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Putting automatic sarcasm detection into context

The effects of class imbalance and manual labelling on supervised machine classification of twitter conversations



Background

Sarcasm radically alters a phrase's meaning, and its detection can help improve NLP tasks.

Prior work uses (1) balanced datasets, while sarcasm is rather rare, and (2) hashtag labelled examples, which introduces biases.



Method

Manually vs automatically (#) labelled corpora.

5 feature category combinations.*

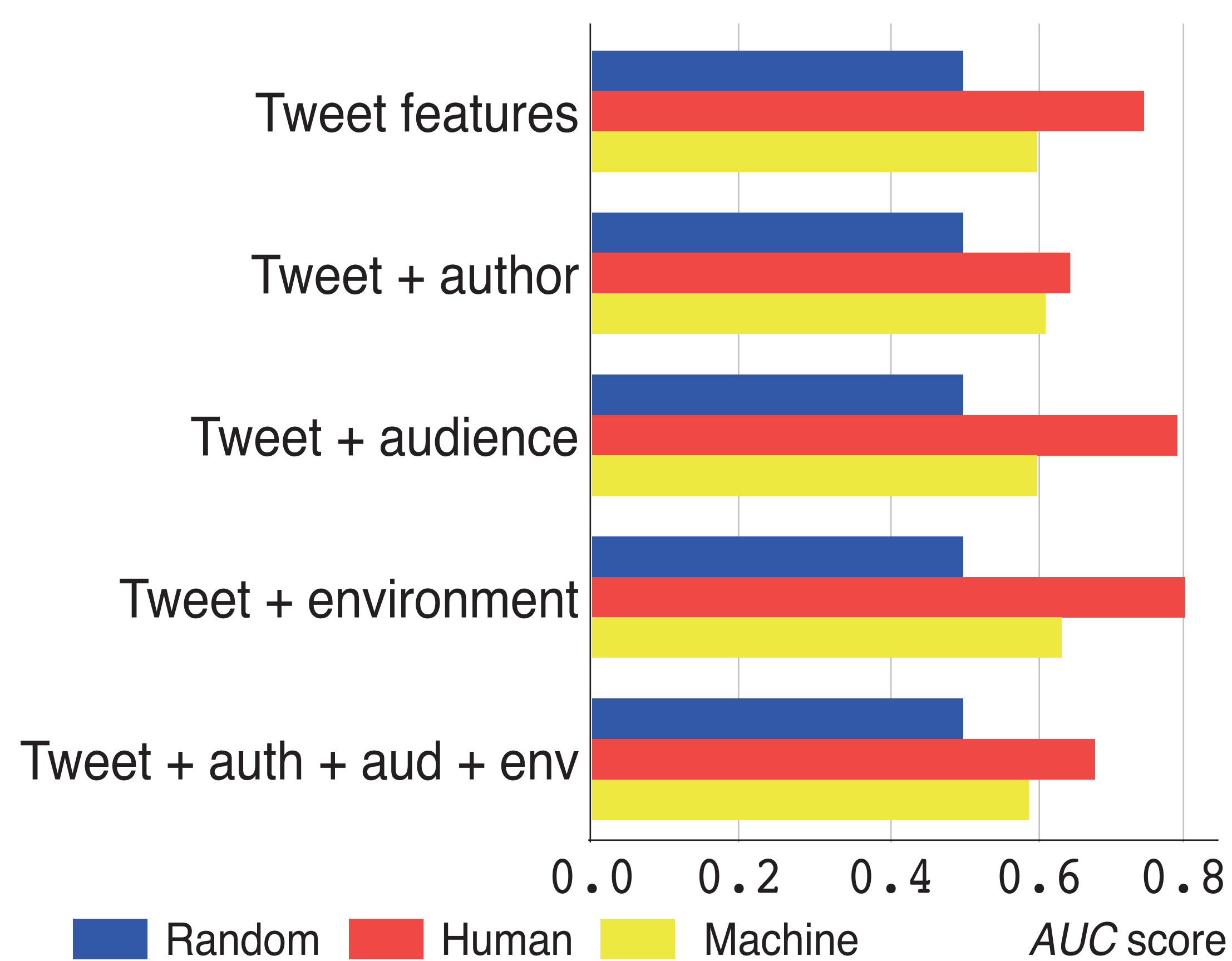
Human sarcasm recognition experiment with 60 participants.

Machine classification comparing labelling method and class balance.

