**Final Project**

Subject: Introduction Machine Learning

Present machine learning issues by building machine learning models for classification problem.

1) Standardize data: using a dataset of numeric and categorial (nominal) types (1p)

2) Processing with unbalanced data, it means there is unequal/or bias distribution of classes in the dataset. (1p)

3) Draw a chart showing statistical information of the dataset: quantity by labels (classes). (1p)

4) Solving the problem by using classification models: kNN, NB, SVM, Logistic Regression, MultiLayer Perceptron (i.e FFNN). (2p)

5) Using early stopping for training process, using validation dataset. (1p)

6) Train the model using parameters: batch size and epoch number. (1p)

7) Display model evaluation results with different measures. (1p)

8) Present the overfiting issue and illustrate this issue through examples. (1p)

9) Presenting (by a program) an example of using Convolution Neural Network or Long Short Term Memory (2đ)

Note: the maximum score is 11 points.

Use libraries:

Numpy, pandas, matplotlib, sklearn, keras.