

Ling 572 HW3

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01/30/2019

1 Q1 Mallet NB Learner

(a) The command lines:

```
mallet import-file --input train.vectors.txt --output train.vectors
mallet import-file --input test.vectors.txt --output test.vectors --use-pipe-from train.vectors
vectors2classify --training-file train.vectors --testing-file test.vectors --trainer NaiveBayes --report
test:raw test:accuracy test:confusion train:confusion train:accuracy >de1.stdout 2 >de1.stderr
tail de1.stdout
```

(b) What are the training accuracy and the test accuracy?

Train:0.6011

Test: 0.1167

2 Q2 build_NB1.sh

Table 1: Results of your **Bernoulli** NB model

cond_prob_delta	Training accuracy	Test accuracy
0.1	93.03	88
0.5	91.03	86.33
1.0	89.70	84

3 Q3 build_NB2.sh Multinomial NB model

Table 2: Results of your **multinomial** NB model

cond_prob_delta	Training accuracy	Test accuracy
0.1	95.70	91.33
0.5	95.037	90.666
1.0	94.48	90.00

4 Notes

My model trains very fast but the actual inference is much slower and I am not actually sure as to why.