Information Retrieval - CS 7800

Assignment-2

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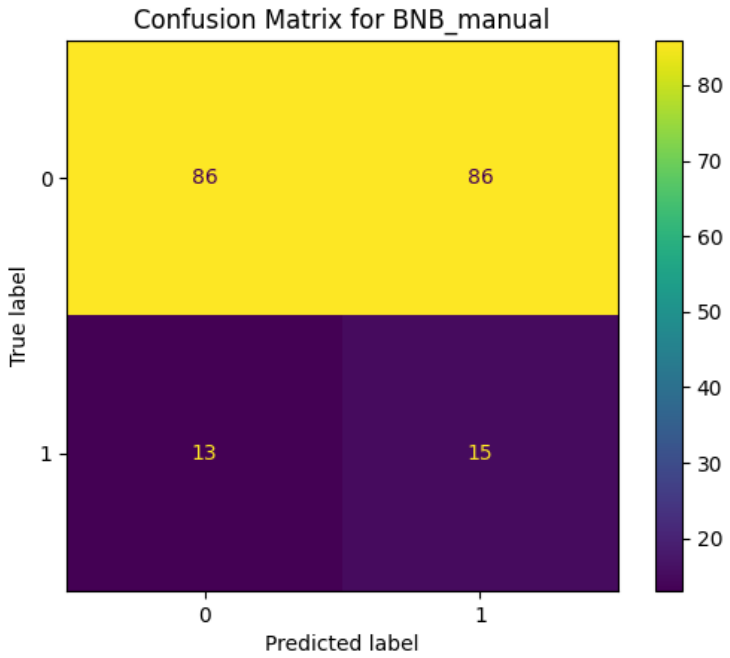
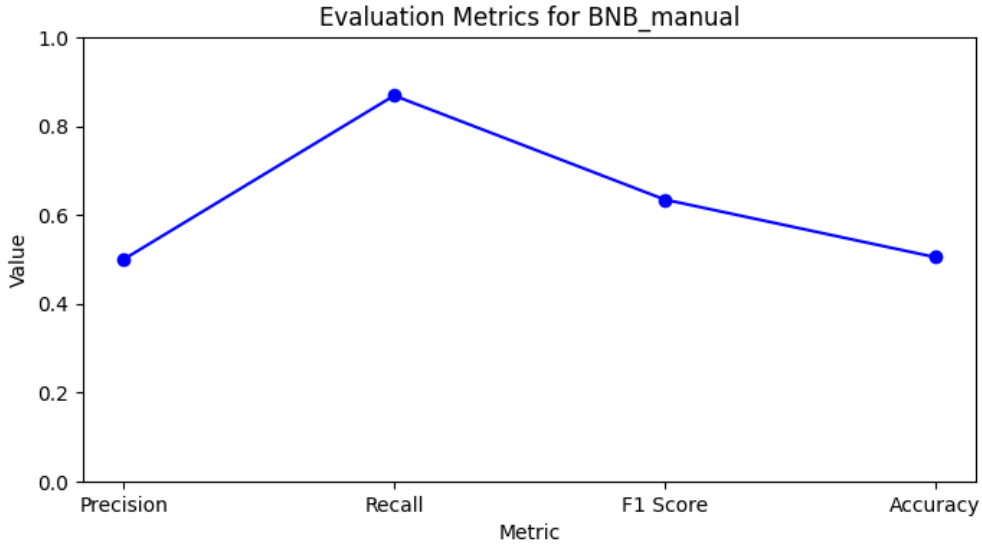
The key difference between Manual Naive Bayes Multivariate Bernoulli classifier and Scikit-learn Naive Bayes Multivariate Bernoulli classifier is that we are not so much emphasizing on hyper parameters but also, we are not indulging into future selections which could affect the evaluation metrics.

Here are the graphs and results generated for each approach.

1. Using Manual Naive Bayes Multivariate Bernoulli classifier.
   Accuracy: 0.51
   Precision: 0.50
   Recall: 0.87
   F-1 score: 0.63
   Confusion matrix:
   86 86
   13 15





2. Using Scikit-learn Naive Bayes Multivariate Bernoulli classifier.
   Accuracy: 0.94
   Precision: 0.90
   Recall: 1.00
   F-1 score: 0.95
   Confusion matrix:
   99 11
   0 90