

DAPR LAB: FINAL EXERCISE

Mandatory (10% mark)

Create a Python notebook (.ipynb) according to the following instructions:

1. Load a database with at least 4 numerical features from one of these data repositories:
 - Kaggle.com: <https://www.kaggle.com/>
 - UCI datasets: <https://archive.ics.uci.edu/datasets>
 - Scikit-learn built-in toy datasets: https://scikit-learn.org/stable/datasets/toy_dataset.html
 - Seaborn datasets:
https://seaborn.pydata.org/generated/seaborn.load_dataset.html
2. Convert data into a pandas dataframe and remove non-numerical features.
3. Handle the potential presence of missing data (dropna, fillna or KNNImputer)
4. Visualize the numerical features using a seaborn pairplot
<https://seaborn.pydata.org/generated/seaborn.pairplot.html>
5. Perform a dimensionality reduction of the dataset using PCA.
6. Cluster the PCA-projected data using a clustering algorithm (k-means, Agglomerative clustering or GMM)
7. Visualize the resulting clusters and comment the results.