GUIDELINES FOR THE FINAL PROJECT

MACHINE LEARNING FUNDAMENTALS

MENTION IA – 3A, 2020-2021

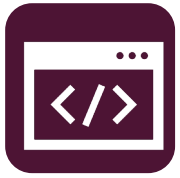
Facial recognition

Gianluca Quercini & Yassine Ouali & Myriam Tami

EVALUATION OF THE FINAL PROJECT
SUBMISSIONS PER GROUP (PAIR WORK)

Total credit points: 20

Report: 8 points



Script containing python code: 5 points

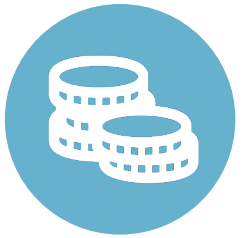
Oral defense: 7 points

PROJECT REPORT

EACH GROUP (2 STUDENTS) WILL SUBMIT A REPORT

JUPYTER FORMAT

EQUIVALENT TO 5 PDF PAGES



CONTENT: 7 POINTS

PRESENTATION AND CLARITY: EVENTUALLY -1 POINT IF THE DOCUMENT IS BADLY CLEAR

FORMAT OF THE REPORT
TITLE AND GROUP DETAILS

The title of both the course and the project

The names of the group members, the formation (Supélec, Centrale, etc.) their coming from, their email address, the date

This section should be first half page of the report

FORMAT OF THE REPORT
SECTION 1: PROBLEM DEFINITION

Introduce the problem you are tackling in this project (we expect more than a copy-paste from the projetc subject)

Assigned credit points: 0.25

FORMAT OF THE REPORT

SECTION 2: DATASET DESCRIPTION (EXERCISE 1)

Present the dataset you are working with and make a descriptive analysis of the dataset

You can mention the size of the dataset, make a PCA, include some plots in this section etc.

Assigned credit points: 0.75

FORMAT OF THE REPORT

SECTION 3: PREPROCESSING (EXERCISE 1)

Present the preprocessing you choose to do and justify/explain it

You can take inspiration from previous labs and use the descriptive analysis for justifications

Assigned credit points: 1

FORMAT OF THE REPORT
SECTION 3: MODELS USED (EXERCISES 2 TO 5)

Present the model(s) and approaches used in this project

Explain all the models you used in this project. If you have used any specific model, explain it and the motivation of using it

Assigned credit points: 2

FORMAT OF THE REPORT

SECTION 4: EXPERIMENTAL STRATEGY

Present the experimental methodology adopted

Explain what methodology you have adopted for hyperparameter tuning and why, e.g. training-validation split, k-fold cross validation, grid search etc.

Assigned credit points: 0.75

FORMAT OF THE REPORT

SECTION 5: COMPARISON AND ANALYSIS OF RESULTS

Compare the performances of different models used, and analyze/discuss the results

E.g., Include tables comparing performances of different models in terms of accuracies, F1 scores. Analyze these results by giving the reasons why some models outperform the others, etc.

Assigned credit points: 3

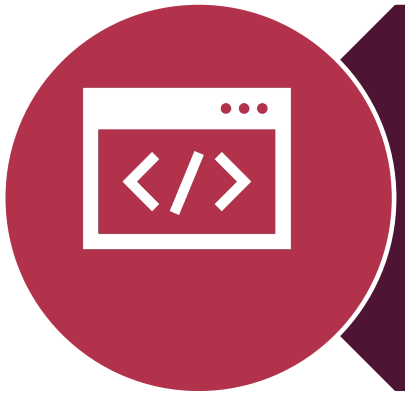
FORMAT OF THE REPORT
SECTION 6 : CONCLUSION

Conclude the report

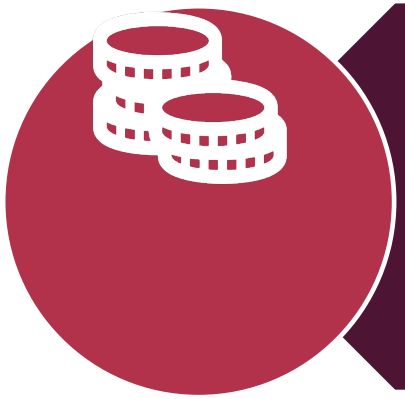
Add a table in which you list the contribution of each member of the group (the grade of a member might be modulated based on his/her contribution)

Assigned credit points: 0.25

PYTHON SCRIPT AND JUPYTER NOTEBOOK



Each group must submit a running python script (inside the Jupyter notebook) containing the implementations for the project



Total credit points: 5

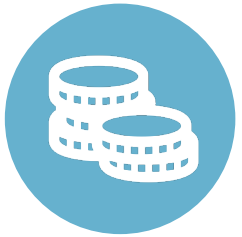
- Code comments and comprehensiveness: 2 points
- Executability of the script: 1 point
- ML functions/models well used/tuned : 2 points

ORAL DEFENSE

EACH GROUP MEMBER WILL SPEAK 6 MIN (TOTAL = 12 MIN PRESENTATION PER GROUP)

PDF FORMAT

5 min questions



CONTENT/ PRESENTATION/QUESTIONS : 7 POINTS

PRESENTATION AND CLARITY: EVENTUALLY -1 POINT IF THE DOCUMENT IS NOT CLEAR OR BADLY ORGANIZED

ORAL DEFENSE

- Date: November 3rd, at 1:45 PM
- Location:
  - EF.104 (Eiffel building) for Myriam Tami TD members
  - EE.107 (Eiffel building) for Yassine Ouali TD members
  - EF.102 (Eiffel building) for Gianluca TD members
- The defense order will be communicated to you after the constitution of the groups (on Edunao)

DEADLINE

YOU MUST SUBMIT YOUR REPORT AND SCRIPT (I.E. JUPYTER) ON EDUNAO BEFORE SUNDAY 1ST NOVEMBER MIDNIGHT