Universitat Pompeu Fabra Barcelona

Twitter Crawler

Web Intelligence

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Introduction:

- Trying to choose a trending topic which people could both have positive and negative opinions about, we came up with **flu shots** .cipot
- We derived 50 tweets from each continent - the tweets extracted from 5 different countries of each continent based on their influenza statistics.
- Polarity and subjectivity analysis is applied to have a general idea about people’s opinion on flu shots.

Source: https://www.who.int/influenza/surveillance_monitoring/updates/1=au?fdp.359_etadpu_ecnallievrus_20_01_2020

Information retrieval:

- created_at
- text
- country
- location
- followers
- friends
- listed_count
- favourites_count
- verified
- statuses_count
- contributors_enabled
- profile_image_url

```
csv.write(str(data["user"]["name"]) + ",")
csv.write(str(data["created_at"]) + ",")
csv.write((str(data["text"]).replace("\n","").replace(","","")) + ",")
if(data["place"] is None):
    csv.write("America" + ",")
else:
    csv.write(str(data["place"]["country"]) + ",")

if(data["place"] is None):
    csv.write("General" + ",")
else:
    csv.write(str(data["place"]["name"]) + ",")

csv.write(str(data["user"]["followers_count"]) + ",")
csv.write(str(data["user"]["friends_count"]) + ",")
csv.write(str(data["user"]["listed_count"]) + ",")
csv.write(str(data["user"]["favourites_count"]) + ",")
csv.write(str(data["user"]["verified"]) + ",")
csv.write(str(data["user"]["statuses_count"]) + ",")
csv.write(str(data["user"]["contributors_enabled"]) + ",")
csv.write(str(data["user"]["profile_image_url"]) + ",")
#csv.write(str(data["user"][""]) + ",")
#csv.write(str(data["user"][""]) + ",")
#csv.write(str(data["user"][""]) + ",")
#csv.write(str(data["user"][""]) + ",")

# Write New User Data
csv.write("\n")
```

Information retrieval:

- Polarity
- Subjectivity
- Compound

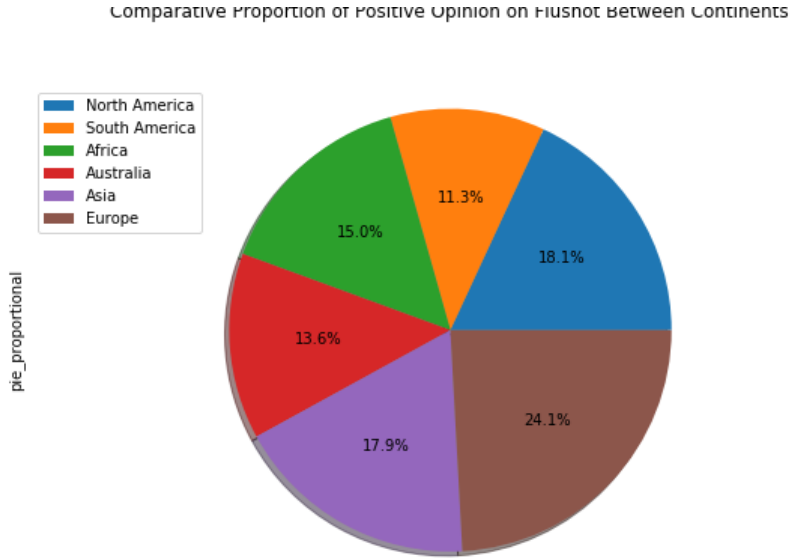
```
from textblob import TextBlob
from vaderSentiment.vaderSentiment import SentimentIntensityAnalyzer

def analysis(tweets):
    analyzer = SentimentIntensityAnalyzer()
    polarity_blob=0
    subjectivity_blob=0

    count = 0
    for texti in tweets.text:
        analysis = TextBlob(texti)
        polarity_blob += analysis.sentiment[0]
        subjectivity_blob += analysis.sentiment[1]
        count+=1
    print("average polarity with TextBlob = ", polarity_blob / count )
    print("average subjectivity with TextBlob = ", subjectivity_blob / count )
#-------------------------------------------------------------------------------
-------------
    compound_vader=0

    count1 = 0
    for texti in tweets.text:
        vs = analyzer.polarity_scores(texti)
        compound_vader += vs['compound']
        count1+=1
    print("average compound with Vader = ", compound_vader / count1)

    pol=polarity_blob/count
    sub = subjectivity_blob/count
    com = compound_vader/count1
    return pol,sub,com
```

