Sentiment Analysis

Machine Learning

Sentiment Analysis

- Detect polarity (e.g. a positive or negative opinion), or emotions (eg. happy, sad, angry) or even intent (query, complaint, suggestion) within a text
- The text could be a review (product, movie, book, restaurant), a whole document, a paragraph, a sentence, or even a clause.
- Applications: Customer service, Social Media / Reviews / Email monitoring, Market Research.
- Approaches: Lexicon based, ML based

Lexicon based

- A lexicon maps each word to a polarity (eg. positive/negative)
- Count the number of positive and negative words
- If number of positive is greater, conclude a positive sentiment.

	word	sentiment
	<chr>	<chr>
1	abacus	trust
2	abandon	fear
3	abandon	negative
4	abandon	sadness
5	abandoned	anger
6	abandoned	fear
7	abandoned	negative
8	abandoned	sadness
9	abandonment	anger
10	abandonment	fear

... with 13,891 more rows

Machine Learning based

- Extract feature vectors from a document
- use labeled training data
- to train a classifier

Challenges

- Facts Vs Opinions
- Irony and Sarcasm
- Comparisons, Emojis
- It is a challenging task even for human beings!