Experiments

RQ1: Performance Evaluation

	Model	POL		GOS	
		ACC	F1	ACC	F1
News Only	SAFE [36]	73.30	72.87	77.37	77.19
	CSI [23]	76.02	75.99	75.20	75.01
	BERT+MLP	71.04	71.03	85.76	85.75
	word2vec+MLP	76.47	76.36	84.61	84.59
News + User	GNN-CL [8]	62.90	62.25	95.11	95.09
	GCNFN [17]	83.16	83.56	96.38	96.36
	UPFD (ours)	**84.62***	**84.65***	**97.23****	**97.22*****

- Observe that UPFD has the best performance comparing to all baselines.
- UPFD outperforms the best baseline GCNFN around 1% on both datasets with statistical significance
- Result of UPFD and GCNFN demonstrate that user comments (used by GCNFN) are also beneficial to fake news detection
- The user endogenous preference could impose additional information when user comment information is limited
- Since all baselines either encode the news content or user comments without considering the historical posts, prove the historical posts as user endogenous preferences could improve the fake news detection performance.

Stars denote statistically significant under the t-test ($*$ $p \leq 0.05$, $**$ $p \leq 0.01$, $***$ $p \leq 0.001$)

(Ours): Note that the UPFD with the best performance on the both datasets uses BERT as the text encoder and GraphSAGE as the graph encoder.

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Research Questions

- **RQ1:** How are the performances of the proposed UPFD framework compared to previous works?
- **RQ2:** What are the contributions of endogenous/exogenous information and other variants of the proposed framework?