The National Higher School of Artificial Intelligence
Machine Learning
Spring 2025

Project Statement

Due date: Saturday 17th of May 2025 (23:59)

Aim of the project:

The aim of this project is to give you a chance to deepen your understanding of the Machine Learning algorithms you have studied in this course. You are asked to solve the problems assigned to you (classification and regression) using the various machine learning algorithms and do a comparative analysis of their results.

The work will be done by the teams as submitted using the Google Form that was made available to you.

You are asked to use the following algorithms on the data set assigned to you:

- Decision Tree Learning and Random Forests
- KNN
- Naïve Bayes
- SVM
- Artificial Neural Networks (classification & regression)
- Linear Regression

and do a comparative analysis of the results and discuss them.

Datasets:

Each team was assigned two different datasets :
1- Classification task
2- Regression task

Your specific dataset is as indicated in the spreadsheet that is sent to you with this project statement.

Deliverables :

1. Write a report as described in the report template sent to you with this statement.
2. Present all your code in a clearly explained Jupyter notebook.
3. A compressed file containing your report and your Jupyter notebook is to be submitted no later than **Saturday 17th of May 2025 (23:59).**

   No late submissions will be accepted.

4. You will be asked to provide a demo of your work. Each team will have a fixed time to present their solution and answer questions. Each team member must fully understand the problem and the various details of designing the solution. The date of the presentations will be communicated to you later and the exact details will be given to you.

   The grade of each team member will not necessarily be the same, each depending on their contribution and their answers to questions during the demo presentation.

Grading of the Project:

Project Part	Percentage
Report	35%
Code and explanations, discussion of the results	40%
Demo and Q&A	25%

N.B. :
All submissions will have to be done via Google Classroom. No email submissions will be accepted.