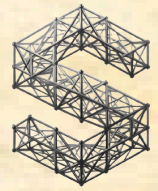




# SHILP '25



## ML FORGE

### PREDICTIVE ANALYSIS FOR STRUCTURAL HEALTH MONITORING

#### BACKGROUND

*Structural damage detection is crucial for ensuring the safety of buildings. In this competition, you will use machine learning to identify damage in a three-story aluminium structure. The goal is to detect changes in the structure's response due to simulated damage, making use of sensor data.*

#### PROBLEM STATEMENT

*Your task is to develop a machine learning model that can classify whether a structure is damaged or undamaged based on sensor readings. The dataset contains vibration data collected from:*

- *Accelerometers (measuring response on each floor).*
- *Force transducers (measuring applied force).*
- *Simulated damage conditions (introduced by changing gaps between structural components).*

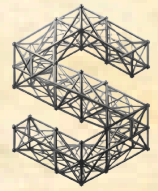
#### DATASET & RESOURCES

- *Dataset with extracted features will be provided.*
- *Participants can use pre-extracted features or apply basic signal processing techniques if needed.*
- *Link to dataset: [Click Here](#).*





# SHILP '25



## JUDGING CRITERIA

*Your task is to develop a machine learning model that can classify whether a structure is damaged or undamaged based on sensor readings. The dataset contains vibration data collected from:*

- *Accelerometers (measuring response on each floor).*
- *Force transducers (measuring applied force).*
- *Simulated damage conditions (introduced by changing gaps between structural components).*

## SUBMISSION DETAILS

- *A Google Form will be shared for submission.*
- *Submit the following:*
  - *Trained model files*
  - *Processed dataset*
  - *A brief explanation of your approach*

