heig-vd
HAUTE ÉCOLE
D'INGÉNIERIE ET DE GESTION
DU CANTON DE VAUD
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Machine Learning

Practical work 01 - Introduction to Python notebooks and libraries

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0. Programming environment and notebooks

Install *docker* (https://docs.docker.com/install/) and download the notebook material from http://iict-space.heig-vd.ch/ape/teaching/.

We prepared a docker container including the required libraries for this practical work: Python, Jupyter, Numpy, Matplotlib, Pandas, etc.

To install the required Python libraries, run the following command:

>

>

1. Notebook MLG_Lab1.ipynb

Carefully read the notebook material, follow the instructions and do the proposed exercises.

2. Questions

While following the notebook material, you will find a series of questions that you will have to answer and provide in a PDF file.

Q1. Regarding the wine database, by looking at the boxplots generated during the Exploratory analysis of data (section 6) , which features seems the most discriminative ? why ?

Q2. Can you estimate the performance of a single-rule classification method like the one presented in section 7 ?

Q3. Define a rule that uses the most discriminative feature to classify the wine observations.

Q4. Compute the confusion matrix of the resulting rule-based system defined in Q3.

Q5. Compute the precision, the recall and the F1-score of the classification system defined in Q3 for only one class using the values of the confusion matrix ?

Summary for the organization:

- Submit the solutions of the practical work before Wednesday 7.3.2018, 23h55 via Cyberlearn.
- Modality: PDF report (max. 4 pages)
- The file name must contain the number of the practical work, followed by the names of the team members by alphabetical order, for example 08_dupont_muller_smith.pdf.
- Put also the name of the team members in the body of the report.
- Only one submission per team.