

KDD2001, Binding to Thrombin

	Precision	Recall	F-Score
SVM Performance on full data set, $c = 0.1$:	0.2941	0.0333	0.0599
Reduced set 1(10%):			
SVM Performance on the reduced data set:	0.1429	0.0067	0.0127
SVM Performance on the augmented data sets:			
SVMAugmented Bayes:	0.1818	0.12	0.1446
SVM Spy-EM:	0	0	0
Quality of Entity Set Expansion:			
Bayesian Sets:	0.23	0.6053	0.3333
Spy-EM:	0.27	0.7105	0.3913
Reduced set 2 (33%):			
SVM Performance on the reduced data set:	0.1579	0.02	0.0355
SVM Performance on the augmented data sets:			
SVMAugmented Bayes:	0.1667	0.1133	0.1349
SVM Spy-EM:	0.1183	0.0733	0.0905
Quality of Entity Set Expansion:			
Bayesian Sets:	0.1684	0.5517	0.2581
Spy-EM:	0.2	0.6552	0.3065
Reduced set 3 (80%):			
SVM Performance on the reduced data set:	0.1905	0.0267	0.0468
SVM Performance on the augmented data sets:			
SVMAugmented Bayes:	0.1649	0.1067	0.1296
SVM Spy-EM:	0.1348	0.08	0.1004
Quality of Entity Set Expansion:			
Bayesian Sets:	0.0854	0.7778	0.1538
Spy-EM:	0.0854	0.7778	0.1538

KDD2001, Binding to Thrombin

	Precision	Recall	F-Score
SVM Performance on full data set, $c = 0.9$:	0.2941	0.0333	0.0599
Reduced set 1(10%):			
SVM Performance on the reduced data set:	0.1111	0.0067	0.0126
SVM Performance on the augmented data sets:			
SVMAugmented Bayes:	0.2143	0.18	0.1957
SVM Spy-EM:	0.2143	0.18	0.1957
Quality of Entity Set Expansion:			
Bayesian Sets:	0.2637	0.6316	0.3721
Spy-EM:	0.2857	0.6842	0.4031
Reduced set 2 (33%):			
SVM Performance on the reduced data set:	0.25	0.0267	0.0482
SVM Performance on the augmented data sets:			
SVMAugmented Bayes:	0.2366	1	0.3827
SVM Spy-EM:	0.2366	1	0.3827
Quality of Entity Set Expansion:			
Bayesian Sets:	0.1939	0.6552	0.2992
Spy-EM:	0.2245	0.7586	0.3465
Reduced set 3 (80%):			
SVM Performance on the reduced data set:	0.3571	0.0333	0.061
SVM Performance on the augmented data sets:			
SVMAugmented Bayes:	0.1707	0.0933	0.1207
SVM Spy-EM:	0	0	0
Quality of Entity Set Expansion:			
Bayesian Sets:	0.0602	0.5556	0.1087
Spy-EM:	0.0723	0.6667	0.1304

Reuters 21578, text classification:

	Precision	Recall	F-Score
SVM Performance on full data set, $c = 0.1$:	0.9601	0.8935	0.9256
Same trends for $c = 0.5$, for 0.9 both fail to achieve much augmentation.			

Reduced set 1(10%):

SVM Performance on the reduced data set:	0.9525	0.679	0.7928
SVM Performance on the augmented data sets:			
SVMAugmented Bayes:	0.4762	0.8887	0.6201
SVM Spy-EM:	0.7707	0.9919	0.8674
Quality of Entity Set Expansion:			
Bayesian Sets:	0.6636	1	0.7978
Spy-EM:	0.6626	0.9985	0.7965

Reduced set 2 (33%):

SVM Performance on the reduced data set:	0.9488	0.8065	0.8718
SVM Performance on the augmented data sets:			
SVMAugmented Bayes:	0.5673	0.8839	0.691
SVM Spy-EM:	0.8904	0.9565	0.9222
Quality of Entity Set Expansion:			
Bayesian Sets:	0.5866	1	0.7394
Spy-EM:	0.5854	0.9979	0.7379

Reduced set 3 (80%):

