

## Lab - 1

PRML

AY 2020-21, Trimester - III

March XX, 2021

Early Bird Submission Deadline: March XX, 6:00 PM (Full point)

Late Submission Deadline: March XX, 12:00 Midnight (20% penalty)

Final deadline: March XXI, 2021, 12:00 Midnight (60% penalty)

Q: A csv file has been provided to you at this [link](#). It contains three columns. First column is the actual labels for a binary classification problem. Second, and third column are predicted probabilities from two classifiers. You will be converting these probabilities values in the final label based on the threshold value. Helping code-script is in Notebook. You are supposed to complete the functions computing the different evaluation metrics as described in the Colab Notebook at this [link](#). You may download the Notebook and may start working on it on your local device or on Colab Notebook. The Notebook is provided to you for a quick start. You will define the functions for the following tasks

- i.) To calculate accuracy. (10 Marks)
- ii.) To calculate precision and recall. (10 Marks)
- iii.) To calculate F1 score. (10 Marks)

Both per-class and per-sample average precision, recall and F1-scores need to be calculated.

Additionally you are required to change the threshold value (0.5, 0.4, 0.6 etc.) and compare, contrast the difference in metrics for both the models. (20 Marks)

At the end of the lab you are expected to upload a Notebook containing your code and output along with a short writeup (pdf) of your comparison analysis.

Note: No submission will be accepted after the final deadline.