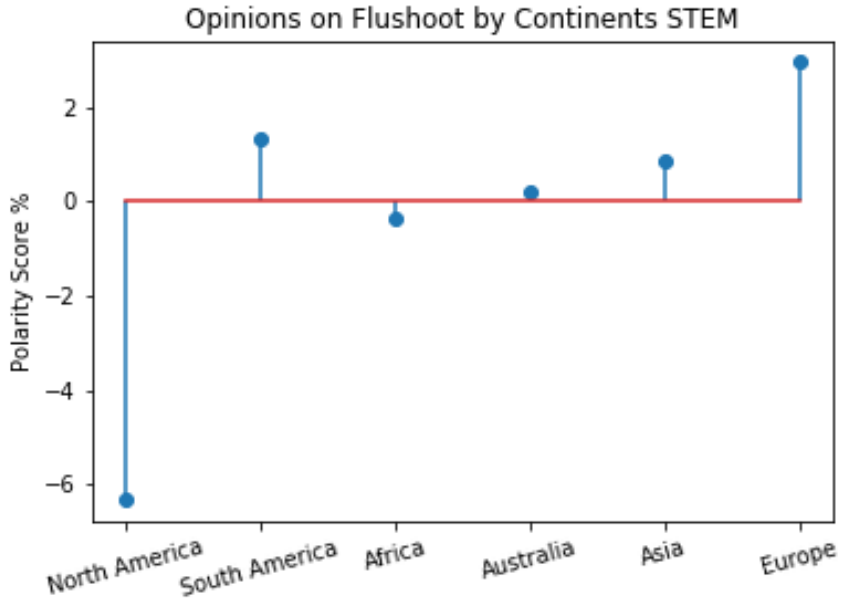
Analysis:

	Polarity	Subjectivity	Subjective Pol	Compound
North America	0.162447	0.305707	0.152193	0.205333
South America	0.093893	0.571879	0.095161	0.137749
Africa	0.126882	0.485016	0.126400	0.116658
Australia	0.114119	0.508934	0.114352	-0.027800
Asia	0.149232	0.528732	0.150512	0.161856
Europe	0.197321	0.574643	0.203134	0.224641

