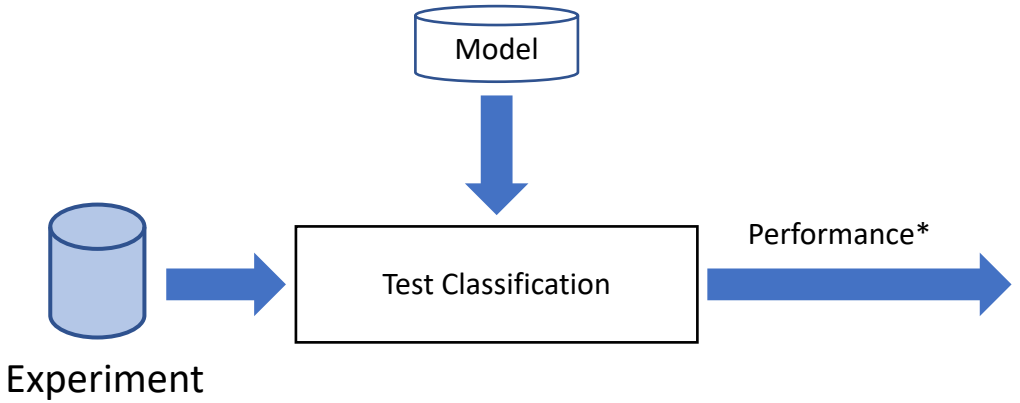
Data Challenge ‘21

The submission guidelines for competition entries as well as the process for evaluating models are outlined in the following slides

Submission Guidelines



Each submission entry should include:

- **Test Classification:** the function that runs the classification task on new data
- **Model:** the trained model that will be used to classify new data
- **Short Paper**: a short paper (Max 4 pages) describing the team solution

Test Classification MUST take in input:

1) **Experiment Path**: **<string>** the path where the experiment csv is located, e.g., data
2) **Experiment name**: **<string>** the name of the experiment to classify e.g., class_ 0_0_data.csv

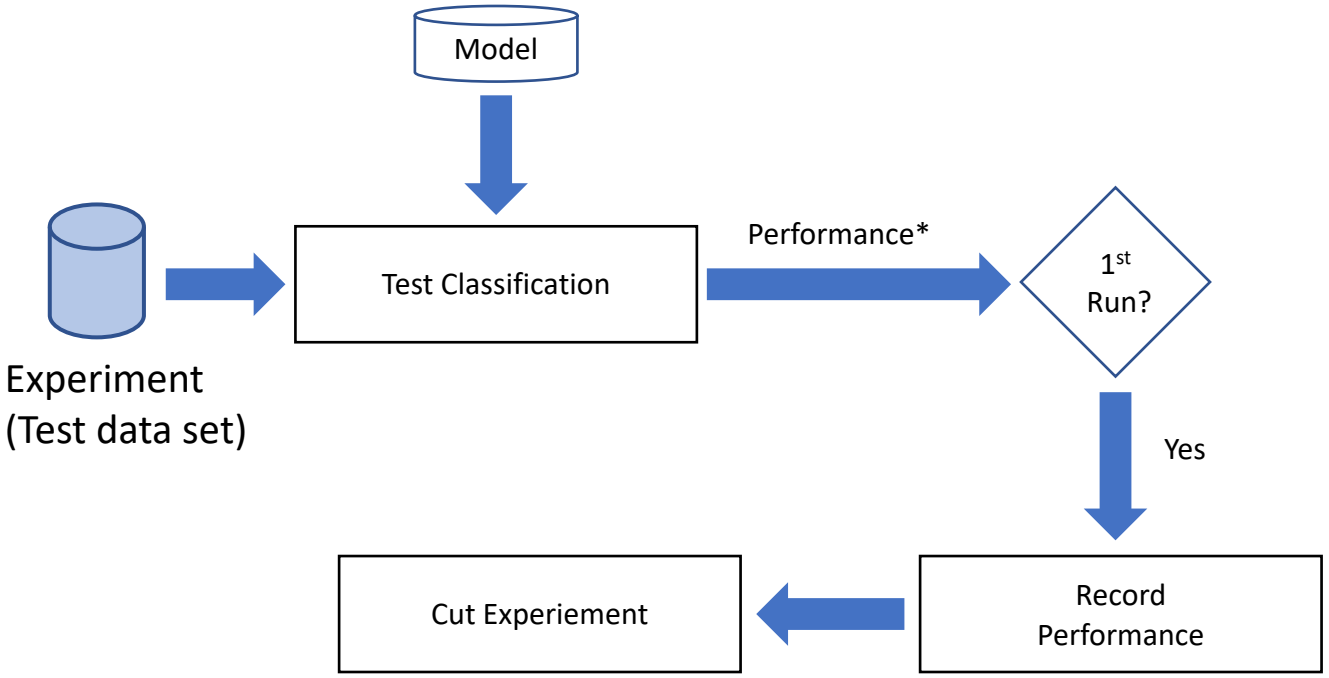
Test Classification can read the **Model** internally