SVM Performance on the reduced data set:	0.9582	0.8871	0.9213
SVM Performance on the augmented data sets:			
SVMAugmented Bayes:	0.7766	0.8581	0.8153
SVM Spy-EM:	0.9265	0.8742	0.8996
Quality of Entity Set Expansion:			
Bayesian Sets:	0.2816	1	0.4395
Spy-EM:	0.2816	1	0.4395

20 Newsgroups, $c = 0.5$.

Augmenting with Bayesian sets:

1st redux:	0.9375	0.0085	0.0169
aug:	0.4366	0.9778	0.6037
2nd redux:	0.9756	0.0228	0.0445
aug	0.4353	0.9727	0.6014
3rd redux	0.5461	0.9704	0.6989
aug	0.3742	0.9949	0.5439
full train:	0.4984	0.9858	0.6621

Augmenting with S-EM algo:

1st redux:	0.9375	0.0085	0.0169
aug	0.3460	0.9966	0.5136
2nd redux:	0.9756	0.0228	0.0445
aug	0.2870	1.0000	0.4461
3rd redux:	0.5461	0.9704	0.6989
aug	0.3994	0.9983	0.5705
full train:	0.4984	0.9858	0.6621

Precision, recall and fscore of the entity set expansion used to get aug:

bayes1:	0.7593	0.8463	0.8004
sem1:	0.7775	0.8666	0.8196

bayes2:	0.6777	0.8931	0.7706
sem2:	0.6761	0.8910	0.7688

bayes3:	0.3263	0.9456	0.4851
sem3:	0.3251	0.9421	0.4833

Bayes extracts exactly as many new positives as with SEM, using SEM's number as the cutoff.

20 Newsgroups, $c = 0.1$, same P:N ratio in all training data:

Augmenting with bayes:

redux1:	0.9547	0.2641	0.4137
aug:	0.9860	0.0803	0.1484
redux2:	1.0000	0.0028	0.0057
aug:	0.7047	0.9289	0.8014
redux3:	0.7161	0.9317	0.8098
aug:	0.6208	0.9596	0.7539
full train:	0.7542	0.9118	0.8256

Augmenting with SEM:

redux1:	0.9547	0.2641	0.4137
aug:	0.9809	0.0876	0.1609
redux2:	1.0000	0.0028	0.0057
aug:	0.7101	0.9311	0.8057
redux3:	0.7161	0.9317	0.8098
aug:	0.6071	0.9664	0.7457
full train:	0.7542	0.9118	0.8256

Precision, recall and fscore of the entity set expansion used to get aug:

bayes:	0.7558	0.8631	0.8059
sem:	0.7681	0.8771	0.8190

bayes:	0.6543	0.9031	0.7588
sem:	0.6619	0.9136	0.7676

bayes:	0.2737	0.9632	0.4262
sem:	0.2672	0.9404	0.4161

20 Newsgroups, $c = 0.9$ (to get less overfitting, but a terrible classifier, for redux1/2):

Augmenting with Bayes:

redux1:	1.0000	0.0023	0.0045
aug:	0.9762	0.0233	0.0456
redux2:	0.3301	0.9829	0.4943
aug:	0.2847	1.0000	0.4432
redux3:	0.2848	0.9892	0.4422
aug:	0.3181	0.9954	0.4822
full train:	0.2860	0.9960	0.4444

Augmenting with SEM:

redux1:	1.0000	0.0023	0.0045
aug:	0.8642	0.0398	0.0762
redux2:	0.3301	0.9829	0.4943
aug:	0.2904	0.9989	0.4500
redux3:	0.2848	0.9892	0.4422
aug:	0.2883	0.9994	0.4475
full train:	0.2860	0.9960	0.4444

Precision, recall and fscore of the entity set expansion used to get aug:

bayes:	0.7609	0.8526	0.8041
sem:	0.7772	0.8709	0.8214

bayes:	0.6585	0.9062	0.7628
sem:	0.6608	0.9094	0.7654

bayes:	0.2730	0.9737	0.4264
sem:	0.2646	0.9439	0.4134

When $kkt = 0.9$, the classifier is so bad that extra data doesn't help much at all.
That's why, apart from augmenting redux1, it makes only marginal improvement in the rest.