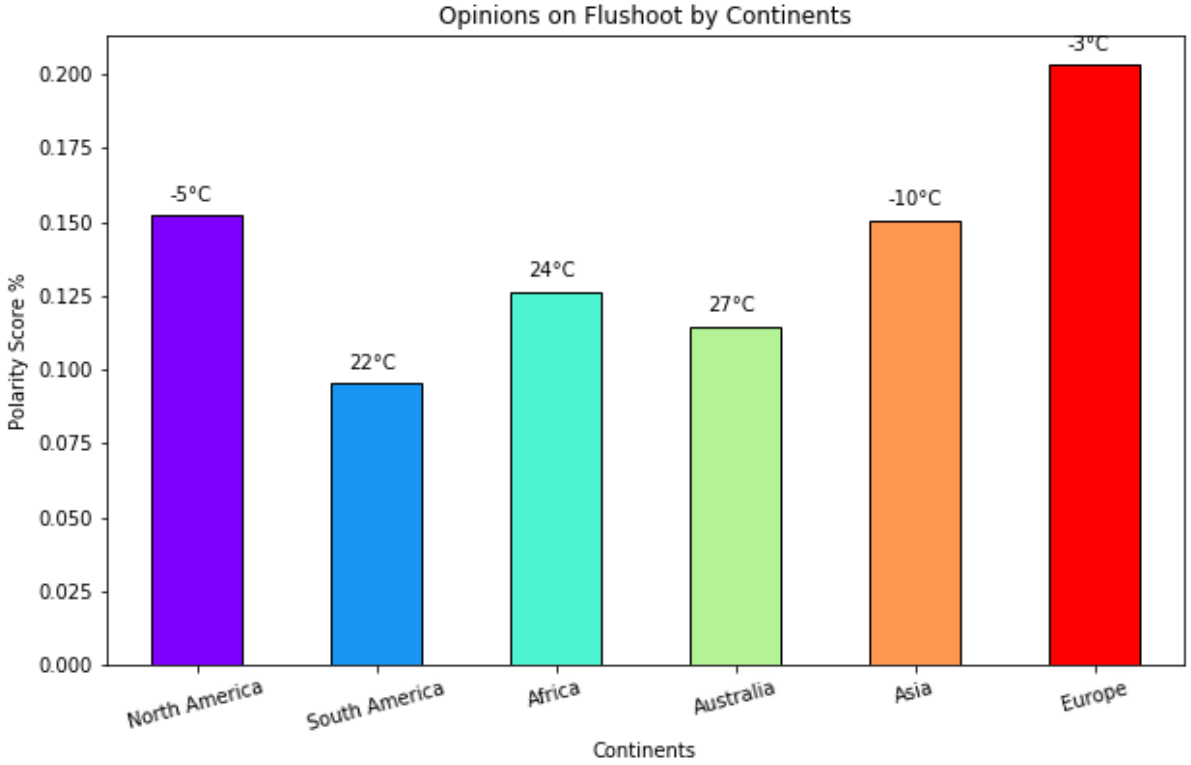
- Analyzed with TextBlob and Vader
- Subjective Pol shows Polarity score penalized by Subjectivity.
- Compound shows the results from Vader which also includes intensity of the sentiment.

Comparative Polarity Score by Continents:





Polarity Score with the Average Temperature:



Source: https://www.mapsofworld.com/world-maps/average-temparature-january-enlarge-map.html

statuses_count by country

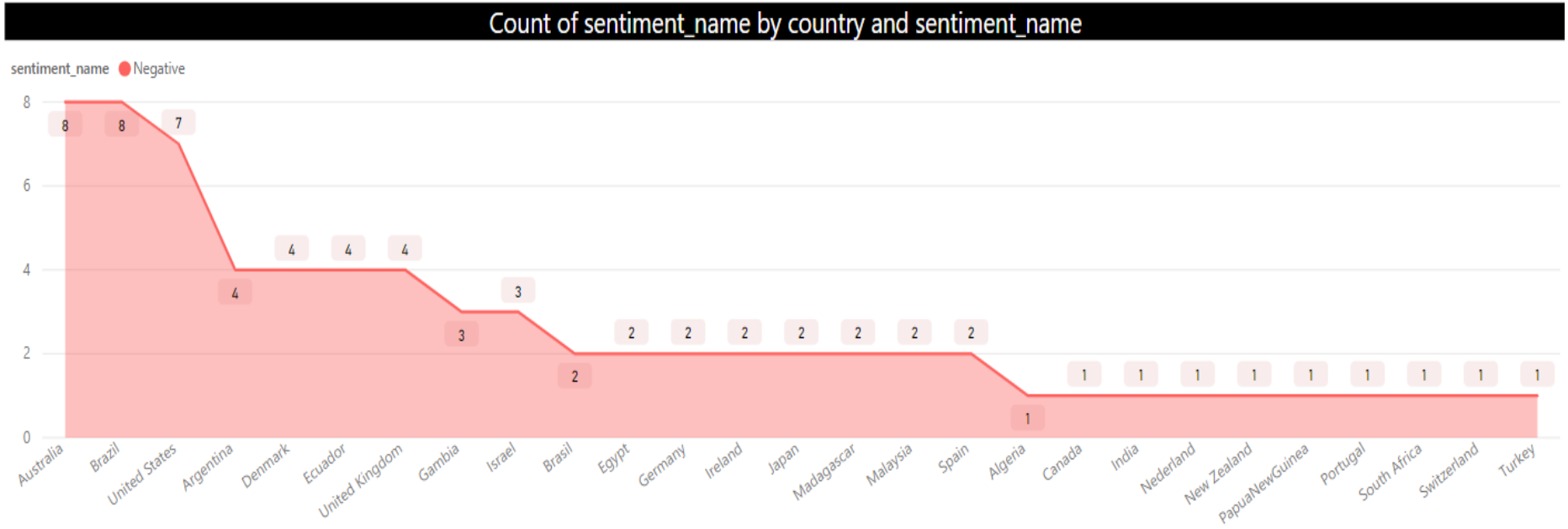
country	statuses_count
Australia	2804631
United States	1840653
Egypt	581005

