My Twitter Sentiment Analysis

Brendan Dagys

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Install the necessary packages. 'syuzhet' is for sentiment analysis. 'tm' and 'SnowballC' are used for text mining and analysis.

```
# install.packages('SnowballC')
# install.packages('tm')
# install.packages('twitteR')
# install.packages('syuzhet')

library(SnowballC)
library(tm)

## Loading required package: NLP

library(twitteR)
library(syuzhet)
```

Information obtained from the Twitter app I created, to access tweets:

```
consumer_key = 'd6GKPh9ZlKV4Ykw2993HYrZij'
consumer_secret = 'UiJnzMTF2XSOObheQhtZHpm3hIcW60fkwYSysoOKew2ZlD4e4V'
access_token = '407474301-TzBGvNUmB7GejkwOr5KyzdC7eEV00ZREOQljuTK3'
access_secret = 'R81TuefVAOckYPfW3rm9tPQfmukMluuo26RY2XFbgyyHm'
```

Obtaining 94 tweets from my Twitter account:

```
setup_twitter_oauth(consumer_key, consumer_secret, access_token,
access_secret)

## [1] "Using direct authentication"

tweets = userTimeline('BrendanDagys', n = 2000)

n.tweet = length(tweets)

tweets.df = twListToDF(tweets)
```

