# Machine Learning

Laboratory on Scikit-learn

Giovanni De Toni

giovanni.detoni@unitn.it

5th December 2022

## **Preliminaries**

#### Make sure you are using **Python 3** for the following steps

> pip install numpy scipy matplotlib sklearn pandas
> pip install jupyter

Then, open the terminal in the folder containing the extracted files and run

> jupyter notebook

### Take-home Exercise

As a self-assessment exercise, you can try to solve a classification task using **Scikit-Learn**. Choose a dataset, train a classifier by performing some model selection (e.g., hyperparameters tuning) and then evaluate the model on the test set.

The following website has many datasets you can use:

https://archive.ics.uci.edu/ml/datasets.php

#### Take-home Exercise

#### Potential datasets you can use are:

- Spambase (<a href="https://archive.ics.uci.edu/ml/datasets/spambase">https://archive.ics.uci.edu/ml/datasets/spambase</a>)
- OCR Recognition
   (https://archive.ics.uci.edu/ml/datasets/optical+recognition+of+handwritten+digits)
- Abalone (<u>https://archive.ics.uci.edu/ml/datasets/abalone</u>)
- and many others...