

# SARSASM TARGET IDENTIFICATION

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# PROBLEM STATEMENT

## ► Sarcasm Target Identification

1. Extracting Sarcasm target - Entity or situation being ridiculed in a sarcastic text.
2. Input: Sarcastic text
3. Output:
  - ▶ Subset of words in the sentence that point to the sarcasm target
  - ▶ Fall-back label ‘Outside’
4. What’s the need?
  - ▶ Challenge to sentiment analysis.
  - ▶ Example: “*My cell phone has an awesome battery that lasts 20 minutes.*”

# DATASET

- ▶ <https://github.com/Pranav-Goel/Sarcasm-Target-Detection>
- ▶ Manually annotated
  - ▶ Book Snippets (224)
  - ▶ Sarcastic Tweets (506)

	<b>Snippets</b>	<b>Tweets</b>
Count	224	506
Average #words	28.47	13.06
Vocabulary	1710	1458
Total words	6377	6610
Average length of sarcasm target	1.6	2.08
Average polarity of sarcasm target	0.0087	0.035
Average polarity of portion apart from sarcasm target	0.027	0.53

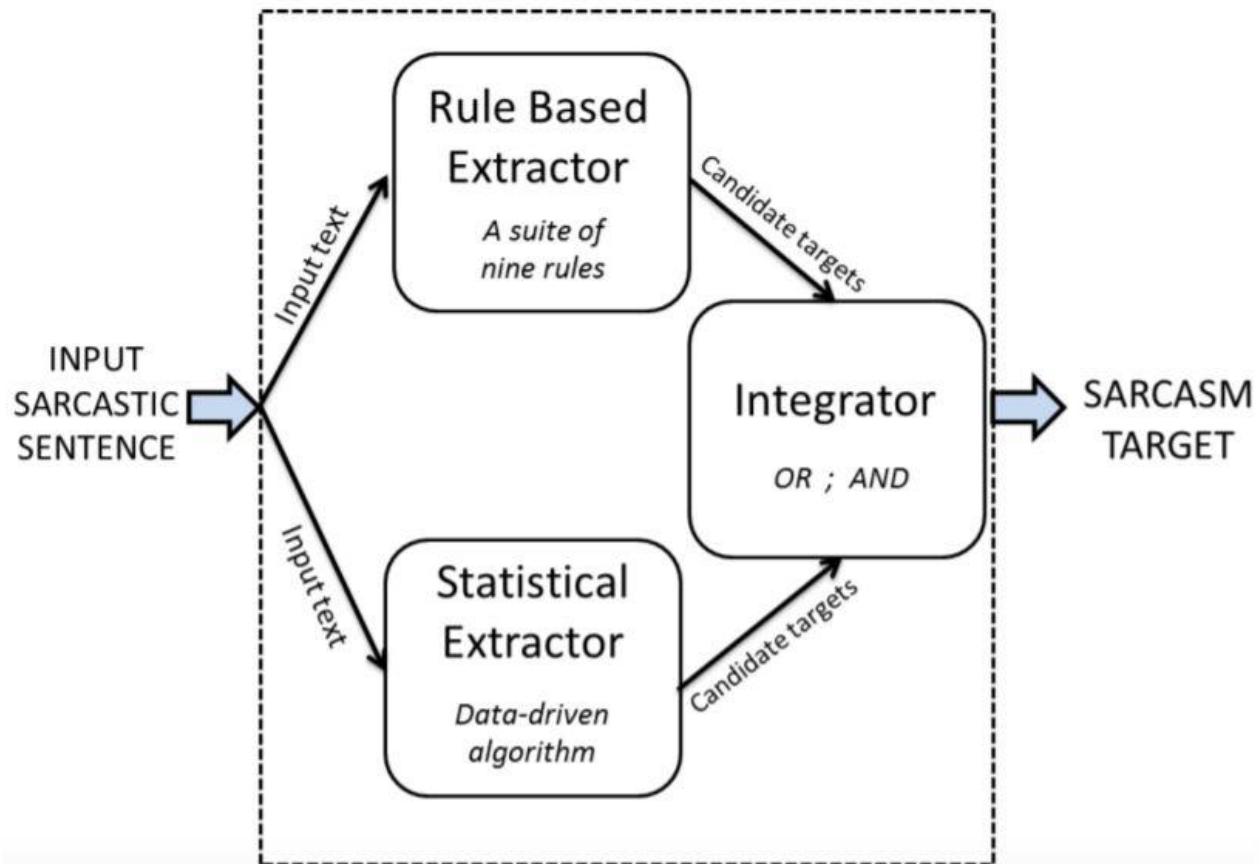
# RELATED WORK

- ▶ **Research Paper:** Sarcasm Target Identification: Dataset and An Introductory Approach <http://www.lrec-conf.org/proceedings/lrec2018/pdf/583.pdf>
- ▶ **Rule Based Extractor**

