LING 572 – HW6

Q2

Table 1: Beam search

beam_size	topN	topK	Test accuracy	Running time
0	1	1	0.964004917734199	1 min 51 sec
1	3	5	0.965196405804141	4 min 38 sec
2	5	10	0.965196405804141	11 min 45 sec
3	10	100	0.965196405804141	50 min

Q3

The test run from running beamsearch_maxent.sh produced good accuracy at beam_size=0, topN=1 and topK=1. The performance improved marginally when beam_size, topN and topK values were increased to 1, 3 and 5 respectively. However, the time taken to achieve the slight performance improvement also increased by about 3 folds.

From then on, increasing beam_size, topN or topK values did not yield any further performance improvement and in addition we paid the penalty of incurring significantly longer running time.

The experiment suggested that the Max Entropy model is capable of producing optimal feature weight for each feature function. Given the Max Entropy modeling and training, optimum performance can be achieved quickly during testing phase with minimal processing parameters.

End of HW6 – Joint submission by

Scott Mantei

Wee Teck Tan

Course Name: LING 572