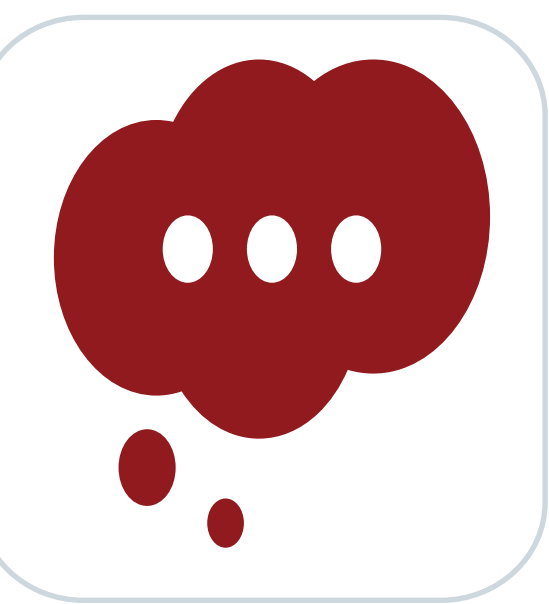
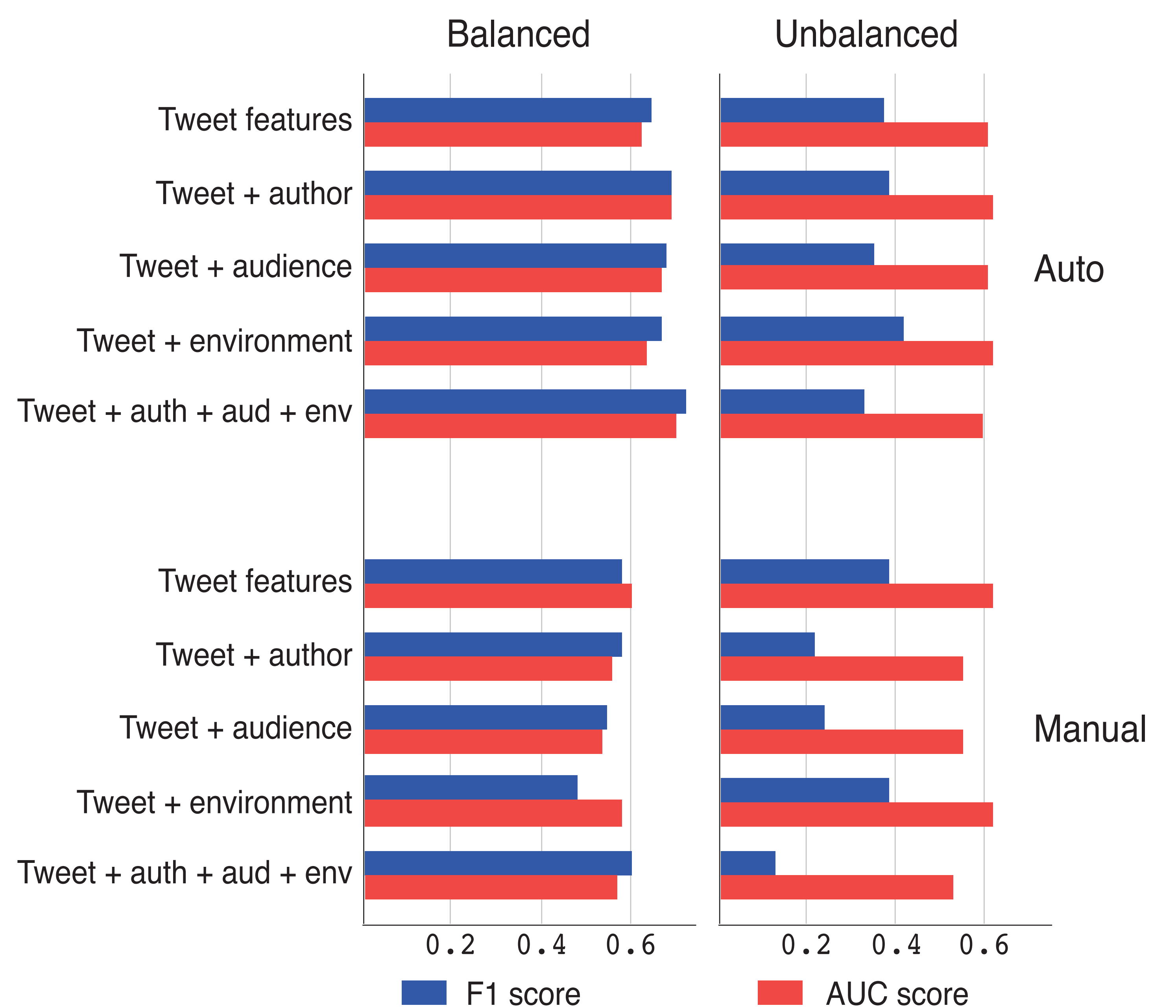


Results

Human vs machine performance



Class balance & labelling method



Conclusions

& future work

Class balance and labelling method should be considered for this task. Future work to focus on improving the size and quality of corpora.

*Following David Bamman and Noah A Smith. 2015. Contextualized sarcasm detection on twitter. In *Ninth International AAAI Conference on Web and Social Media*.