Figurative language annotation

Annotating non literal language on a corpus of tweets

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Annotation task: literal vs figurative

What

- Distinguishing between literal tweets vs figurative tweets.

How

- Annotate whether the meaning of a tweet is literal or not (figurative).
- Classify figurative language according to types.
- Train a classifier with the annotated corpus.

Corpus used

- The corpus from the *Sentiment Analysis of Figurative Language in Twitter* task at SemEval 2015 http://alt.qcri.org/semeval2015/task11/)

Pros:

- A corpus of non literal language.
- Originally annotated for sentiment analysis.
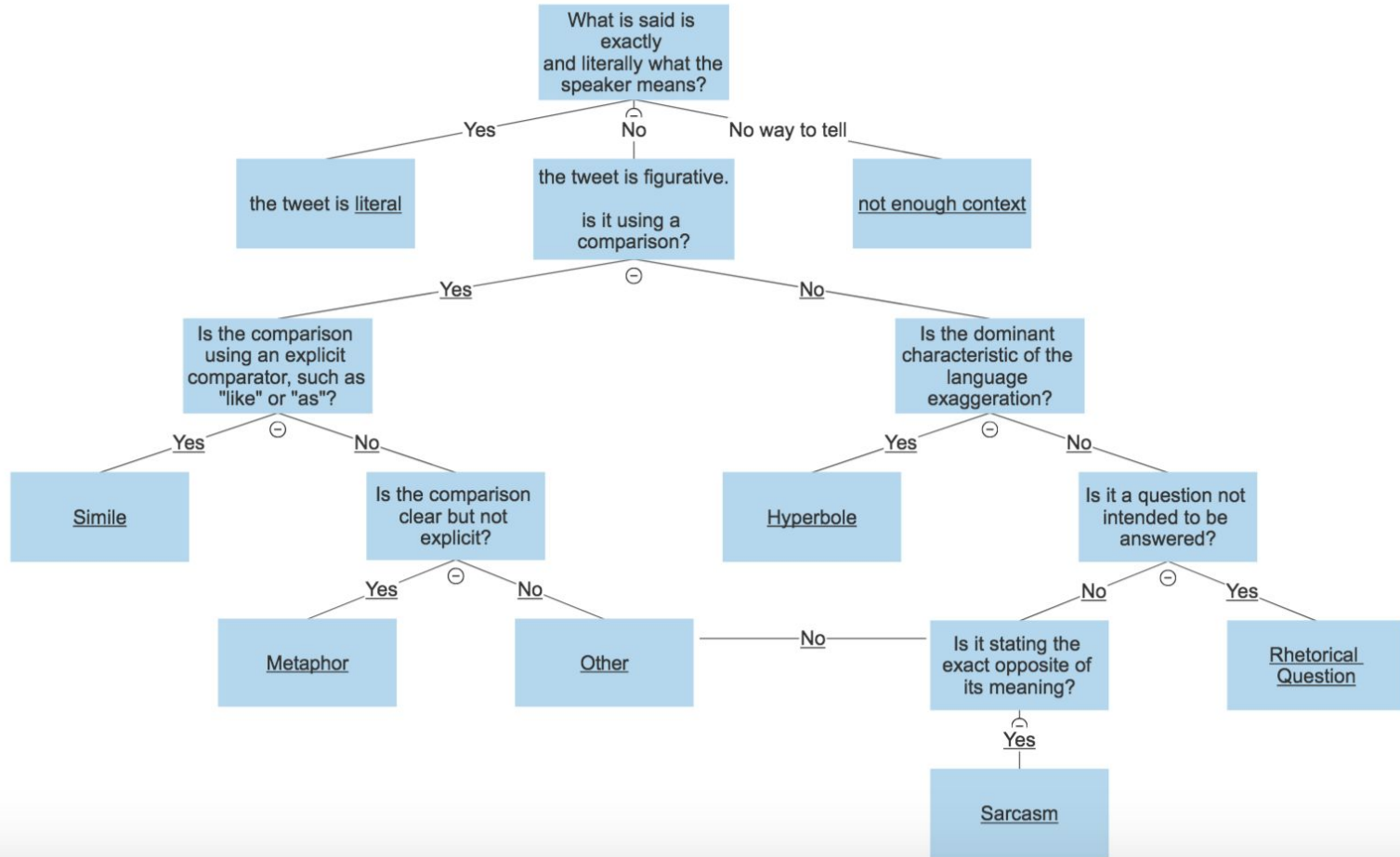- No literal/figurative annotation.

