1. from textblob import TextBlob
2. import pandas as pd
3. import matplotlib.pyplot as pit
4. *# 0ef1ne a func II on to ana I çze sent1i»ent*

## us1ng Tex tBÍ ob

1. del ana1yze\_sentiment(text):
2. ana1ysis = TextB1ob (text)
3. sentiment = analy sis . sentiment

9

1â if sentiment.polarity › 0.2:

11 return “Positive“

12 exif sentiment.polarity ‹ 

13 return “Negative“

z‹ else:

15 return “Neutral“

16

# 17 # Load gour data frozi a ESV f1te (rep I ace

*)our\_ data. csv ' w1th )our data f1t e)*

18 df = pd . read\_csv( ' C : \\Users\\Viraj \\Downloads

\\comments\\sentiment-analysis.csv')

19

2â *# Extract the comments fnoi» the coiTb1ned co I uflin and ana I ¿ze sent1flient*

21 sentiments = []

22

1. for row in df [ ' Text, Sentiment, Source, Date/

Time, User ID, Location, Confidence Score ' ] :

1. if is instance (row, str): *# ¢heck If the*

## row 1s a str1ng

1. comment = row. split ( ' , ' ) [â] . strip () *# Sp III the coflib1ned co I uinn and take the f1rst part as the coi»flient*
2. sentiment = analy ze\_sentiment (comment
3. sentiments . append (sentiment)
4. else:
5. sentiments . append ( "N/A") # *handÏ e*

non - *str1ng va* t *ues*

3ô

1. *# Add the sent1inent ana t çs1s resu t ts as a new*

*cot umn to the 0ataFnaue*

1. df[ 'Sentiment ' ] = sentiments
2. # f lc>l&te the total Count o/ each *sentf* ent
3. total„count = ten(sentiments)
4. positive count = sentiments.count(“Positive”)
5. negative count = sentiments.count(“Negative”)
6. neutra{ count = sentiments.count(”Neutral”)

39

4ö *# ¢at eut ale the average percentages*

‹1 average„posîtîve = (posîtîve\_count / tota1\_count) •\* 1ÔÔ

1. average„negatîve = (negatîve\_count / tota1\_count) •t 1ôô
2. average„neutra1 = (neutra1\_count / tota1\_count) •\* 1ÔÔ
3. *# Save* the *updated 0ataFraflie to a new ¢SV f1te (rep face resu I Is. csv w1th )oun des1ned*

*ou tpu I f1t e)*

1. df . to„csv( ' results . csv' , index=Fa1se)

67

1. print(”Sentiment analysis results saved to ' results.csv' .“)
2. print(”\nAverage Sentiment:“)
3. print(f“Positive: Îaverage positive:.2f}%”)
4. print(f“Negative: Ïaverage negative:.2f}%”)
5. print(f“Neutral: Îaverage neutral:.2f}%”) 53
6. *# Save the updated 0ataFrai»e to a new ¢SV f1te (rep I ace resut Is. csv w1th gour dest red output f1 I e)*
7. df.to csv('results.csv', index=FaIse)

56

1. # Sener&te report And *save* it to text

*file*

1. report filename = 'sentiment report.txt'
2. with open(report filename, 'w') as report file:

6â report file.write(“Sentiment Analysis Report\n”)

1. report file.write(“\nAverage Sentiment:\n
2. report file.write(f“Positive: Ï average positive:.2f}%\n“)
3. report file.write(f“Negative: Ï average negative:.2f}%\n“)
4. report file.write(f“Neutral: Ï average neutra{:.2f}%\n“)
5. report file.write(“\nSentiment Counts:\n“
6. report file.write(f“Total: total count}\ n“)
7. report file.write(f“Positive: positive count}\n“)
8. report file.write(f“Negative: negative count}\n“)
9. report file.write(f“Neutral: neutra{ count}\n“)
10. report file.write(“\nSentiment Distribution:\n“)
11. report file.write(“Positive: Ï:.2f}%\n“. format(average positive))
12. report file.write(“Negative: Ï:.2f}%\n“.
    1. format(average negative))
    2. report file.write(“Neutral: {:.2f}%\n“. format(average neutral))

76

1. print ("Sentiment ana1ysis resu1ts saved to ' resu1ts . csv' .")
2. print ("Sentiment report saved to ' sentiment\_report . txt ' .")

77

# # Exazip! e sent!Sient counts, rep Late these

*Cth* §o&r act al *counts*

1. sentiment counts =
2. “Positive” average positive,
3. “Negative” average negative,
4. "Neutral" average\_neutra1

83 )

84

1. *# ¢re0te 0 bar ch0r I*
2. p1t . bar (sentiment\_count s . keys() , sentiment\_count s . values() , color= [ ' green ' , ' red ' , ' gray' ] )
3. p1t . x1abe1( ' Sentiment ' )
4. p1t . y1abe1( ' Percentage ' )
5. p1t . title (' Sentiment Distribution ' )
6. pit.xticks(rotation=0) # Aotote x-oxes

todets *1y needed*

91

# # Add I abe I s to tfie bars

1. for sentiment, percentage in sentiment\_count s . items ()
2. p1t . text(sentiment, percentage, f ' 1 percentage: . 2f}%' , ha= ' center' , va= ' bottom ' )

95

## # 01sp la) the bar chart

1. p1t . show()