Maulana Azad National Institute of Technology, Bhopal

Department of Computer Science and Engineering

Date:	13-Jan-2023	**Session:**	Jan-May 2023
Branch:	M.Tech. (AI)	**Semester:**	II
Subject Code:	AI 525	**Subject:**	Deep Learning Lab
Faculty Name: Dr. Nilay Khare / Ashwini Kumar Malviya			

Lab Assignment 2: **Deadline: 5:00PM 18-Jan-2023 (Wednesday)**

1) Apply **Naive Bayes** classifier on the dataset given in the file "**dataset_lab2.csv**" using python to answer the given queries.

a) What is the probability that a student gets admission given her marks in 10^{th} are below 65, 65 below in 12^{th}, 65 below in UG, 70 above in PG, 400 above gate score and work experience details are missing?

b) What is the probability that a student is rejected for admission given her marks in 10^{th} are above 80, 75 above in 12^{th}, 65 above in UG, 60 below in PG, 400 below gate score and has some work experience?

c) What is the probability that a student gets admission given her marks in 10^{th} are above 80, 75 above in 12^{th}, 65 above in UG, 60 below in PG, 400 below gate score and has no work experience?

d) How would Bernoulli and Gaussian Naive Bayes Classifier be applied on the given dataset? Explain.

2) Construct a Decision Tree, using any algorithm of your choice with suitable metric description, on the dataset given in the file "**dataset_lab2.csv**" using python to answer the following query:

a) Does a student with 67 marks in 10^{th}, 72 in 12^{th}, 73 in UG, 82 in PG, and GATE score of 456 with no work experience gets admission?

3) Identify the accuracy, precision, recall, and f1-score, for both Naive Bayes and Decision Tree on the "**testset_lab2.csv**".

Submission Guidelines:

1) Before submission ensure that:

a) There should be **no plagiarism in the code**. If found then 0 marks will be assigned for that assignment.

b) The assignment should be submitted within the allotted **time limit**.

2) Create a single pdf/word file which contains the following:

a) Scholar number and name of the scholar.

b) Lab Assignment number and date of the assignment.

c) Implementation code of all the tasks in the assignment.

d) Result/Screenshot of the implemented code on test data.

e) Remarks/Explanation of the code, if required.

3) Submit the pdf/word file by sending the email at the address "***ai525dl.manit@gmail.com***" with the subject "**<Scholar No.> Lab #2**".