We now will remove hashtags, mentions, and URLs from the 'text' field.

```
head(tweets.df$text)

## [1] "Team Ghost Nation"
## [2] "First writing session with the Axe :)"
## [3] "Why does Buckley's have a child-proof lid???"
## [4] "@quinncy Is this supposed to be funny?"
```

```
## [5] "@tleeproto @realDonaldTrump *You're"
## [6] "It's one of those days. Guitar all night."

tweets.df2 = gsub('#\\w+', '', tweets.df$text)
tweets.df2 = gsub('@\\w+', '', tweets.df2)
tweets.df2 = gsub('http://[^\\s]*', '', tweets.df2)
tweets.df2 = gsub('https://[^\\s]*', '', tweets.df2)
tweets.df2

##  [1] "Team Ghost Nation"
##  [2] "First writing session with the Axe :)"
##  [3] "Why does Buckley's have a child-proof lid???"
##  [4] " Is this supposed to be funny?"
##  [5] "  *You're"
##  [6] "It's one of those days. Guitar all night."
##  [7] ""
##  [8] "Test "
##  [9] "Djsuxjdndjdu test "
## [10] "Test "
## [11] "If I see one person out on my bike ride that is wearing a jacket, my
faith in humanity will be lost"
## [12] " Kiwi"
## [13] "   sgender somebody, you could be charged with a crime."
## [14] "  Look up Bill C-16."
## [15] "    When you walk away, you are the one that holds the cards.… "
## [16] "Night drives are the best therapy sometimes"
## [17] "Testing for 719 lol : test"
## [18] " She has a ton of cats."
## [19] "Is it cold today? \U0001f612"
## [20] "On team "Man In Black is a host.""
## [21] "Great workout today"
## [22] "Scrapping weight training for ear training."
## [23] "My gym mentality switches between: work harder than 95% of other
people and absolutely kill it, or: "meh, I have mo… "
## [24] "The iOS Reddit app updates and the fact that they actual provide
changelogs are what all apps should try to do"
## [25] "I get more satisfaction from matching brands than from matching
colors."
## [26] "Endless scale practice"
## [27] "It's depressing to think that if I was born 6000+ years ago I
probably wouldn't have been smart enough to come up w… "
## [28] "Rhythm changes"
## [29] "Can't believe there are so many people in jackets today."
## [30] "  Oh, you were just kidding? It seemed like you were triggered!"
## [31] "  John can like one thing that Kanye does without agreeing with
everything."
## [32] " Raps lose in four :("
## [33] " Shrek is love."
## [34] "Whenever a stranger asks me for the time I instantly forget how
clocks work."
```

```
## [35] "{ : "Great to see you rocking out at the service today!"}"
## [36] "No matter what I have to go on twitter before bed every night"
## [37] "\U0001f602 "
## [38] "When you're so coordinated that your belt matches your iPhone case.
"
## [39] "Finally made it to the gym on time"
## [40] "Just saw a CrossFit shirt: "We don't use machines, we build them."
\U0001f602\U0001f602"
## [41] "Today was just a hilarious day!"
## [42] "Needing coffee every morning is weakness. Needing a Slurpee every
morning is childish. I'm childish."
## [43] "Trying to remove my contacts more often but I can't see (how I'm
going to make a habit of it)"
## [44] "If you don't sigh loudly at least three times a day, are you even an
adult?"
## [45] "All I wanted today was a complement on my $5 belt but no I get
complements on everything else"
## [46] "Felt like dressing nicely today but remembered I have to take the
subway around 8 o'clock so NOPE"
## [47] "Uber is just a MAGNET for bad PR"
## [48] "Cookies are truly up there with cake and cinnamon rolls."
## [49] "Would die for some French toast right now"
## [50] "Orange might be my new favorite color of guitar pick"
## [51] "Trying to get back into a Jean Luc Ponty kick"
## [52] "I get far too disappointed when friends continuously work toward a
fitness goal but never change. I don't get it."
## [53] "Going to try for 5 hours of sleep tonight. I'm on Twitter, so it's
not looking good"
## [54] " Something we can agree on...Hedley officially sucks now"
## [55] "I'm not smart…I just put the time in."
## [56] "Coding is just trying all the syntax variations until it works"
## [57] "I hate JSON"
## [58] " Doesn't seem like a good way to win people's favor for your cause.
Allowed for sure, but unnecessar… "
## [59] "I've said it once and I'll say it again: CNN = Commercials + News
Network."
## [60] "It's deplorable how much I enjoy mundane coding."
## [61] "As long as the YorkU protesters conduct themselves like children and
block cars from getting where they need to go,… "
## [62] "One of my favorite things to do is message people on Kijiji who say,
"If the ad is up, it's available!!" and ask them just that."
## [63] "Kinda wanna try coffee and preworkout together one day"
## [64] "Dropping $30 on gum is so painful but so worth it over the next six
months"
## [65] "March snowfall 1/3 commencing..."
## [66] " I've always been perplexed by 'island'"
## [67] "  One of my favorite things about Twitter is reading the comments on
's tweets."
## [68] "The closest friends are often the least expected."
## [69] "Few things are better than falling asleep to the sound of rain."
```

```
## [70] " Benzaiten :)"
## [71] "It's been too long since I've fallen in love with an album on the
first listen."
## [72] "EQs just became my life."
## [73] "Is it ironic that a scandal is the reason House of Cards is ending?"
## [74] "Who needs cowbell in music when you have a cow?"
## [75] "Node"
## [76] "When you get a new phone and have to train it not to say 'duck.'"
## [77] " Only the headline matters."
## [78] "AirYork has taught me a valuable life lesson…if you fail once, try
again."
## [79] "What a perfect goal by Matthews!"
## [80] "Coffee breath is a thing, eh? \U0001f644"
## [81] "I get far too addicted to The Chainsmokers songs..."
## [82] "Don't really give a damn today so I will probably drive home with
the AC on the whole time"
## [83] "Going to Costco in a Smart car seems poorly thought out"
## [84] " It's funny how it was cracked and this is what finally breaks it"
## [85] "Has anyone ever met a muffin man?"
## [86] "First cardio day ever (basically)"
## [87] "I have cankles"
## [88] " *Trump supporters*"
## [89] "I'm guilty of somewhat enjoying having a white iPhone \U0001f649"
## [90] "You know the wifi is bad when you can't even load YouTube ads"
## [91] "So thankful that I can grow a full beard."
## [92] " Pencils are good pens."
## [93] " I applaud your optimism \U0001f44d\U0001f3fb"
## [94] "Not sure if tracking or mixing is more frustrating"
```

