

**NOTE:**

**The scoring description is based on a 10-point practice, The final grade will be weighted at 4 points.**

1. **Problem description** (max. 1 point)
  - a. Informal problem description
    - i. The **goals** of the problem are stated in non-ML terms
  - b. Description of the problem characteristics from the ML viewpoint. Each of the following questions should be addressed:
    - i. What is the problem?
    - ii. Is this problem one of clustering, regression, or classification?
    - iii. Is the dataset of the problem imbalanced?
    - iv. Could the dataset of the problem be influenced by drift?
    - v. Have metrics to evaluate the model been described and are they appropriate?
    - vi. Are there any relevant assumptions for this addressing the problem?
2. **Dataset Selection** (max. 1 point).
  - a. **Maximum points shall be given to a dataset that is suitable for stream learning.** A brief justification and explanation of the suitability is provided.
  - b. The dataset is part of the River library or it is an external one. **A River dataset is allowed but may not receive maximum points.**
  - c. The dataset is already prepared, or it has required some preparation. **A prepared dataset is allowed but may not receive maximum points.**
3. **Data preparation** (max. 1 point)
  - a. A brief description is provided about how the data was studied in order to perform the data type conversions required by River.
  - b. If required, has the data been normalized or standardized? If so, has the motivation and procedure been shown and described?
  - c. If the dataset contains nominal features or the problem is a multiclass problem, has one-hot encoding been performed? The encoding scheme should be briefly described.
  - d. Is the definition of new features required? If so, a brief description should be provided.
  - e. Is the categorization of any features required?
4. **Concept drifts** (max. 1 point)
  - a. Has the project implemented at least the two required detectors? Which ones?
  - b. A brief description of why these detectors were selected should be provided.
5. **Batch Learning** (max. 1 point)
  - a. Is the split correctly made, i.e., if required that data is stratified or grouped? Tip: Batch learning can be performed by defining the pipelines in River and using the built-in wrapper to perform the remaining operations.
  - b. Have any model hyperparameter been tuned?
  - c. Have different models been compared? Have the models been correctly adjusted/compared? No data of the test is used in the training/validation phase
  - d. Is a cross-validation mechanism used?
6. **Stream Learning** (max. 2 points)
  - a. Does the notebook contain at least 3 stream learning pipelines with their corresponding models.

- b. Are pipelines used correctly in the solution?
  - c. Is one of the models a Hoeffding Tree?
  - d. Are the metrics selected suitable to evaluate the performance of the models?
- 7. **Notebook: Presentation (max. 0.5 point)**
  - a. The notebook has plots to support the provided arguments .
  - b. Are the notebooks informative and well written?
  - c. If the dataset is affected by concept drifts, are the drifts exemplify on those plots?
  - d. Is there a plot (or plots) that compare batch learning results with that from the stream learning approaches?
- 8. **Notebook: Results and conclusions (max. 0.5 point)**
  - a. Are the conclusions supported by the results in the notebook?
  - b. Do the results and conclusions offer some open questions and future work?
- 9. **Oral Presentation (max. 2 points)**
  - a. Is it organized?
  - b. Are student's arguments clear?
  - c. Did the student correctly answer questions posed by the professors?