

Pipeline Comparison

Algorithm		Logistic Regression, Binary	Random Forest Binary	k-NN Multi-class ^[1]	Random Forest <u>Multi-class^[1]</u>
sentiment score alone	accuracy	0.6659	0.7250	0.3790	0.2990
	precision	0.2887	0.3373	0.44	0.49
	recall	0.6578	0.6385	0.38	0.30
word vectorization alone (tfidf + LSI)	accuracy	0.7475	0.7340	0.4031	0.4910
	precision	0.3725	0.3684	0.52	0.53
	recall	0.7067	0.7882	0.40	0.49
sentiment score + word vectorization (tfidf + LSI)	accuracy	0.7331	0.7708	0.4246	0.5085
	precision	0.3612	0.4076	0.53	0.55
	recall	0.7393	0.7637	0.42	0.51
sentiment score + word vectorization (tfidf + LSI) + categorical features	accuracy	0.7743	0.8339^[2]	0.4913	0.5823
	precision	0.4152	0.5081^[2]	0.62	0.63
	recall	0.7984	0.7648 ^[2]	0.49	0.58

[1] For multi-class classification, I report the average metrics without threshold tuning for particular class.

[2] Threshold not yet adjusted for maximum