## **Best-accuracy Table for all algorithms:**

(Multi-class classification)

Best Model	Accuracy
Logistic Regression Model 3, 1000 words	80.14%
Support Vector Machines Model 2, 1000 words	81.48%
Naive Bayes Model 3, 100 words	73.96%
Random Forest Model 3, 100 words	77.61%

Confusion Matrix for SVM (Model 2; 1000 words) 0.71 0.02 0.01 0.06 0.01 0.01 0.02 0.01 0.05 0.03 0.02 0.01 0.00 0.01 0.02 0.01 0.01 Agriculture -0.04 0.00 0.03 0.01 0.05 0.01 0.08 0.06 0.00 0.01 0.00 Botany 0.01 0.00 0.01 0.04 0.00 0.03 0.00 0.00 0.00 0.02 0.03 0.00 0.12 0.00 0.00 0.00 0.73 Church 0.00 0.00 0.01 0.00 0.20 0.01 0.01 0.02 0.00 0.02 0.00 0.01 0.13 0.00 0.01 0.01 Commerce 0.01 0.00 0.01 0.00 0.91 0.01 0.00 0.00 0.01 0.00 0.00 0.00 0.04 0.01 0.00 Drama 0.00 0.01 0.00 0.00 0.91 0.02 0.00 0.00 0.00 0.00 0.00 0.02 0.01 Fiction 0.06 0.03 0.75 0.01 0.01 0.00 0.02 0.01 0.00 0.00 0.01 0.04 0.00 0.01 History 0.00 0.00 0.01 0.11 0.68 0.00 0.01 0.06 0.02 0.01 0.01 0.00 0.00 History Natural 0.04 0.07 0.00 0.01 0.02 0.00 0.76 0.00 0.01 0.01 0.01 0.05 0.01 0.00 0.00 0.00 0.01 0.00 0.01 0.82 0.01 0.06 0.03 0.02 0.02 **Mathematics** 0.00 0.00 0.01 0.00 0.02 0.00 0.91 0.00 0.01 0.01 0.00 0.01 Medicine 0.05 0.01 0.00 0.01 0.03 0.03 0.02 0.10 0.06 0.62 0.02 0.02 0.01 0.01 0.02 Physics 0.01 0.01 0.01 0.00 0.00 0.00 0.00 0.00 0.91 0.01 0.01 0.00 Poetry 0.03 0.00 0.06 0.00 0.00 0.00 0.03 0.78 0.00 0.01 0.00 0.01 Politics 0.01 0.07 0.03 0.02 0.04 0.00 0.01 0.01 0.01 0.01 0.71 Rhetoric 0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.01 0.00 0.91 0.06 Sermons 0.02 0.02 0.75 0.02 0.00 0.02 0.02 0.00 0.04 0.06 0.01 0.01 0.00 0.02 0.00 0.00 Travels Agriculture Botany Church Commerce Drama Fiction History Matural Law Mathematics Physics Poetry Politics Streeting Semons Lawers

- 0.8

0.6

0.4

0.2

0.0

Predicted label