



# Data Challenge '22

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

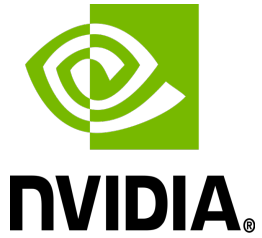
# Submission Guidelines



# Submission Format



- Each submission entry must include:
- **Test Classification:** the jupyter notebook that runs the classification tasks on new data
- **Models:** the trained models that will be used to classify new data
- **Short Paper:** a short paper (Max 4 pages) describing the team solution



# AOI Label: Test Classification



- **Input:**

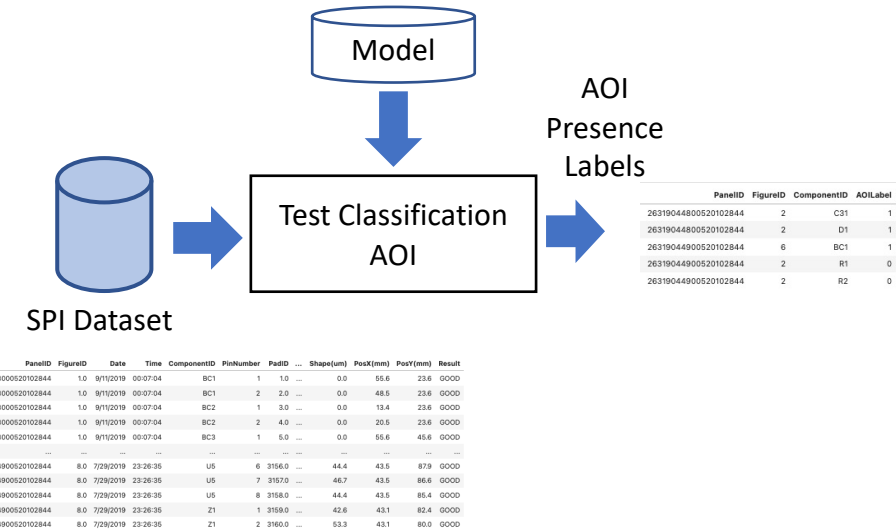
- **Dataset Path:** <string> the path where the SPI dataset is located, e.g., Data/
- **SPI name:** <string> the name of the SPI dataset to classify e.g., SPI\_dataset.csv

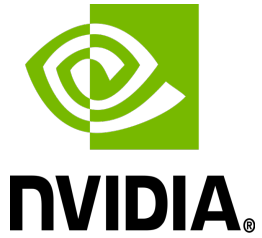
- **Test Classification AOI** reads the **Model** internally

- Predicts the AOI label for the components present in SPI dataset.

- **Output:**

- **AOI Labels:** <string> the components label assigned by the classifier
  - **0:** The component may have a defect and will be present in the AOI dataset
  - **1:** The component is good no information in the AOI dataset is available





# OperatorLabel: Test Classification



- **Input:**

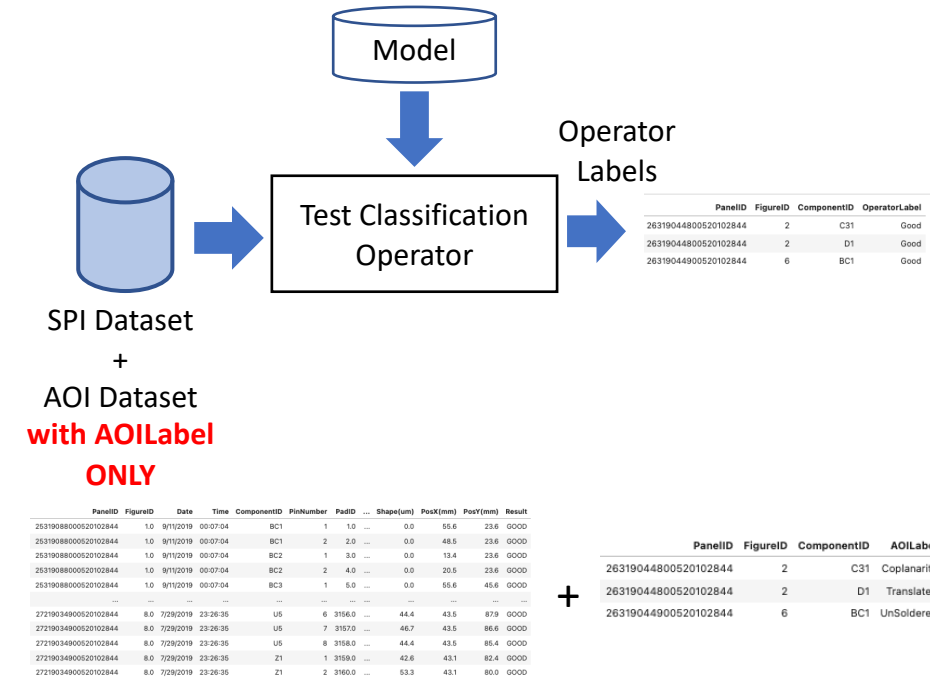
- **Dataset Path:** <string> the path where the SPI dataset is located, e.g., Data/
- **SPI name:** <string> the name of the SPI dataset
- **SPI name:** <string> the name of the AOI dataset to classify (e.g., AOI\_dataset.csv)
  - **NB:** The AOI dataset contains only the AOILabel. This is the only additional feature available.