Test classification MUST return as output the Performance* as:

1) **Experiment Label: <string>** the assigned label according to the classification task e.g., 0
2) **Time for classification (Tc)**: **<integer>** The number of time windows used to classify the input experiment, e.g., 20
3) **Features Ranking**: **<list>** all the features ranked according to the importance, e.g., [‘EPOSCurrent’, ‘FuseCycleDuration’, ‘FuseIntoFeeder’, … , ‘CpuTemperature’]

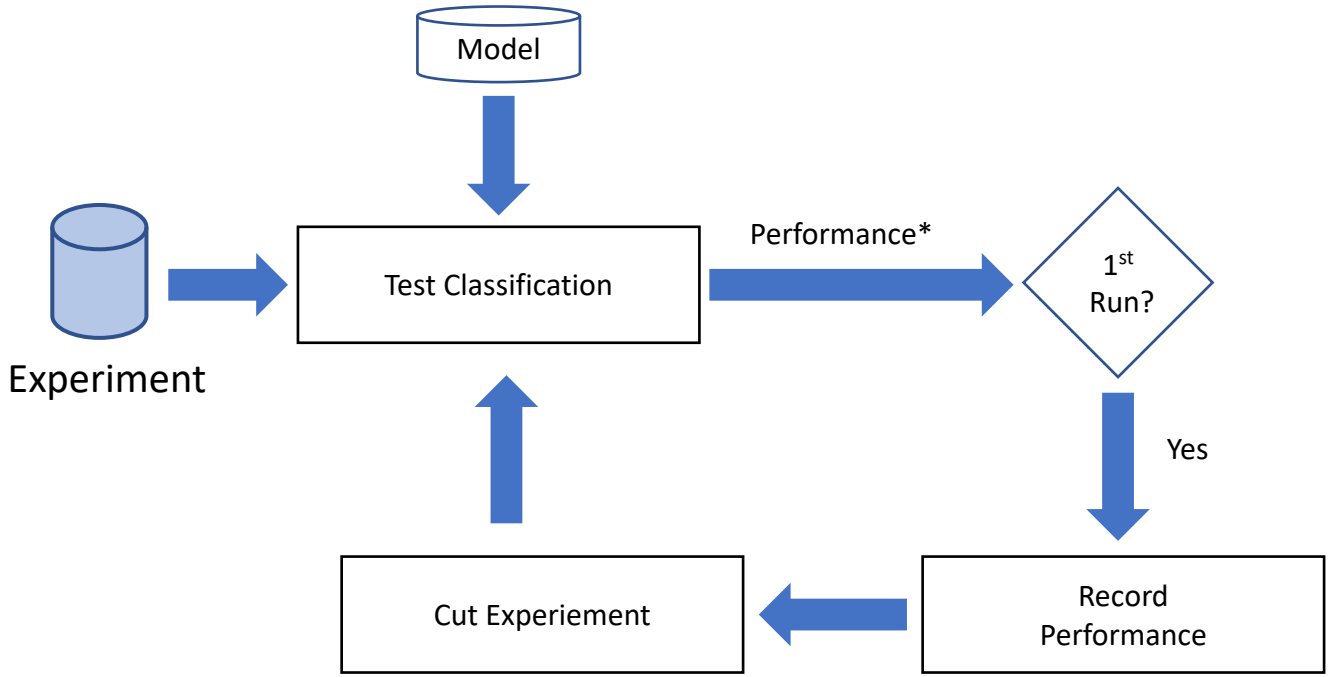
Model Performance Evaluation

The Notebook TestPerformance is provided to illustrate the performance evaluation process

