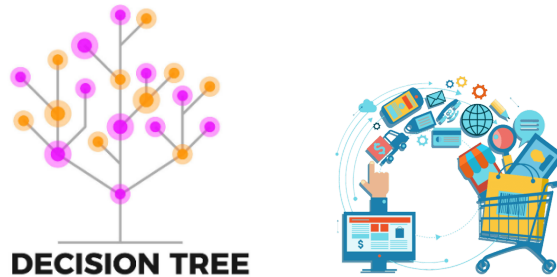


## Lab sheet N°10

### Classification evaluation and association rules



This lab sheet 10 focuses on evaluating classification models and discovering association rules. You'll learn to assess classifiers with metrics like accuracy and F1 score, tune hyperparameters, and basics of association rule mining algorithms.

#### Resources:

- Decision tree in scikit-learn: [1.10. Decision Trees — scikit-learn 1.3.2 documentation](#).
- Decision tree classifiers in scikit-learn: [sklearn.tree.DecisionTreeClassifier — scikit-learn 1.3.2 documentation](#)
- Model evaluation: [sklearn.metrics.accuracy\\_score](#)
- Model selection and evaluation: [sklearn.model\\_selection](#)

#### Used dataset:

- [sklearn.datasets.load\\_breast\\_cancer](#)

#### Lab parts:

##### Part 1: Theoretical Exercises (90 minutes)

This part focuses on theoretical exercises designed to enhance understanding of evaluating classification models. It also contains a fundamental exercise on association rules.

**File:** Lab 10 (part1) - Classification evaluation and association rules

##### Part 2: practical notebook (45 minutes)

This section includes exercises on hyperparameter tuning and model selection, along with the evaluation of classification models.

**Notebook:** Lab 10 (part2)- Hyperparameter Tuning and Evaluation in Decision Trees