Sentimental Analysis

Peyton Taylor

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```
library(SnowballC)
```

```
## Warning: package 'SnowballC' was built under R version 3.4.4
```

```
library(tm)
```

```
## Warning: package 'tm' was built under R version 3.4.4
```

```
## Loading required package: NLP
```

```
## Warning: package 'NLP' was built under R version 3.4.4
```

```
library(twitteR)
library(syuzhet)
library(httr)
```

```
## Warning: package 'httr' was built under R version 3.4.4
```

```
##
## Attaching package: 'httr'
```

```
## The following object is masked from 'package:NLP':
##
##     content
```

```
library(httpuv)
```

```
## Warning: package 'httpuv' was built under R version 3.4.4
```

```
library(openssl)
library(base64enc)
library(devtools)
library(wordcloud2)
library(RColorBrewer)
library(corpus)
library(ggplot2)
```

```
##
## Attaching package: 'ggplot2'
```

```
## The following object is masked from 'package:NLP':
##
##     annotate
```

1. Connecting to Twitter APIs

```
consumer_key <- "bMXLK2PbP0paYlAeKvBWCYpSA"
consumer_secret <- "Dk9gOBDhMx4SfdbjN9k5xfVPbL0QNYMoD1p8IOJOU0zlxiyoNv"

access_token<- "286503514-ZYAYpu8eT4CUBU63hINjxMCfxFkRqyvbKV7hqhdn"
access_secret<- "bZHRU6zVMuL6XavRjilnIOlZl69xwXB8SSMClM2sL1YGT"

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

```
## [1] "Using direct authentication"
```

2. Twitter Search— “Government Reparations”

```
ST_tweets<- searchTwitter("Government Reparations", n = 75, since = "2018-01-01")

ST_tweets.df <- twListToDF(ST_tweets)

write.csv(ST_tweets.df, file = "ShotTracker_Tweets.csv")

## Get only Text

get_ST_txt<- sapply(ST_tweets, function(x) x$getText())
```

3. Clean Text/Remove html links

```
ST_tweets_clean <- gsub("(RT|via)((?:\\b\\W*\\@\\w+)+)","", get_ST_txt )
ST_tweets_clean <- gsub("http[^[:blank:]]+", " ", ST_tweets_clean )
ST_tweets_clean <- gsub("[^[:alnum:]]", " ", ST_tweets_clean)

write.csv(ST_tweets_clean, "ST_tweets.csv")

ST_twt_data<- ST_tweets_clean
```

4. Creating Wordcorpus and Cleaning

```
ST_twt_data <- VCorpus(VectorSource(ST_twt_data))
ST_twt_data <- tm_map(ST_twt_data, removePunctuation)
ST_twt_data <- tm_map(ST_twt_data, content_transformer(tolower))
ST_twt_data <- tm_map(ST_twt_data, stripWhitespace)
ST_twt_data <- tm_map(ST_twt_data, removeWords, stopwords("english"))
```

5. Get Sentiment

```
ST_sntmt <- get_nrc_sentiment(ST_tweets_clean)

head(ST_sntmt)
```

```
##   anger anticipation disgust fear joy sadness surprise trust negative
## 1     0            0       0    1   0       0        0     0        1
## 2     0            1       1    1   0       0        0     0        1
## 3     0            1       1    0   0       0        0     0        0
## 4     0            0       0    1   1       1        0     0        3
## 5     0            0       0    1   0       1        0     0        2
## 6     0            0       0    0   0       0        0     0        0
##   positive
## 1        1
## 2        0
## 3        0
## 4        1
## 5        0
## 6        0
```

```
ST_sntmt.df<- data.frame(colSums(ST_sntmt[,]))

names(ST_sntmt.df)<- "Scores"

ST_sntmt.df <-cbind("Sentiment" = rownames(ST_sntmt.df),ST_sntmt.df)

rownames(ST_sntmt.df)<- NULL

ST_sntmt.df
```

```
##       Sentiment Scores
## 1         anger     36
## 2  anticipation     30
## 3       disgust     12
## 4          fear     65
## 5           joy     22
## 6       sadness     19
## 7      surprise     11
## 8         trust     45
## 9      negative     71
## 10     positive     71
```

6. Plot data

```
plot_sentiment<-ggplot(ST_sntmt.df, aes(x=Sentiment, y=Scores)) + geom_bar(aes(fill=
Sentiment), stat = 'Identity') + xlab("Sentiment") + ylab("Scores") + ggtitle("Sentim
ental Analysis: 'Government Reparations'")

plot_sentiment
```