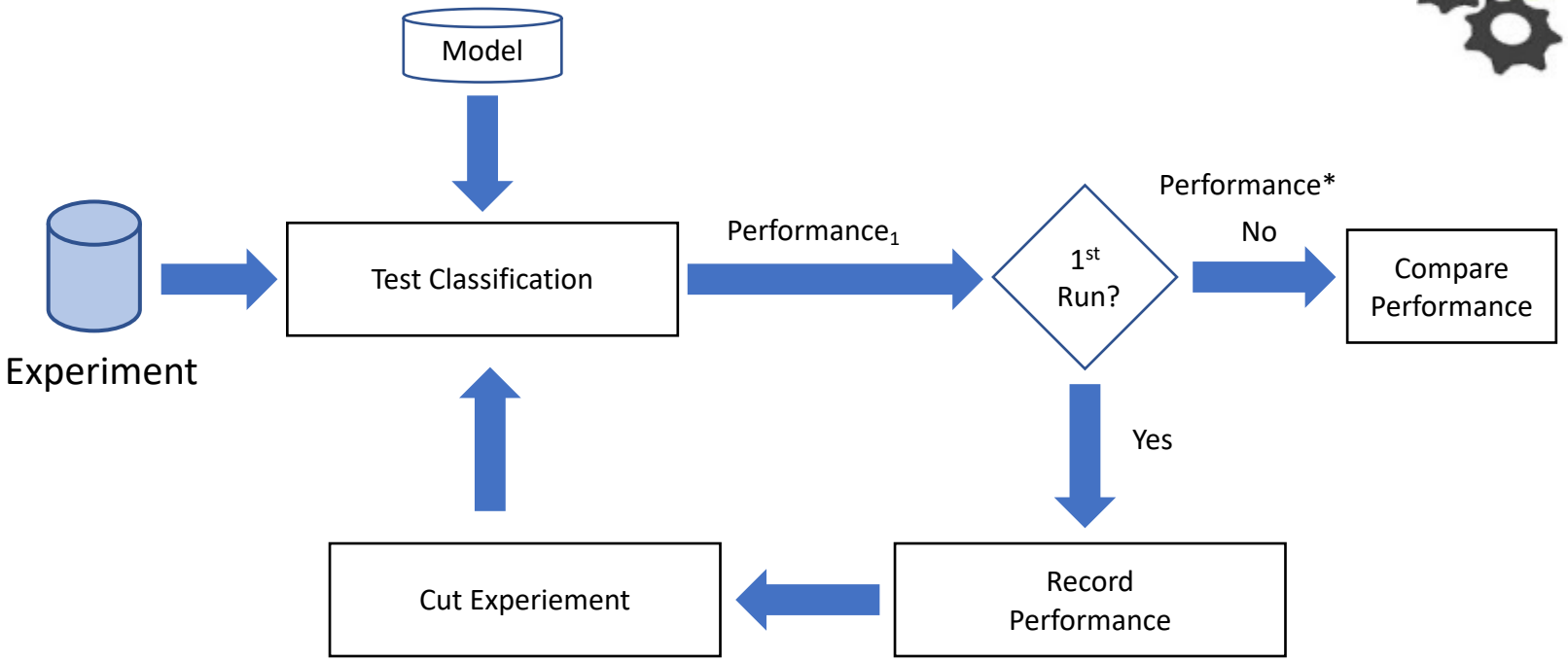


If first run on this experiment:

1) Performance is logged on a temporarily file (a new folder with a random name will be automatically generated)
2) The input Experiment is cut accordingly to **(Tc)** and a new experiment file composed only with the time windows before Tc is generated (a new folder with a random name will be automatically generated).



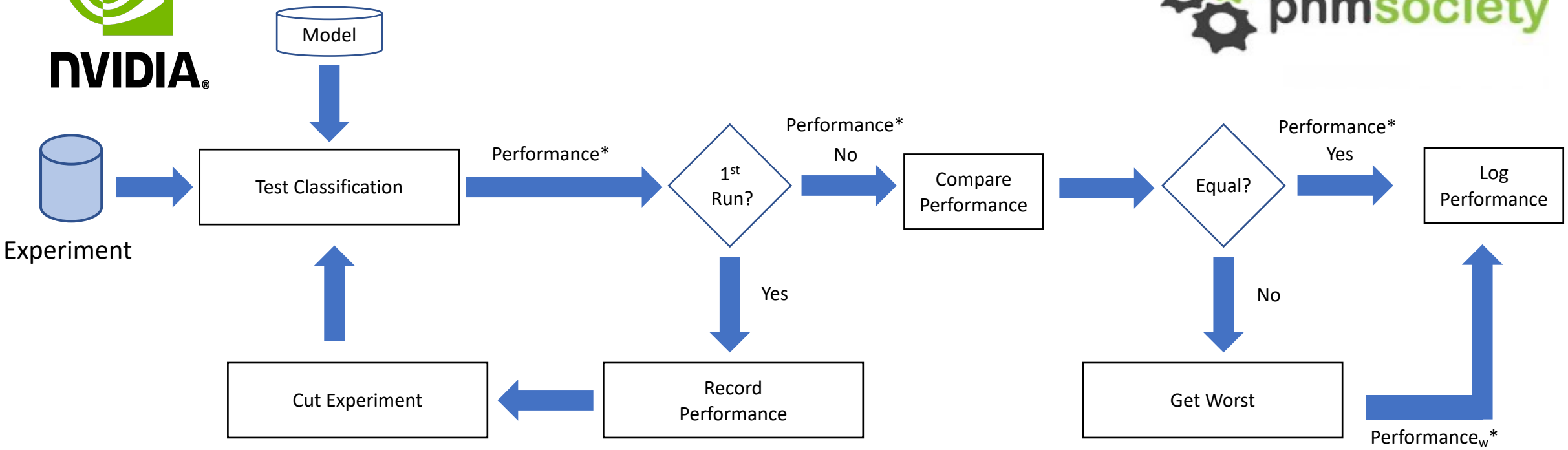
The cut experiment is fed in input to the Test classification to perform the classification over the new data of the same experiment.



