

CSL7020: Machine Learning-1
Semester II, 2022-202
Programming Assignment -1

Maximum Marks : 100

Deadline : 05/03/2023

Guidelines :

- Submit a single pdf report for both the questions. We will not evaluate the assignment if the report is missing.
 - Submit .py files for all questions.
 - If you are using google colab, share the link of the .ipynb file in the report only. *Do not share the .ipynb file.*
 - Do not copy from others. Severe penalty will be awarded in case of plagiarism.
 - Naming convention: Folder : RollNo.zip , Files : RollNo_Q1.py, RollNo_Q2.py and RollNo.pdf
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Q1 Classification Task:

Use this dataset : [Wine Quality dataset](#)

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|--|----|
| (a) Implement Naive Bayes classifier algorithm for two class classification. | 10 |
| (b) Implement Logistic regression. | 20 |
| (c) Use cross validation technique to solve the problem | 10 |
| (d) Compare both the methods using metrics : Accuracy, Confusion matrix, ROC curve and F1 Score. | 10 |
| (e) Explain which method performs better and why. | 10 |

Q1 Regression Task:

Use this dataset : [Salary dataset](#)

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| (a) Implement Maximum likelihood estimator for regression task. | 20 |
| (b) Explain all the steps in details | 10 |
| (c) Report error for both training and testing set. | 10 |