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LING 570 HW #9

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Q2 Table

Table 1: Tagging accuracy with different thresholds

Expt id	rare thres	feat thres	training accuracy	test accuracy	# of feats	# of kept feats	running time
1_1	1	1	0.7336117629329831	0.5871784401796651	39380	39380	7m26.393s
1_3	1	3	0.7285311403414351	0.5863617803184974	39380	17703	12m41.880s
2_3	2	3	0.7505328195302577	0.6414863209473254	44175	15320	13m37.253s
3_5	3	5	0.7638371617403286	0.6749693752552062	44311	9810	21m35.067s
5_10	5	10	0.7982605326042497	0.6790526745610453	44188	5276	17m28.065s

Conclusion

If we increase the rare threshold and feature threshold to some extent, the training accuracy and the test accuracy would be improved using the MaxEnt trainer. However, I do think there exists some limit of the accuracy and the thresholds should not be increased infinitely.

Also, increasing the feature threshold would reduce the number of kept features and increasing the rare threshold would increase the number of initial features.