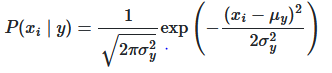
Gaussian Naive Bayes:

Gaussian Naive Bayes is a special type of Naive Bayes classification, it is usesd in Gaussian normal distribution or in continuous data. This model can be fit by simply finding the mean and standard deviation of the points within each label. The likelihood is given by



Multinomial Naive Bayes:

This type of naive Bayes algorithm is used for multinomially distributed data, and is one of the two classic naive Bayes variants used in text classification. The likelihood is given by



where,

, the number of times feature i appears in a sample of class y in the training set T and , the total count of all features for class y .

## Bernoulli Naive Bayes:

## It is used to train multiple features but each one is assumed to be a binary-valued variable.



The output of 1.a is given below

Prediction using GAUSSIAN NB= [2]

Prediction using MULTINOMIAL NB= [2]

Prediction using BERNOULLI NB= [0]

Prediction using Gaussian NB and multinomial NB will gives the same answer whereas Bernoulli NB predicted as 0.