Cons:

- Mostly sarcastic comments (the corpus was scrapped using keywords like *#not, #sarcasm* or *literally*)

Guidelines and annotation scheme

- Literal
- Figurative
    - Sarcasm
    - Hyperbole
    - Simile
    - Metaphor
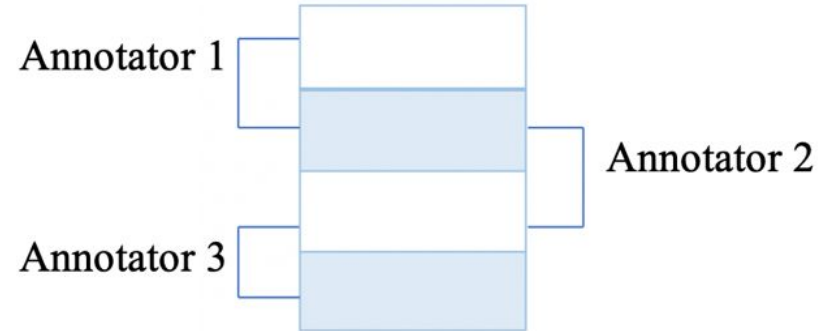   - Rhetorical question
    - Other
- Not enough context

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                          What is said is
                              exactly
                         and literally what the
                           speaker means?
                                  ⊖
        Yes                      No              No way to tell

                          the tweet is figurative.
  the tweet is literal                                          not enough context
                            is it using a
                            comparison?
                                 ⊖
              Yes                                 No

     Is the comparison                              Is the dominant
     using an explicit                             characteristic of the
     comparator, such as                              language
     "like" or "as"?                                exaggeration?
            ⊖                                              ⊖
   Yes          No                               Yes            No

  Simile      Is the comparison                Hyperbole      Is it a question not
              clear but not                                   intended to be
              explicit?                                       answered?
                    ⊖                                                ⊖
        Yes            No                                    No            Yes

     Metaphor          Other          No          Is it stating the      Rhetorical
                                                  exact opposite of       Question
                                                  its meaning?
                                                        ⊖
                                                       Yes

                                                     Sarcasm
```

Annotation settings

Tool: MAE

Data preparation:

- 120 tweets for sample annotation
- 480 tweets for full annotation

IAA calculations

IAA on full annotation	Annotator 1 & 2	Annotator 2 & 3
<Cross-tag>Multi-Pi (Fleiss' Kappa) [Figurative, Literal, Not_enough_context]	0.6133	0.2206
<Cross-tag> Multi-Kappa (Huberts' Kappa) [Figurative, Literal, Not_enough_context]	0.6184	0.2804
<Tag-level> Multi-Pi (Fleiss' Kappa) Figurative::-	-0.1496	-0.3934
<Tag-level> Multi-Pi (Fleiss' Kappa) Figurative::type	0.7874	0.7264

Gold standard

- overlapped data

  adjudication on MAE, check the disagreed tweets

- non-overlapped data

Classifier

- Logistic classifier
- BOW features

Shape of model coefficients and intercepts: (3, 1721) (3,)

	precision	recall	f1-score	support
Figurative	0.73	0.86	0.79	57
Literal	0.78	0.41	0.54	34
Not_enough_context	0.10	0.25	0.14	4
micro avg	0.67	0.67	0.67	95
macro avg	0.54	0.51	0.49	95
weighted avg	0.72	0.67	0.67	95

	precision	recall	f1-score	support
Hyperbole	0.00	0.00	0.00	0
Literal	0.78	0.38	0.51	37
Metaphor	0.00	0.00	0.00	0
Not_enough_context	0.10	0.14	0.12	7
Other	0.00	0.00	0.00	0
Rhetorical question	0.00	0.00	0.00	0
Sarcasm	0.74	0.73	0.73	51
Simile	0.00	0.00	0.00	0
micro avg	0.55	0.55	0.55	95
macro avg	0.20	0.16	0.17	95
weighted avg	0.71	0.55	0.60	95