

Comparison of performance of different Bayesian Classifiers

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1 Data generated with LDA scheme

Accuracy of classifiers for data satisfying LDA assumptions generated with different mean, $n = 1000$, train size = 800

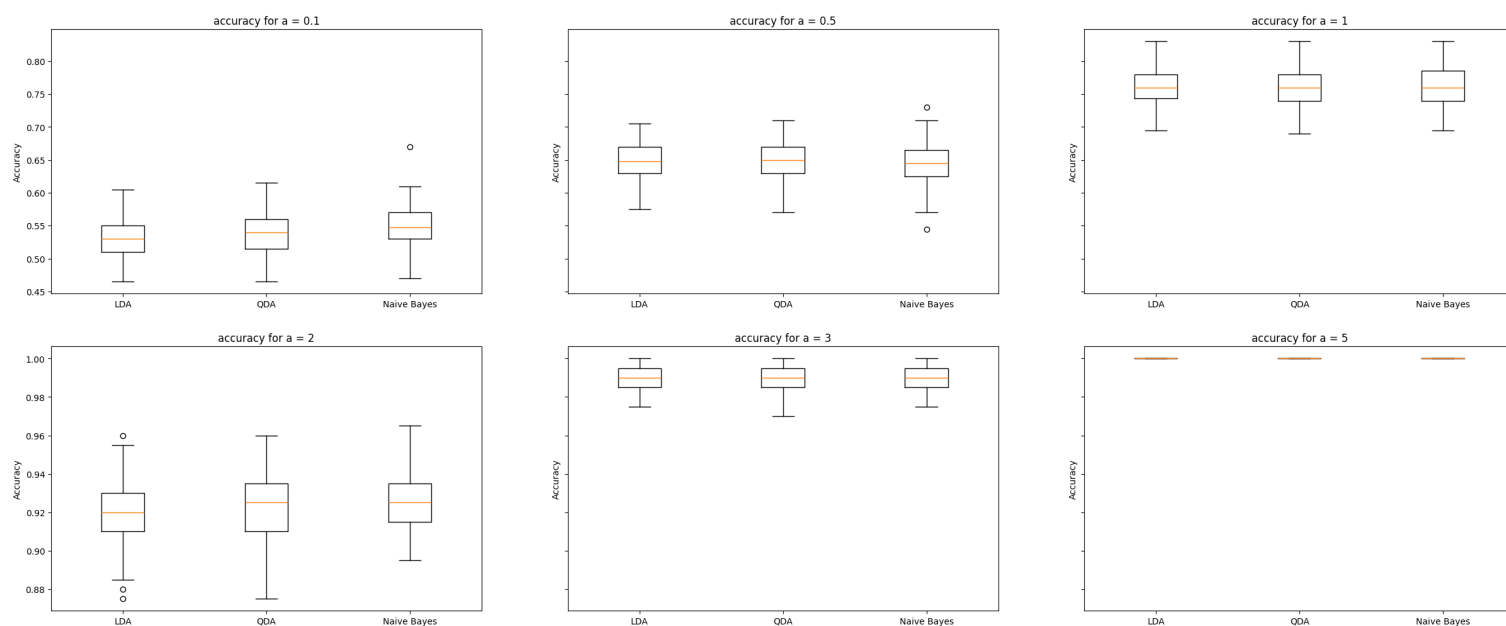


Figure 1: comparison of accuracy

2 Data generated with QDA scheme

Accuracy of classifiers for data satifying QDA assumptions generated with different mean, $\sigma = 0.5$, $n = 1000$, train size = 800

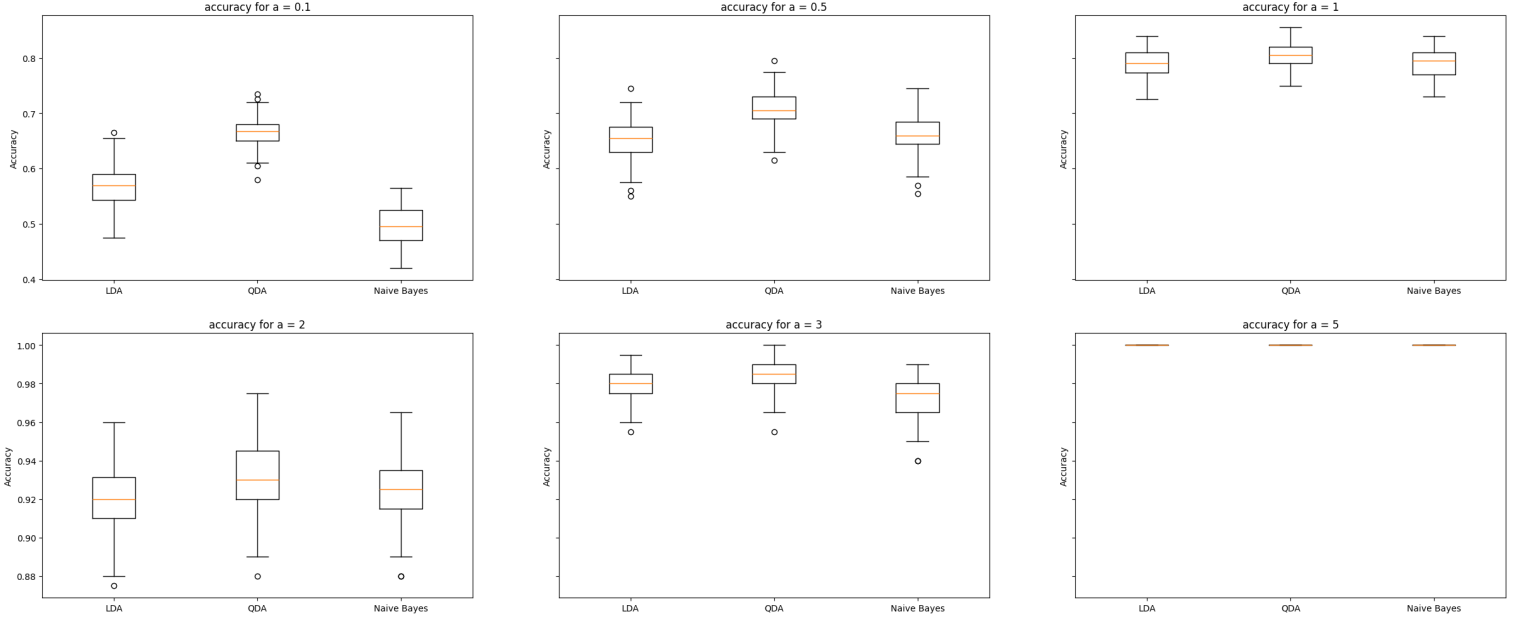


Figure 2: comparison of accuracy

3 Summary

In case when the variables of generated dataset are independent, all three classifiers perform similarly. On the other hand, when there is some linear dependence between the variables, then the QDA classifier performs slightly better.

In general, when the dataset classes are easily linearly separable, all the classifiers have near 100% accuracy score. The smaller the distance between the classes, the worse is the classifiers performance.