Assignment on Naïve Bayes Classifier #6 (Ref Video Lectures 21-29)

Date of uploading assignment:14-03-2022

(Ref: My Video lectures on ML 21-29)

(Timely submission of assignment is essential. Copying/plagiarized submission from others will fetch fail (F) grade on this subject)

1. You have been provided with Microchip data with two different quality assurance test results (you can get this data from my website). The third digit tells you whether the microchip has passed the quality assurance test (1 means pass, 0 means fail) or not.
   1. Using raw data set as given, create three more features, and from there develop a GDA model. Thereafter, utilize the same to predict whether a Microchip component will be accepted or rejected. May use 70% data for training and 30 % data for testing. 25

2. Design a Naïve Bayes classifier with a) multivariate Burnoulli Event Model and b) Multinomial Event Model, for filtering Spam and Ham (Normal) messages. Make a comparative study on the performance of the above two models of Naïve Bayes classifier. The SMS data set, together with readme file from UCI Machine Learning Repository, has been provided for your ready reference in the appropriate link on my website.

25+25=50

Hints: 1. you may go through this 11 min video: https://www.youtube.com/watch?v=99MN-rl8jGY

2. **However**, **You are allowed to use only Python NumPy.**

Deadline for submission: **October 23rd, 2022 midnight.**