

# Experiments

## Effectiveness of Dual Emotion Features

Source	Emotion Features	R-19	W-16	W-20
Content	Emoratio	0.185	0.553	0.524
	EmoCred	0.253	0.564	0.542
	<b>Publisher Emotion</b>	0.290	0.571	0.573
Comments	<b>Social Emotion</b>	0.296	0.692	0.754
Content, Comments	<b>Emotion Gap</b>	0.332	0.716	0.746
	<b>Dual Emotion Features</b>	<b>0.337</b>	<b>0.728</b>	<b>0.759</b>

- Publisher Emotion is **more effective** than EmoCred and Emoratio, especially on the RumorEval.
  - It's reveals the **effectiveness** of Dual Emotion Features in modeling emotional signals.
- Moreover, observe that **more improvements** of Social Emotion and Emotion Gap,
- Using Dual Emotion Features can further obtain enhancements on the three datasets.
- \*Clarified that RumourEval-19 are rather worse than the two Chinese datasets.
  - Because of the **amount of news pieces is small** and there is a relatively low inter-annotator agreement for the dataset.

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## Effectiveness of different types features

Removed type	R-19	W-16	W-20
Emotion Category	0.193	0.679	0.686
Emotion Lexicon	0.239	0.715	0.745
Emotional Intensity	0.216	0.725	0.750
Sentiment Score	0.245	0.723	0.743
Other Auxiliary Features	0.307	0.653	0.722
<b>Dual Emotion Features</b>	<b>0.337</b>	<b>0.728</b>	<b>0.759</b>

- The macro F1 scores of Dual Emotion Features **all decrease regardless** of the removed type of emotion features.
- Thus, it reveals the **necessity** of using five types of emotion features jointly.