

Experiments

Performance Comparison

Category	Method	Accuracy	AUC-ROC	Fake News			Real News		
				Precision	Recall	F ₁	Precision	Recall	F ₁
Supervised	LIWC-LR	0.528	0.558	0.604	0.160	0.253	0.517	0.896	0.655
	LIWC-SVM	0.568	0.598	0.574	0.521	0.546	0.563	0.614	0.587
	LIWC-RF	0.590	0.616	0.613	0.483	0.541	0.574	0.696	0.629
	LSTM	0.733	0.799	0.876	0.543	0.670	0.669	0.923	0.775
	CNN	0.747	0.834	0.869	0.580	0.696	0.685	0.913	0.783
	EANN	0.767	0.803	0.863	0.634	0.731	0.711	0.899	0.794
Semi-supervised	LSTM _{semi}	0.753	0.841	0.854	0.611	0.713	0.697	0.895	0.784
	CNN _{semi}	0.759	0.848	0.850	0.630	0.723	0.706	0.889	0.787
Automatically annotated	WeFEND— WeFEND	0.807 0.824	0.858 0.873	0.846 0.880	0.751 0.751	0.795 0.810	0.776 0.783	0.863 0.898	0.817 0.836

- LIWC-LR achieves the worst performance. The reason is that LIWC-LR is a linear model and hard to discriminate the complicated distributions of fake and real news content

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- In the semi-supervised setting, since the number of data largely increases (using unlabeled data to enlarges size of training set), the performance improvement in both models