followers by country

country	followers
United States	289397
Australia	128909
Madagascar	55054

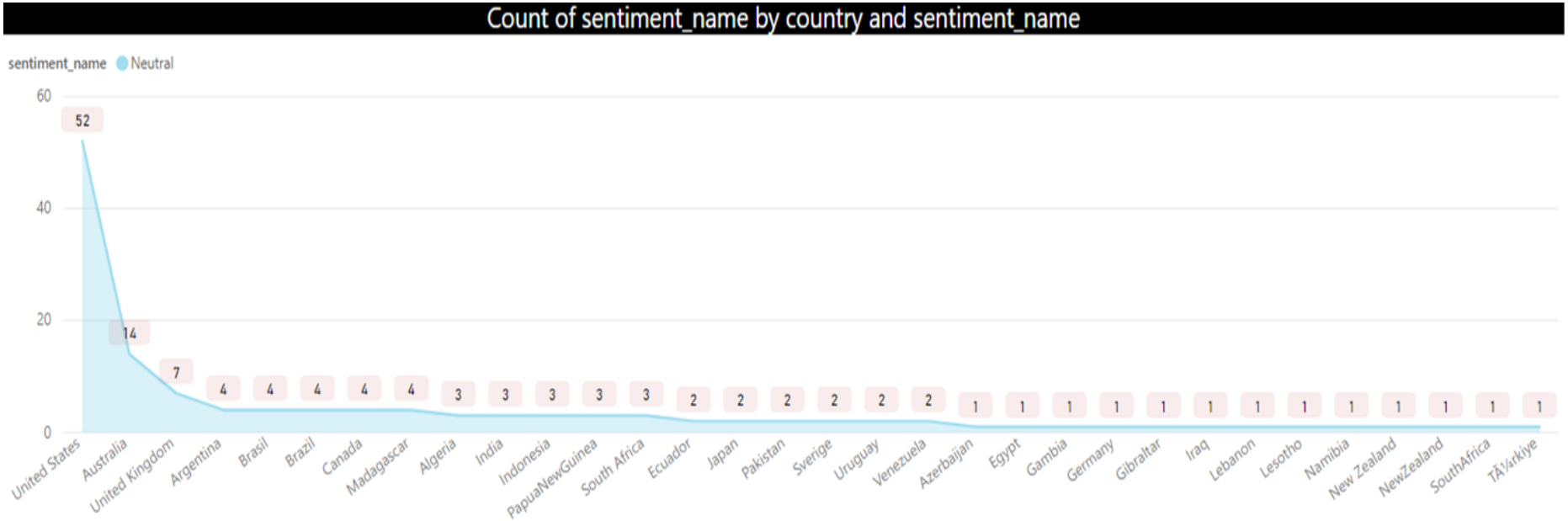
Polarity Count by Countries:

Negative:



