Indian Institute of Information Technology Sri City

Course Name: Machine Learning

Assignment - 1

1. Implement Bayes classifier for classifying the iris dataset samples.

   We have divided the IRIS dataset into a training set (75% of the total samples) and the test set (the remaining 25% examples). You can assume the priors are equal (i.e., ⅓ since it is a three-class classification problem). Assume that the data for each class is from a Gaussian distribution with mean and covariance matrix being “sample mean” and “sample covariance matrix”. Please find more details about the IRIS through below link, https://archive.ics.uci.edu/ml/datasets/iris

2. Implement Naive Bayes classifier for the same problem. (Read about this on the Internet and implement, if not covered in the class (will be covered very soon)).

Submit your source code (should be in python) and a report (ideally two to three pages) in PDF format giving your understanding/observations and results. This is a technical report in support of your submission (so please take care in preparing this report). Precise and conciseness will attract more marks. Unnecessary scribblings or copied versions will be penalized. Give a title for your report and divide the report into sections (possibly add a small abstract).

Note: Students are not allowed to use built-in functions for Bayes Classifier and Naive Bayes Classifier that are supported by some packages such as scikit-learn or any other. However, students can use the packages such as NumPy for computing the matrix inverse, and any other matrix or numeric operations.

For any clarification contact: "S.H. SHABBEER BASHA" <shabbeer.sh@iiits.in>

Deadline: 5 PM, 10th September 2020.