- **Test Classification Operator** reads the **Model** internally

- Predicts the operator label for the components present in **both** the SPI and the AOI datasets.

- **Output:**

- **OperatorLabels:** <string> the components label assigned by the classifier.
  - **Good:** the AOI raised a false defect
  - **Bad:** the operator confirms the AOI message





# RepairLabel: Test Classification



- **Input:**

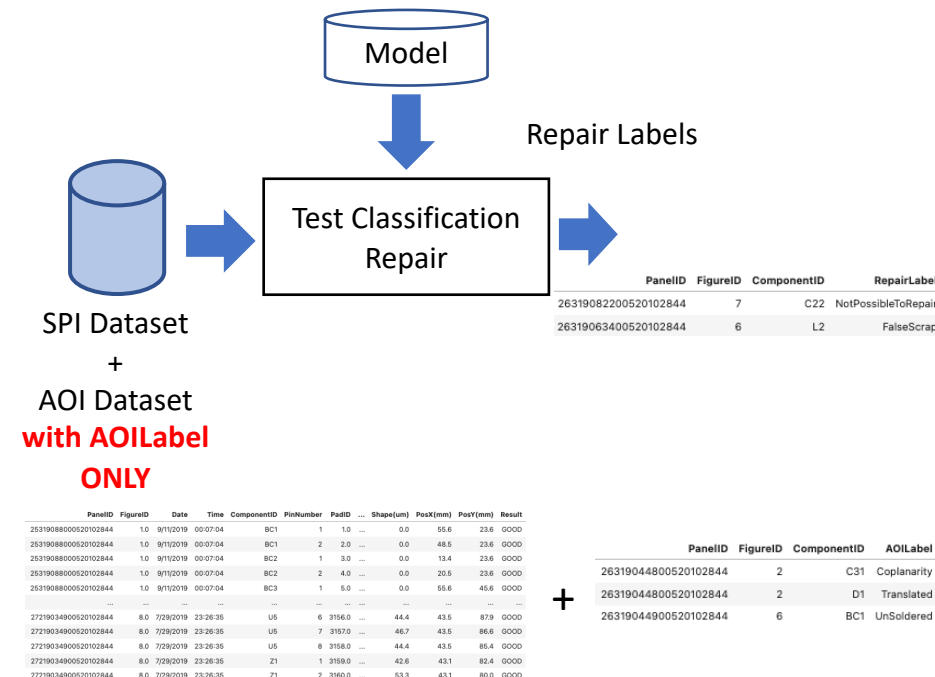
- **Dataset Path:** <string> the path where the SPI dataset is located, e.g., Data/
- **SPI name:** <string> the name of the SPI dataset
- **SPI name:** <string> the name of the AOI dataset to classify (e.g., AOI\_dataset.csv)
  - **NB:** The AOI dataset contains only the AOILabel. This is the only additional feature available.

- **Test Classification Repair** reads the **Model** internally

- Predicts the repair label for the components present in **both** the SPI and the AOI datasets.

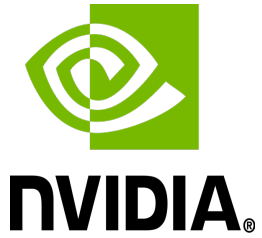
- **Output:**

- **RepairLabels:** <string> the components label assigned by the classifier.
  - **NotPossibleToRepair:** impossible to repair. The Panel is discarded.
  - **FalseScrap:** the operator raised a false defect as the component does not need any repair operation.



# Model Performance Evaluation

The Notebook TestPerformance is provided to illustrate the performance evaluation process



# RepairLabel: Test Classification



1. The test Classification AOI runs to predict the AOI presence labels
  - Labels are stored in a output file for following performance evaluation
2. The test Classification AOI runs to predict the Operator labels
  - Labels are stored in a output file for following performance evaluation
3. The test Classification AOI runs to predict the Repair labels
  - Labels are stored in a output file for following performance evaluation

