

# **What is Sentiment Analysis?**

## **Limitations**

# Predicting Elections through Twitter

- Some people think you can use sentiment analysis to tell how people feel about different candidates
- This [Guardian article](#) and more in-depth [IEEE article](#) talk about why that does not work
  - Twitter's user base is not representative of the American public - for starters Twitter users are generally younger
  - Volume of tweets changes based on who is in the news, more than true sentiment for a given candidate.
- A [Fast Company article](#) has another take: The people whose sentiment is positive towards one candidate are *different* from the people who are positive about the other; you're measuring who is tweeting more, not overall sentiment

# Tricking Sentiment Analysis

- Textfooler is a system created by people at MIT that replaces words in sentences with words that humans recognize as synonyms that changes the polarity read by a machine
  - [The code](#)
  - [Their article](#) (behind a paywall)
  - A [NextWeb article](#) describing it

# Places Sentiment Analysis can be inaccurate - Sarcasm

- Taken from this [Toptal article](#)
- Sarcasm - negative sentiment expressed using positive words
- There are lots of ways to be sarcastic
- Neural networks can be trained to detect sarcasm

# Places Sentiment Analysis can be inaccurate - Negations

- Taken from this [Toptal article](#)
- Negation - make the words have the opposite sentiment of what they seem to
- Often, negation happens using words like “not” sometimes right before the word “this was not good,” but sometimes it takes a while “I do not call this film a comedy movie”
- Sometimes, it just means there are no negative words - for example “with this act, it will be his first and last movie”

# Places Sentiment Analysis can be inaccurate - Ambiguity

- Taken from this [Toptal article](#)
- Ambiguity - words that can be positive OR negative given context
- “The steering wheel is unpredictable” is bad, while “The plot is unpredictable” can be good

# Places Sentiment Analysis can be inaccurate - Multipolarity

- Taken from this [Toptal article](#)
- Some parts of the sentence are positive, but others are negative.
  - For example: The audio quality of my new laptop is **so cool** but the display colors are **not too good**.

# DISCUSSION

## **What sort of things shouldn't we use sentiment analysis for? Why?**

- Think back to the reviews you looked at - were any of the limitations of sentiment analysis on display? How?
- What other things might sentiment analysis not be good at? Why?



## Exit ticket: Unit 2.05 - Limitations of Sentiment Analysis

Your friend is trying to see if Burger King or McDonald's is more popular based on a program checking the sentiment of today's Twitter feed on both. Is this a good idea? Why or why not?



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