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# Machine Learning

Practical work 03 - Unsupervised Learning

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**Introduction**

Use Self-Organized Maps (SOM) and K-Means as a means for clustering and visualization purposes using a collection of images.

**Practical work**

**1. Explore the use of Self-Organizing Maps and K-Means**

To start, lets use the animals database to try the K-means and SOM algorithms with different arguments and observe the results.

**2. Clustering of images application**

We will provide you with a database of color images, a set of three feature extraction methods and a SOM library. You may setup diverse experiments with the database, which contains a lot of classes. You should apply the three feature extraction methods and observe the results, and you have to modify the configuration and learning parameters of the SOM algorithm

**Report**

Simply follow the instructions on the notebook SOM_part2.

**Summary for the organization:**

- Submit the solutions of the practical work before Wednesday 14.5.2019, 23h55 via Cyberlearn.
- Modality: PDF report
- The file name must contain the number of the practical work, followed by the names of the team members by alphabetical order, for example 03_dupont_muller.pdf.
- Put also the name of the team members in the body of the report.
- Only one submission per team.