Report: Cmpe 493 Text Classification using Naive Bayes

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Number of Docs

Training set {'crude': 361, 'acq': 1617, 'grain': 429, 'earn': 2848, 'money-fx': 536}
Test set {'crude': 152, 'acq': 638, 'grain': 139, 'earn': 933, 'money-fx': 149}

The 50 Most Informative Words

crude
refineri qtr ga gasolin share pipelin opec api explor arabia wheat energi inc gulf field profit reuter petroleum note dlr 3 crude net ct venezuela ecuador product oil iran minist cubic price quota dai refin dividend bank loss herrington bpd iranian mln sale record saudi drill output barrel tanker petrobra

acq
control own qtr cyclop sharehold share tonn acquisit rate purchas export file year tender inc sell said group acquir record merger twa stake to outstand net ct approv complet firm purol oil takeov hold offer dollar bid gencorp bui corp compani ha usair loss shr secur mln profit common stock

grain
oper certif depart usda 092 share crop tonn vs export soybean feed inc subsidi barlei area profit agricultur maiz dlr program farmer import net ct oil wheat farm acreag corn 198687 rain corp ec compani harvest bank winter loss rice lyng mln eep season acr weather grain commod soviet bushel

earn
oper qtr offici dollar tonn vs netshr at year avg market ct 1986 said wa would to profit offer rev note dlr split net record lossshr oil thei that price earn agreement 4th gain not dividend ha by loss shr 31 mln exclud prior mth bui grain export div quarter

money-fx
bill england yen exchang dollar trade rate at monei reserv japan economist dealer market ct fed currenc profit dlr that econom economi to deficit bundesbank net inc germani around stabil share pari band corp shortag compani monetari bank loss stg central interven treasuri mln foreign polici uk further intervent sterl

Summary

alpha = 0

using the 50 most informative words

	precision	recall	f-score
micro-avgs	0.82	0.82	0.82
macro-avgs	0.89	0.66	0.76

using all words

	precision	recall	f-score
micro-avgs	0.91	0.91	0.91
macro-avgs	0.95	0.88	0.91

alpha = 1

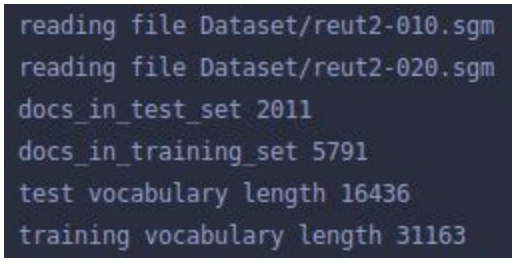
using the 50 most informative words

	precision	recall	f-score
micro-avgs	0.82	0.82	0.82
macro-avgs	0.91	0.64	0.75

using all words

	precision	recall	f-score
micro-avgs	0.92	0.92	0.92
macro-avgs	0.96	0.82	0.89

Screenshots



```
using the 50 most informative words..
alpha = 0
                    precision         recall        f-score
          crude          0.83           0.32           0.46
            acq          0.93           0.83           0.88
          grain          0.98           0.39           0.56
           earn          0.75           0.97           0.84
        money-fx          0.94           0.79           0.86
      micro-avgs          0.82           0.82           0.82
      macro-avgs          0.89           0.66           0.76
using all words..
alpha = 0
                    precision         recall        f-score
          crude          0.98           0.73           0.84
            acq          0.93           0.86           0.89
          grain          0.99           0.88           0.94
           earn          0.88           0.98           0.93
        money-fx          0.99           0.93           0.96
      micro-avgs          0.91           0.91           0.91
      macro-avgs          0.95           0.88           0.91
using the 50 most informative words..
alpha = 1
                    precision         recall        f-score
          crude          0.95           0.23           0.37
            acq          0.92           0.84           0.88
          grain          0.98           0.40           0.57
           earn          0.75           0.97           0.84
        money-fx          0.96           0.76           0.85
      micro-avgs          0.82           0.82           0.82
      macro-avgs          0.91           0.64           0.75
using all words..
alpha = 1
                    precision         recall        f-score
          crude          1.00           0.53           0.70
            acq          0.88           0.96           0.92
          grain          1.00           0.73           0.85
           earn          0.92           0.99           0.96
        money-fx          1.00           0.91           0.95
      micro-avgs          0.92           0.92           0.92
      macro-avgs          0.96           0.82           0.89
```