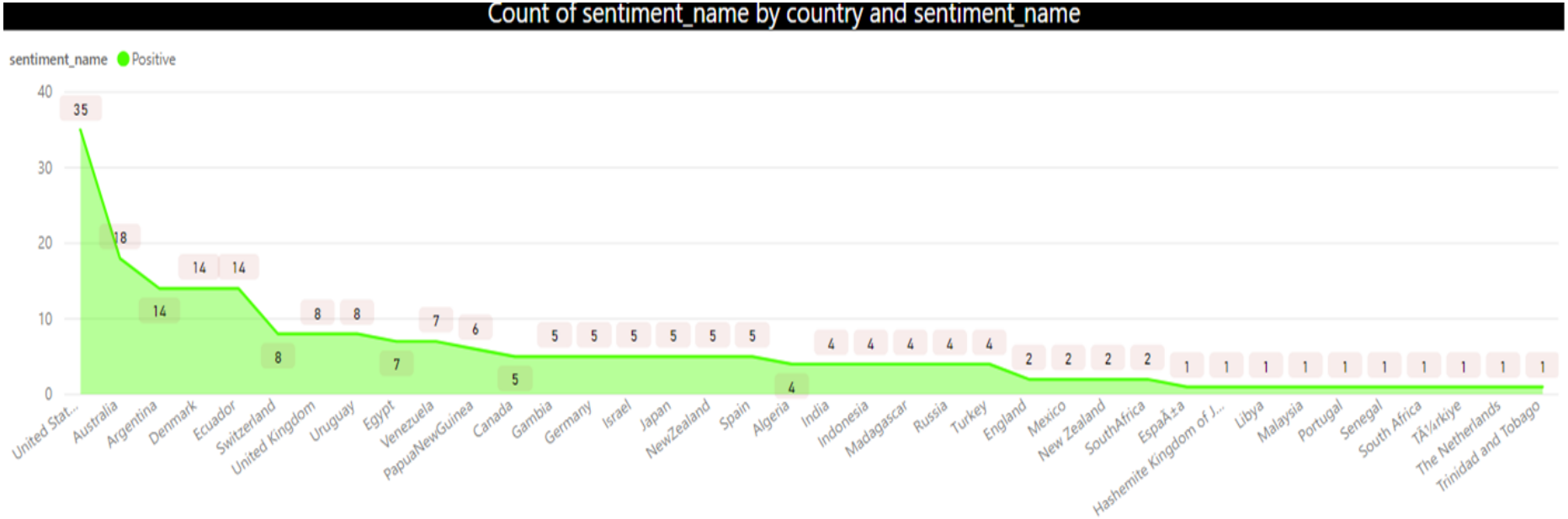
Polarity Count by Countries:

Neutral:



Polarity Count by Countries:

Positive:



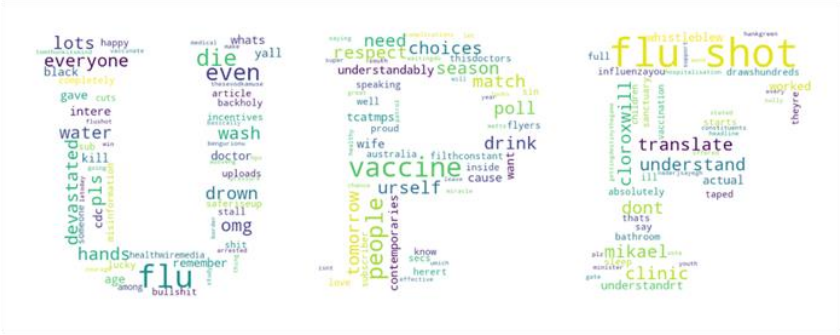
Conclusion:

- While country polarity varies, all the continents have positive polarity score.
- Colder continents have more positive opinion than warmer continent about flu shots.
- Getting historical tweets would lead us to have a better analysis, considering the yearly effect of global change in temperature .

Thank You!

Original Stencil

Twitter Generated Cloud



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