Now let's get the emotion score for each tweet. The 10 emotions are: anger, anticipation, disgust, fear, joy, sadness, surprise, trust, negative, positive.

```
emotion.df = get_nrc_sentiment(tweets.df2)
emotion.df2 = cbind(tweets.df2, emotion.df)
head(emotion.df2)

##                                         tweets.df2 anger anticipation disgust
## 1                                  Team Ghost Nation     0            0       0
## 2          First writing session with the Axe :)     0            0       0
## 3 Why does Buckley's have a child-proof lid???     0            1       0
## 4                  Is this supposed to be funny?     0            0       0
## 5                                           *You're     0            0       0
## 6     It's one of those days. Guitar all night.     0            0       0
##    fear joy sadness surprise trust negative positive
## 1     1   0       0        0     2        0        0
## 2     0   0       0        0     0        0        0
## 3     0   1       0        0     1        0        1
## 4     0   0       0        0     0        0        0
## 5     0   0       0        0     0        0        0
## 6     0   0       0        0     0        0        0
```

This function gives us a numeric sentiment value. Negative values are negative sentiments. I will find the positive and most negative tweets.

```
sentiment = get_sentiment(tweets.df2)

most_pos = tweets.df2[sentiment == max(sentiment)]
most_neg = tweets.df2[sentiment == min(sentiment)]

most_pos

## [1] " Doesn't seem like a good way to win people's favor for your cause.
Allowed for sure, but unnecessar… "
```

This result is interesting. Although the tweet is negative in nature, the presence of the words 'good', 'win', 'favor', and 'allow' likely triggered the sentiment function to evaluate this tweet as very positive. It will not be correct every time due to the nature of human language…

```
most_neg

## [1] "Needing coffee every morning is weakness. Needing a Slurpee every
morning is childish. I'm childish."

positive_tweets = tweets.df2[sentiment > 0]
negative_tweets = tweets.df2[sentiment < 0]
neutral_tweets = tweets.df2[sentiment == 0]

positive_tweets

##  [1] " Is this supposed to be funny?"
##  [2] "Night drives are the best therapy sometimes"
##  [3] "Great workout today"
##  [4] "The iOS Reddit app updates and the fact that they actual provide
changelogs are what all apps should try to do"
##  [5] "Endless scale practice"
##  [6] "  Oh, you were just kidding? It seemed like you were triggered!"
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everything."
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```

not looking good"
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first listen."
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again."
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[33] "So thankful that I can grow a full beard."
[34] " Pencils are good pens."
[35] " I applaud your optimism \U0001f44d\U0001f3fb"

negative_tweets

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faith in humanity will be lost"
[4] "   sgender somebody, you could be charged with a crime."
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adult?"
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## [16] "I get far too disappointed when friends continuously work toward a
fitness goal but never change. I don't get it."
## [17] "I hate JSON"
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block cars from getting where they need to go,… "
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the AC on the whole time"
## [24] "Going to Costco in a Smart car seems poorly thought out"
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## [26] "Not sure if tracking or mixing is more frustrating"

neutral_tweets

##  [1] "Why does Buckley's have a child-proof lid???"
##  [2] "  *You're"
##  [3] "It's one of those days. Guitar all night."
##  [4] ""
##  [5] "Test "
##  [6] "Djsuxjdndjdu test "
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## [29] " Only the headline matters."
## [30] "Coffee breath is a thing, eh? \U0001f644"
```

```
## [31] "Has anyone ever met a muffin man?"
## [32] "First cardio day ever (basically)"
## [33] "I have cankles"
```

Let's make a table of the distribution of sentiments.

```
sentiment_classes = ifelse(sentiment > 0, 'Positive', ifelse(sentiment < 0,
'Negative', 'Neutral'))

table(sentiment_classes)

## sentiment_classes
## Negative  Neutral Positive
##       26       33       35
```

I should try to be more positive, it seems.