FRONT PAGE

Dr. Kelly Epley

The most effective way to get readers' attention is to make them feel something
Joy to the weed! Legal marijuana lands on
KOHLE

The most effective way to get readers' attention is to make them feel something
HOT BUTTON ISSUE
EMOTIONAL EXPRESSION
Joy to the weed! Legal marijuana lands on
KOHLER

SCARY!
CANCER?

Research shows:

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- Negative emotion headlines are quicker to go *viral*[1]

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- Negative emotion headlines are quicker to go *viral*[1]
- Positive emotion headlines get more social media interactions *over time*[2]

How do you optimize engagement?

front_page

- Collects headlines from news websites
- Supplies a detailed report and summary of the emotion content

FRONT PAGE DEMO:

The Trouble With Being an Asian Guy on Tinder
- Joy:91.0%
- Surprise:83.0%

Word Polarities:
{'neg': 0.252, 'neu': 0.748, 'pos': 0.0, 'compound': -0.4019}

Chance the Rapper Does Not Want to Perform as a Hologram After He Dies
- Anger:68.0%
- Disgust:71.0%
- Fear:83.0%
- Joy:53.0%
- Sadness:98.0%
- Surprise:81.0%

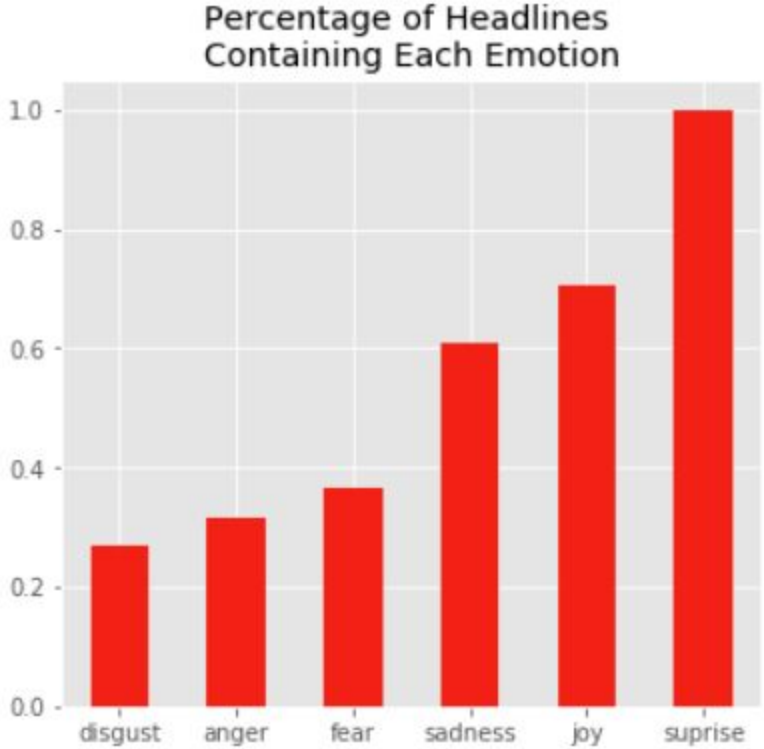
Word Polarities:
{'neg': 0.086, 'neu': 0.773, 'pos': 0.141, 'compound': 0.1969}

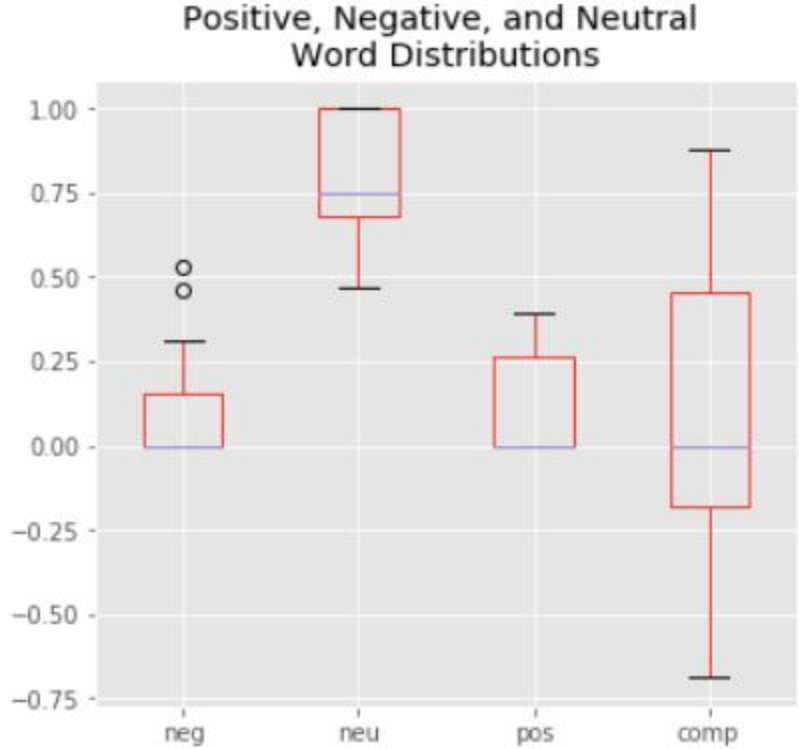
What's So Scary About Our Likely Next Director of National Intelligence
- Anger:56.00000000000001%
- Fear:68.0%
- Sadness:86.0%
- Surprise:76.0%

