BABD

INTERNATIONAL MASTER IN BUSINESS ANALYTICS AND BIG DATA

Programming Tools

POLITECNICO DI MILANO
GRADUATE SCHOOL
OF BUSINESS

Cefriel®
POLITECNICO DI MILANO

IBM

FT Executive Education Ranking 2019

FT European Business Schools Ranking 2018

Bloomberg Businessweek 2018 BEST B-SCHOOLS

EFMD EQUIS ACCREDITED

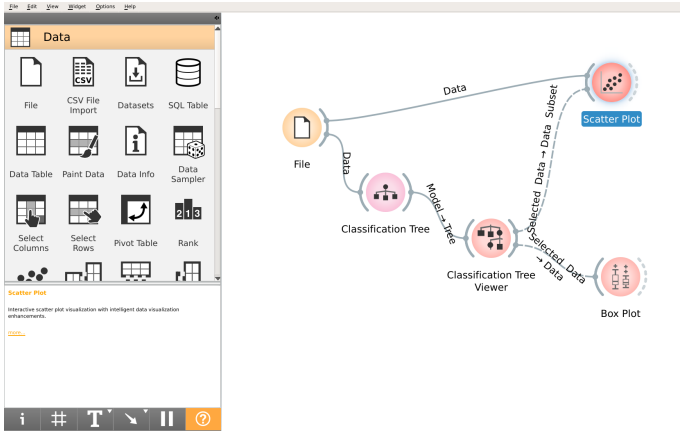
ASSOCIATION AMBA ACCREDITED

EFMD GLOBAL NETWORK EOCCS CERTIFIED

Programming Tools

1. Orange

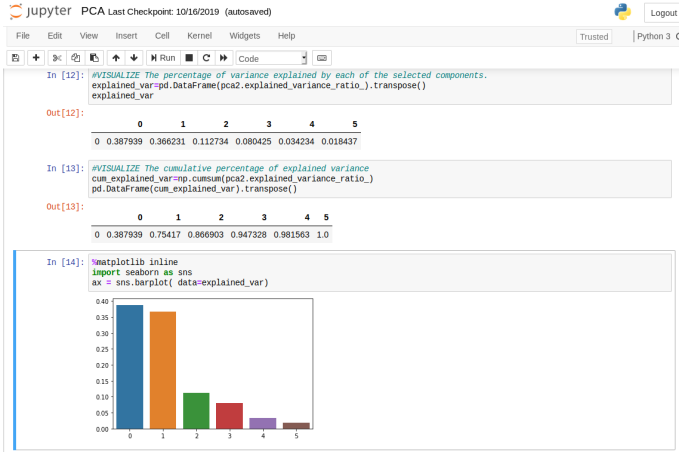
https://orange.biolab.si/



- Intuitive interface
- Fast development

2. Jupyter-Notebook (Anaconda)

https://www.anaconda.com/



- Advanced functions
- Customization

scikit learn

A library featuring various ML algorithms designed to inter-operate with the Python numerical and scientific libraries e.g. NumPy, Pandas.
https://scikit-learn.org/stable/

Zero-based indexed

Three programmers walk into a bar...

List indexes

[1:4]

Forward Indexing

0	1	2	3	4
a	b	c	d	e
-5	-4	-3	-2	-1

Backward Indexing

[-5:-3]

included [start:end] excluded

Exercise 1. Functions

Create a function that given two integers m, n computes the greatest common divisor between m and n.

Exercise 2. Numpy

1. Create a random array of length 100.
   Hint: `np.random.rand()`
2. Sort your array.
3. Compute the mean, median and sample variance.

Exercise 3. Pandas

1. Import the dataset *iris* as a `DataFrame`
2. Add the columns names (sepal length, sepal width, petal length, petal width).
3. Create a new column that contains the ratio between the sepal and petal length.
4. Add a new column named `target` with value 1 if the type is setosa and 0 otherwise.

Exercise 4.

1. Find a database of your particular interest.
2. Formulate a research question (statistic,prediction, classification, etc)