

Sarcasm as Contrast between a Positive Sentiment and Negative Sentiment

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Novel bootstrapping algorithm that learns lists of positive sentiment phrases and

“ "Bootstrapping algorithm that automatically learns phrases corresponding to negative sentiments and phrases corresponding to negative situations" p. 705

Bootstrapped learning of positive sentiments and negative situations

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"Our goal is to create a sarcasm classifier for tweets that explicitly recognizes contexts that contain a positive sentiment contrasted with a negative situation" p. 706

They're learning phrases that have positive or negative connotations using a single seed word "love" and a collection of sarcastic tweets.

“ "Operates on the assumption that many sarcastic tweets contain both a positive sentiment and a negative situation in close proximity, which is the source of the sarcasm" p. 706.

They focus on positive verb phrases and negative complements to that verb phrase.

They don't parse because, well, parsing tweets is messy and hard. Instead they use just part of speech tags and proximity as a proxy for syntactic structure.

“ "We harvest the n-grams that follow the word 'love' as negative situation candidates. We select the best candidates using a scoring metric and add them to a list of negative situation phrases. p.706

“ Next we exploit the structural assumption in the opposite direction. Given a sarcastic tweet that contains a negative situation phrase, we infer that the negative situation phrase is preceded by a positive sentiment. We harvest the n-grams that precede the negative situation phrases as positive sentiment candidates, score and select the best candidates, and add them to the list of positive sentiment phrases" (p. 706)

Using only 175,000 tweets... Quite small for such distantly supervised stuff to work.

They use #sarcasm as indicative of the sarcastic class.

They use part of speech patterns to identify verb phrases and noun phrase.

They're scoring each candidate based upon how well they correspond with sarcasm. E.g. "we score each candidate sentiment verb phrase by estimating the probability that a tweet is sarcastic given that it contains the candidate phrase preceding a negative verb phrase" p. 708

and "we score each remaining candidate by estimating the probability that a tweet is sarcastic given that it contains the predicative expression near (within 5 words) of a negative situation phrase"

“ We found that the diversity of positive sentiment verb phrases and predicative expressions is much lower than the diversity of negative situation phrases

Makes good sense that they found this ^ However, they seem to have more stringent filtering for the positive expressions...

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