Word Polarities:
{'neg': 0.224, 'neu': 0.577, 'pos': 0.199, 'compound': -0.101}

It's Startling How Much Veronica Mars Anticipated #MeToo
- Joy:73.0%
- Sadness:81.0%
- Surprise:84.0%

Word Polarities:
{'neg': 0.0, 'neu': 0.843, 'pos': 0.157, 'compound': 0.0772}


Percentage of Headlines
Containing Each Emotion
1.0
0.8
0.6
0.4
0.2
0.0
disgust
anger
fear
sadness
joy
suprise


Positive, Negative, and Neutral
Word Distributions
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
neg
neu
pos
comp

MAKING FRONT PAGE

emotion detection

emotion detection

- Lexicons such as WordNet

emotion detection

- Lexicons such as WordNet
  - 85% label correspondence!

emotion detection

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    - … *when the lexicon words are present*

emotion detection

- Lexicons such as WordNet
  - 86% label correspondence!
    - … *when the lexicon words are present*
- Lexicon words:

emotion detection

- Lexicons such as WordNet
  - 85% label correspondence!
    - … *when the lexicon words are present*
- Lexicon words:
  - Were present in less than 10% of data

emotion detection

- Lexicons such as WordNet
  - 85% label correspondence!
    - … *when the lexicon words are present*
- Lexicon words:
  - Were present in less than 10% of data
  - Usually couldn’t catch multiple labels

Can we *automate* emotion detection?

- With a lexicon alone:
  - Jaccard Score: 0.02

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JACCARD SCORE: # of correct labels out of total predictions

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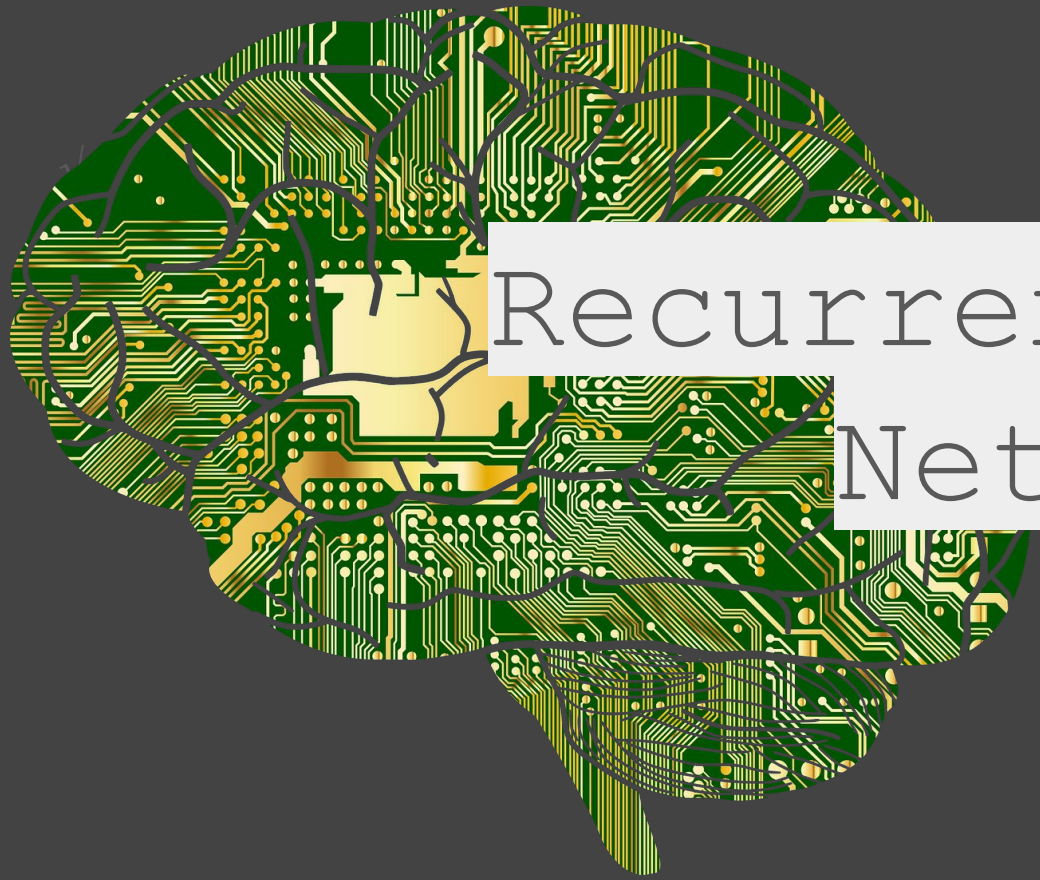
JACCARD SCORE: # of correct labels out of total predictions

We can do better...



Recurrent Neural Network

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- RNNs are ideal for *natural language processing*

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Recurrent Neural Network

- RNNs are ideal for *natural language processing*
  - Designed to handle sequential data
    - Long Short Term Memory layers retain information about previously seen data
  - Capable learning how emotion language works: words, syntax, and context

Jaccard Scores

- Lexicon: 0.02
- RNN: 0.71

Jaccard Scores

- Lexicon: 0.02
- **RNN: 0.71**

front_page()

source attribute:

- 4 options:
  - ‘npr’
  - ‘slate’
  - ‘fox’
  - ‘breitbart’

methods:

- get_headlines
- details
  - label scores
  - VADER valence
- summary

Thanks

FRONT PAGE

is on Github