At the second run the new performance is passed to the “Compare Performance” block to compare the new performance w.r.t. the old one

Performance check evaluates if:

1) The predicted label is the same
2) The Tc time is the same
3) The Feature Ranking is the same

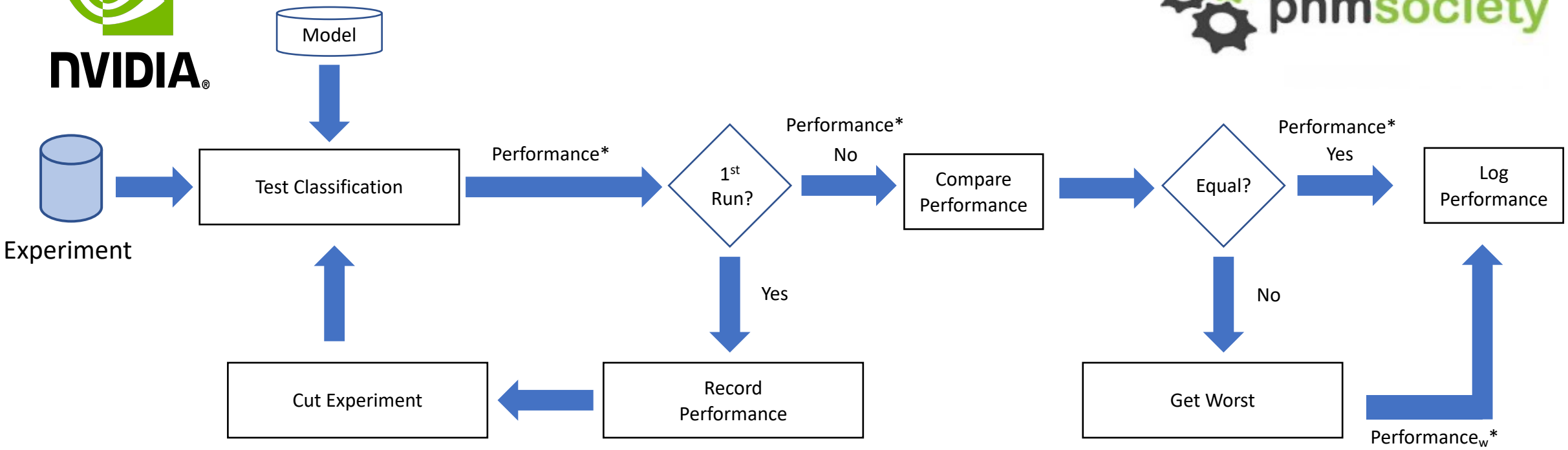


If the performance is equal

- The performance is logged as final – **Only This log** will be used to compute the penalty score

If the performance differs the performance worst (**performance$_w$**) is selected:

- If the **label** differs: the label of the 1st run is used as **Label**, the full experiment length (i.e., the number of time windows) is used as **Time for classification**, the ranking of the 1st run is used as **Ranking**
- If the **time for classification** differs: the 1st run **Time for classification** is used, the ranking of the 1st run is used as **Ranking**
- If the **ranking** differs: the ranking of the 1st run is used as **Ranking**



The log performance block saves the final performance on a new file (a new folder with a random name will be automatically generated)

Only logs generated by the Log Performance block will be used to evaluate the Penalty Score