**Engineering of AI – project ideas**

1. **Adapting the model for different datasets**
2. **Improving the data preprocessing step**
3. **Adding more data visualizations**
4. **Multiclass classification**
5. **Saving model history and log files**
6. **Improving the data augmentation (generating images)**

**ImageATM re-engineering project**

ImageATM is an open-source image classification library that is integrated to work with various datasets and neural network architectures.

The general idea for this project is to optimize the learning pipeline of the library and automating the preprocessing, image preparation, visualizations and exporting the training results. Our implementation will provide extensions to the original project (e.g. multiclass classification, model history, graphical representation of the performance).

* Functional requirements:

1. **Data Preparation**
   1. **Dataset loading**
   2. **Samples validation**
   3. **Image preprocessing**
   4. **Train/test splits**
   5. **Dataset saving**
2. **Training**
   1. **Training for dense layers**
   2. **Training for all layers**
   3. **Model parameters initialization**
   4. **Model build**
3. **Evaluation**
   1. **Model loading**
   2. **Prediction visualizations**
   3. **Performance measures/metrics**
   4. **Exporting the results**
4. **Cloud support**
   1. **Data preparation for AWS**
   2. **Model build/train**
   3. **Model termination**

* Non-functional requirements: