

Multimedia Appendix 5: Performances on Tuning Set

Table 1. Performance of different models.

Method	P(%)	R(%)	F (%)
1. LSTM	65.53	70.15	67.76
2. BiLSTM	73.78	70.12	71.90
3. CNN	75.31	75.39	75.35
4. $CR_{\text{cross-entropy}}$	79.26	72.55	75.76
5. SVM	74.86	81.03	77.86
6. LC-CNN	80.42	88.28	84.16

Table 2. Performance of combined classifiers.

Model	Tuning set		
Single stage	P(%)	R(%)	F(%)
Baseline 1 ($CR_{\text{cross-entropy}}$)	79.26	72.55	75.76
Baseline 2 ($CR_{\text{Hinge-loss}}$)	74.86	81.03	77.86
Baseline 3 (CNN)	75.31	75.39	75.35
LC-CNN	80.42	88.28	84.16
Two-stage	P(%)	R(%)	F(%)
SVM + CNN	84.04	68.44	75.44

Table 3. The effect of different composite embedding vectors on tuning set performance.

Method	P(%)	R(%)	F(%)
LC-CNN _{PubMed}	81.19	87.36	84.07
LC-CNN _{News}	77.30	89.94	83.14
LC-CNN _{no pre-train}	75.17	88.95	81.48
LC-CNN _{PubMed} - POS embedding	80.49	88.10	83.92
LC-CNN _{PubMed} - NE distance embedding	82.13	85.34	83.56