

Features	Books	Health	Electronics	Movies	Macro Average
Unigrams	53/73/61	19/73/31	24/67/35	22/79/34	29.3/72.9/41.8
POS	36/48/41	16/52/24	22/48/30	28/47/35	25.5/48.7/33.4
LIWC	35/53/42	13/51/21	34/46/39	23/50/31	26.0/50.1/34.2
AP	56/71/ 63	20/74/31	27/62/38	24/72/36	31.7/69.8/43.6
UP	48/55/51	32/55/40	38/48/43	43/48/45	40.2/51.5/45.1
UP + POS	48/55/52	32/56/41	39/50/44	41/48/44	40.0/52.3/45.3
Results from Neural Net Models					
LSTM	45/67/54	31/65/42	39/57/47	34/66/45	37.5/63.7/47.2
CNN	45/57/50	31/58/40	30/52/38	41/60/48	36.7/57.1/44.7
With New Features					
UP + POS + ad	50/60/55	33/63/ 44	42/54/ 47	43/55/48	42.0/58.0/48.8
UP + POS + ad + comp	51/61/56	32/64/43	42/54/ 47	44/55/ 49	42.3/58.5/ 49.1