Sentiment Analysis of Term in Context: Task A

Polarity of the target: positive, negative, neutral?
Tweet: The movie is visually spectacular, target is positive
Tweet: The movie felt like a slow documentary, target is negative
Tweet: The NatGeo documentary was fascinating, target is neutral

Improving Sentiment Lexicons

We proposed a lexicon-based approach (Kiritchenko et al., 2014) to determine the sentiment of words in affirmative and negated context.

1. Hashtags or emoticons are used as the gold labels of sentiment in tweets (Mohammad, 2012).
2. A tweet corpus is split into two parts: Affirmative Context Corpus and Negated Context Corpus.

List of Features

- **sentiment lexicon**: # sentiment words, score
- **word n-grams**: spectacular, like documentary
- **char n-grams**: spect, docu, visua
- **part of speech**: N: 5, V: 2, A:1
- **negation**: Neg: 1;
- **word clusters**: probably, definitely, def
- **all-caps**: YES, COOL
- **punctuation**: !?: 1, ??: 0, !??: 0
- **emoticons**: :D, >(
- **hashtags**: #excited, #NowPlaying
- **elongated words**: soooo, yaayyy

The NRC-Canada-2014 System

Results: Task A

Conclusions

Best micro-averaged results over all 5 datasets in both tasks.
Message-level task: best results on 3 out of 5 datasets; term-level task: best results on 2 out of 5 datasets.
Most useful features: sentiment lexicons, especially automatic tweet-specific lexicons.

NRC Sentiment Lexicons are available for download: www.purl.com/net/sentimentoftweets

Results: Task B

Press Release:

We present a sentiment analysis system which determines both term- and message-level polarity of a message.

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Polarity of the message: positive, negative, neutral?
Tweet: The movie is visually spectacular, target is positive
Tweet: The movie felt like a slow documentary, target is negative
Tweet: The NatGeo documentary is at 7pm, target is neutral

Discriminating Negation Words

- Different negation words, e.g., never and didn’t, often have different effects on sentiment (Zhu et al., 2014; Taboada et al., 2011).
- In our term-level system, we take this into consideration. For example, a word acceptable is treated as acceptable _before_ never and acceptable _cannot_ when it appears after word never and cannot, respectively.