

## How to Identify Agreements in Opinion Mining

When people express their opinions in forums opinion mining can be used towards agreement and disagreement analysis. Determining an orientation of some text towards agreement or disagreement can be crucial for discussion. Till 2007 most of the work that had been done on the text analysis using opinion mining was about finding the semantic orientation of text and not whether some text includes agreement or disagreement.

Stating an agreement or disagreement stance can provide reactions against events. The orientation of text has not been successful in revealing the agree-disagree aspect in a statement. Some statements can agree with a negative stance or disagree with a positive one as well. For example in the statement, 'I think you are right when you say that usage of arms can be dangerous', there is agreement with a negative connotation.

Discussion forums can be analyzed using a three step approach for agreement analysis.

1. **Representing Text as a Set of Words:** This can be done using automated tools. The idea is to tag or label each part of the text. There are nouns, adjectives and verbs in a sentence. Agreement is mainly expressed through the verbs like agree and nouns like agreement. The labeling and tagging of adjectives is not essential in this regard as they are not key determinants for agreement expressions. Negativity or negation is also taken into account. This is done by replacing the words that are preceded by negation with their antonyms i.e. if they exist like replacing 'I do not agree' with 'I disagree'.
2. **Constructing Lists Showing Agreement or Disagreement Words:** getting a seed list of words that provide categories showing agreement and disagreement can be useful in this regard. This can be achieved through reliable word seed lists available online. This list can be expanded by adding synonyms and antonyms of each of the words found in the list.
3. **Calculating Distance between Text Words & Seed List:** Similarity measures can be used in this case to find out the relative distance between the lists of words created. A popular similarity measure is distributional similarity in which each word that is present in the set of text words is compared to the each word in the seed list. As an important aspect of this similarity measure two maximum similarity values are to be estimated for each word. One value will be for agreement and the other for disagreement. Each comment in a forum thus can be assigned a score for agreement and disagreement. This is done according to the number for words that are more similar to agreements than disagreements and vice versa.

This is a popular technique used in online forums for agreement identification. It identifies agreement more easily than disagreement and also have shown that the previous techniques that has been used for agreement identification needed to be enriched. It is because of the fact that agreement is often implicit and not explicitly stated by some specific words that could be captured by a seed list.

Moreover the language that is being used in forums not satisfying any literature needs but is merely comprehensible for people communicating through forums. Many techniques have been used by human analysts to find out the degree of agreement in sentences. These are now achieved through automated tools that can provide different means to identify the nature of statements.