Our rule-based extractor consists of nine rules that take as input the sarcastic sentence, and return a set of candidate sarcasm targets.
- ▶ **Statistical Extractor**

The statistical extractor uses a classifier that takes as input a word (along with its features) and returns if the word is a sarcasm target.

# ARCHITECTURE

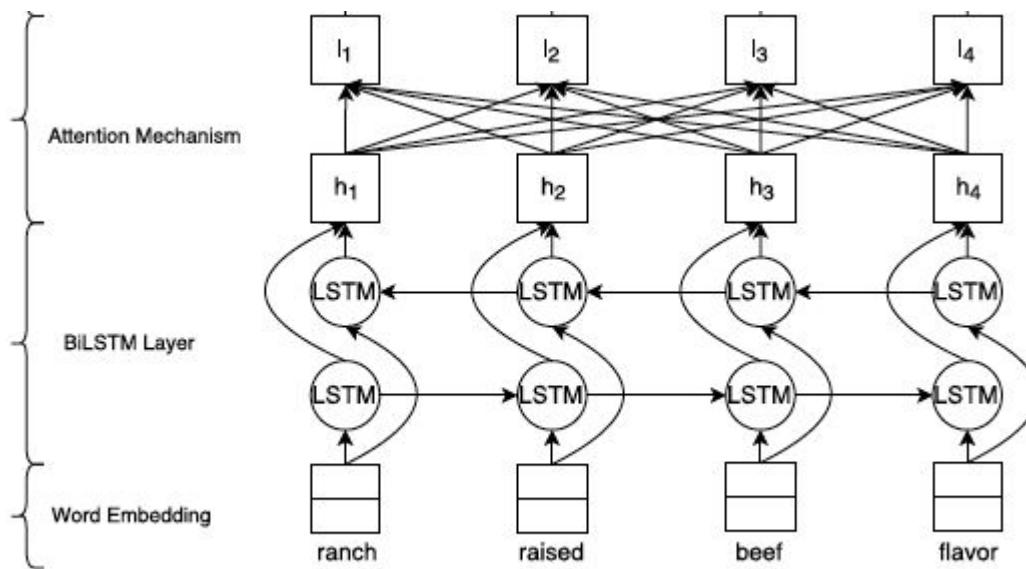


- ▶ Challenges
  - ▶ Presence of multiple candidate phrases
  - ▶ Multiple sarcasm targets
  - ▶ Absence of a sarcasm target word (the ‘Outside’ case)
- ▶ Experiment Setup
  - ▶ Training Method: SVM (RBF Kernel)
  - ▶ Exact Match (EM) Accuracy and Dice Score (DC)
- ▶ Results

Approach	EM	DC
Hybrid OR	9.09	32.68
Hybrid AND	13.45	21.28

# PROPOSED METHOD

- ▶ 1) Bi-directional Long Short Term Memory Networks (Bi-LSTM)
- ▶ 2) Hierarchical Attention Networks (HAN)



# REFERENCES

- ▶ Sarcasm Target Identification: Dataset and An Introductory Approach  
Aditya Joshi et al. 2018  
<http://www.lrec-conf.org/proceedings/lrec2018/pdf/583.pdf>
- ▶ OpenTag: Open Attribute Value Extraction from Product Profiles  
Guineng Zheng et al. 2018  
<https://arxiv.org/pdf/1806.01264.pdf>