Data and Information Quality

Projects 2025/26

Project assignment

A) Compile the form (by **16/10**) by entering the group members
   - Please contact me (camilla.sancricca@polimi.it) if you have not been able to find a group

B) I will assign a different **dirty dataset** to each group (by 23/10)

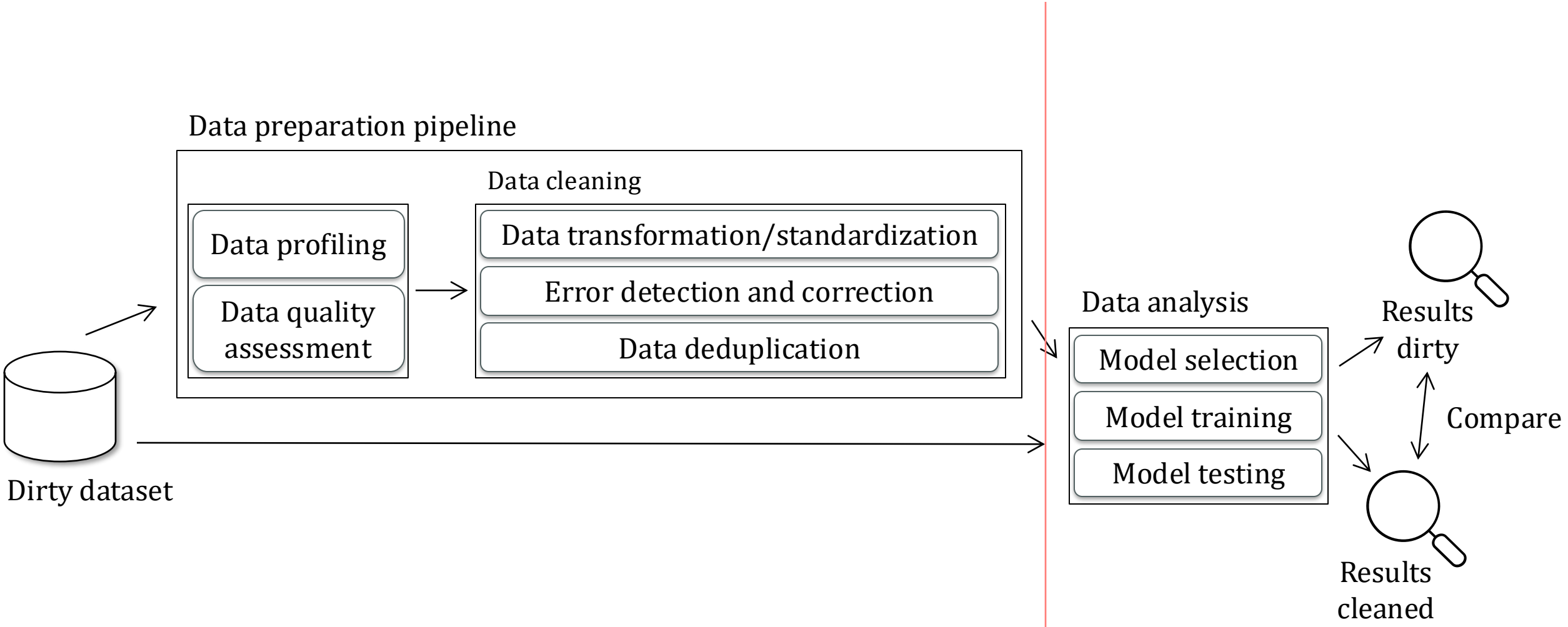
C) You must execute a complete **pipeline** on the assigned dataset (deadline: first exam call Jan 2026)

   1/2-person projects: Design and implementation of a data preparation pipeline

   3-person projects: Design and implementation of a data science pipeline
   (data preparation + data analysis)

Important
Take advantage of the weekly exercises and apply what you have learn every week to your dirty dataset!

Project pipeline/s



Data analysis [only for 3-people groups]

a. Choose the type of analysis (classification-regression-clustering):

i. Choose one column as the target column (categorical = **classification** OR numerical = **regression**)

OR

ii. Perform unsupervised **clustering** analysis

b. Perform a data analysis pipeline on (1) the dirty dataset and (2) the cleaned dataset (model selection, training and testing)

c. Compare the results using the right performance metrics (Precision, Recall, F1, etc. [Classification], MSE, RMSE, etc. [Regression], Silhouette, etc. [Clustering])

Important

Some datasets that we will assign are not specifically made for machine-learning analysis! It is OK if the performance is very low. The important thing is that the dataset is cleaned properly and the pipeline is complete.

Project report (from 2/3 up to 10 pages)

PROJECT ID
ASSIGNED DATASET
STUDENTS (NAME SURNAME ID)

1. SETUP CHOICES

Describe the setup choices made: libraries, data preparation techniques used, etc.

2. PIPELINE IMPLEMENTATION

Describe all the pipeline steps in detail: what did you find from the data exploration? How did you decide to use it in the data preparation phase? Why did you used specific that data preparation technique?

3. RESULTS

Discuss the main results obtained: verify the desired quality level has been achieved, compare the data analysis results [only for 3-people groups]

Very important

Justify your choices! (for example, why you have chosen a specific data preparation technique for a specific column than all those seen in the lectures?) Justifications account for 1/3 of the final grade.

Evaluation

You must deliver a **.zip** folder named with the project ID and your surnames (example: 1_Sancricca_Sancricca_Sancricca.zip) containing:

1. A report of few pages — more details on writing the report at the end of the presentation
2. The code you made (.py, or .ipynb) — better if well-commented
3. The dataset you have cleaned

Deadline

The first exam call **(??/01/2026**)

Grade

Max **4 points** (+ 28 of the written exam = 32)

camilla.sancricca@polimi.it

for any additional information write me ☺