**Engineering AI – Functional and Non-functional requirements**

* **Top-level functional requirements**

1. The user must be able to load any custom image dataset, provided that it is labeled correctly.
2. The model must be able to perform the classification task with the provided data.
3. The system must allow the user to specify the input parameters for the model.
4. The system must frequently save historical data of the training process.
5. The system must provide the correct evaluation for both single and multi-class classification problems.
6. The system must be able to classify new imported samples of images.
7. The system must provide accurate plots that represent the performance measures.
8. The system should be able to build and run the model in the cloud.
9. The user should be able to train/evaluate the model without prior experience.
10. The system must be able to handle exceptions and notify the user for every main component.

* **Top-level non-functional requirements**

1. The system should be usable for beginners as well as professionals and should be accompanied with a detailed documentation.
2. The system should provide consistent results and should be robust when working with different datasets.
3. The cloud component should provide secure access to the datasets and the model.
4. The system should provide a response that must not exceed a period of 15 minutes.
5. The training model should be restorable, in the sense that it should be able to frequently save and load the model parameters.
6. The system should be fully-supported during the project duration.
7. The user should be able to build and run the model through a CLI.
8. The user should be able to install the system through one package, including its dependencies.
9. The system should remain under the Apache License 2.0, based on the original system.