**Structure of the projects, and preparing the running environment:**

* The data are contained in the “data” folder which is not included in the GIT repository and should be added manually to the main project folder (E.g., the path should be: mac4pro/data)
* Datasets, models, etc. have their own separate file which should be imported in the main code file to use the functions and classes contained within them
* The required packages to install are contained in the “requirements.txt” file. They can be installed using: “pip install –r requirements.txt”
  + To avoid problems, first install “tensorflow” package using “pip install tensorflow”, and then install the rest of the packages using the command above.
* .py files are Python codes which should be opened with an IDE like Spyder
* .ipynb files are Jupyter Notebook files which should be opened with Jupyter Notebook (in Anaconda)

**Most important code files:**

* classification\_binary.py (comments in this file will be useful throughout the project)
  + A binary classification using a CNN model between healthy structure and the structure with 40% damage index on beam A17
* classification\_multi.py
  + multiple binary classifiers
    - Multiple binary classifiers, for all healthy-defective couple of cases
  + multi-class classification
    - Multi-class classification of all the classes in a single CNN model (does not perform well)
* new\_data.ipynb
  + Contains the experiments done on selecting the frequency window around the first mode and performing binary and multi-class classification on the raw data in frequency domain

**Initializing the project on Spyder:**

In the terminal, type these commands to install the required packages:

* pip install tensorflow
* pip install –r requirements.txt