

Technical Report 6: SVM Linear Classification

1 Classification Accuracy

Follows are the classification performance results of LIBSVM. It is obvious that, training the SVM classifier with more data offers better classification accuracy.

# of training documents	Accuracy
50	75.3846% (196/260)
100	88.4615% (230/260)
400	98.0769% (255/260)
700	98.4615% (256/260)

2 Comparison with Naive Bayes

We also compare SVM with Naive Bayes model. The comparison results in terms of classification error are given as follows. It is shown that, the Naive

# of training documents	Naive Bayes	SVM
50	2.7%	24.6%
100	2.3%	11.5%
400	2.3%	1.9%
700	1.9%	1.5%

Bayes method has higher classification error (thus lower accuracy) when the training data are of small size, while SVM shows better performance (i.e., lower classification error) when the amount of training data increases.