

FA24: CMPE-272 Sec 48 - Enterprise SW Plat

Assignment 1 : In-class: Programming with LLMs

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Submission Date: 08/30/2024

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1.1.Takes a text string as input.

2.Outputs a message about the sentiment of the text string, whether it's "Positive", "Negative" or "Neutral".

```
sentiment_analysis.py > ...
1  from textblob import TextBlob
2
3  def analyze_sentiment(text):
4      blob = TextBlob(text)
5      sentiment_score = blob.sentiment.polarity
6
7      if sentiment_score > 0:
8          return "Positive"
9      elif sentiment_score < 0:
10         return "Negative"
11     else:
12         return "Neutral"
13
14
15  texts = [
16      "I Like Enterprise Software Course",
17      "I hate this fall. It's too sunny today",
18      "It's okay, we all can complete assignments by deadline !",
19  ]
20
21  for text in texts:
22      print(f"Text: {text}")
23      print(f"Sentiment: -- {analyze_sentiment(text)}")
24      print('-----')
25
26  if __name__ == "__main__":
27      text = input("Enter a text string for sentiment analysis: ")
28      sentiment = analyze_sentiment(text)
29      print(f"The sentiment of the text is: {sentiment}")
30
```

Output :

```
akshashe@Akshays-MacBook-Air sentiment_analysis % python3 sentiment_analysis.py
Text: I Like Enterprise Software Course
Sentiment: -- Neutral
-----
Text: I hate this fall. It's too sunny today
Sentiment: -- Negative
-----
Text: It's okay, we all can complete assignments by deadline !
Sentiment: -- Positive
-----
Enter a text string for sentiment analysis: i like SJSU campus
The sentiment of the text is: Neutral
```

2.Include the entire related LLM (ChatGPT) session history in your submission for this assignment, including all the prompts you used.

Link :

<https://chatgpt.com/share/d1fbf7d2-baad-4d0f-a262-2f02d36fcccb>

Sentiment Analysis Guide

3. Try Testing it on a sentiment dataset.

1.Downloaded the dataset from kaggle.

sentiment_analysis					sentiment_analysis							
textID	text	sentiment	Time of Tweet	Age of User Co	sentiment	Time of Tweet	Age of User	Country	Population_2020	Land Area (Km²)	Density (P/Km²)	
1676ee47db	Last session of the day http://twtplc.com/87zsh	neutral	morning	0-20	Alc	neutral	morning	0-20	Afghanistan	38939346	653950	59
96d74cb728	Shanghai is also really exciting [precisely - skyscrapers galore]. Good hoots in China: (SH) (BJ).	positive	noon	21-30	Alt	positive	noon	21-30	Albania	2877787	27400	105
eee518ae67	Recession hit Veronique Brancinho, she has to quit her company, such a shame!	negative	night	31-45	Alg	negative	night	31-45	Algeria	43851044	2381740	18
010e3588e6	happy today!	positive	morning	46-60	An	positive	morning	46-60	Andorra	77265	470	164
33907aee6	http://twtplc.com/5w75p - i like it!	positive	noon	60-70	An	positive	noon	60-70	Angola	32866272	1246700	26
728e501993	that's great!! weee!! visitors!	positive	night	70-100	An	positive	night	70-100	Antigua and Barbuda	97829	440	223
261932614e	I THINK EVERYONE HATES ME ON HERE lol	negative	morning	0-20	Arq	negative	morning	0-20	Argentina	45195774	2736690	17
afa11da83f	soooooo wish i could, but im in school and myspace is completely blocked	negative	noon	21-30	Arr	negative	noon	21-30	Armenia	2963243	28470	104
e64208b4ef	and within a short time of the last clue all of them	neutral	night	31-45	Au	neutral	night	31-45	Australia	25498884	7682300	3
37b0ad26ca	What did you get? My day is alright. haven't done anything yet. leaving soon to my stepister thought!	neutral	morning	46-60	Au	neutral	morning	46-60	Austria	9006398	834E+04	109
34c9264a4	My bike was put on hold...should have known that.... argh total bummer	negative	noon	60-70	Av	negative	noon	60-70	Azerbaijan	10199177	8658	123
63d390b326	i checked. We didn't win	neutral	night	70-100	Be	neutral	night	70-100	Bahamas	39344	10010	39
69d6b5d53e	...and you're on twitter! Did the tavern bore you that much?	neutral	morning	0-20	Be	neutral	morning	0-20	Bahrain	1701575	780	2239
5c1e0b61e1	I'm in VA for the weekend, my youngest son turns 2 tomorrow....it makes me kinda sad, he is getting so big, check out my twpics	negative	noon	21-30	Be	negative	noon	21-30	Bangladesh	16468983	130170	1265
504e45d0d9	Its coming out the socket. I feel like my phones hole is not a virgin. That's how loose it is... :(negative	night	31-45	Be	negative	night	31-45	Barbados	287375	430	668
ae93ad52a0	So hot today =_- don't like it and i hate my new timetable, having such a bad week	negative	morning	46-60	Be	negative	morning	46-60	Belarus	9449323	202910	47
9f0e30159e	Miss you	negative	noon	60-70	Be	negative	noon	60-70	Belgium	11586623	30280	383
00d5195223	Cramps ...	negative	night	70-100	Be	negative	night	70-100	Belize	397828	22810	17
03f190505f	you guys didn't say hi or answer my questions yesterday. but nice songs.	positive	morning	0-20	Be	positive	morning	0-20	Benin	12132000	112780	108
77718b3c23	I'm going into a spiritual stagnation, its exploding my ego! i now realise, i'm not all that great. and i'm ok with that.	neutral	noon	21-30	Be	neutral	noon	21-30	Bhutan	771608	3.81E+04	20
be44428b80	Stupid storm. No river for us tonight	negative	night	31-45	Be	negative	night	31-45	Bolivia	11873021	1093300	11
be634e9e60	My dad grandpa pays more attention to me than you do	negative	morning	46-60	Be	negative	morning	46-60	Bosnia and Herzegovina	3360819	51900	64
34c9f7f7c3	... need real therapy, bad. AHHH...gimme money geedus	negative	noon	60-70	Be	negative	noon	60-70	Botswana	2351627	566730	4
9be04109b0	about to go to sleep	neutral	night	70-100	Be	neutral	night	70-100	Brazil	212559417	8358140	25
8bc365119e	you are lame. go make me breakfast!	negative	morning	0-20	Be	negative	morning	0-20	Brunei	43749	5270	83
c0b0d456f7	thats so cool	positive	noon	21-30	Bu	positive	noon	21-30	Bulgaria	8648445	108580	64
345d469f45	new newbies, dont you just hate how new newbies hate. im just sat sitting on a sofa and watching death row to home animal.	neutral	night	31-45	Be	neutral	night	31-45	Burkina Faso	20803073	279000	76

2.test_dataset.py

```
test_dataset.py > ...
import pandas as pd
from sentiment_analysis import analyze_sentiment

# Absolute path to your CSV file
dataset_file = 'sentiment_analysis.csv'

encodings = ['utf-8', 'latin1', 'iso-8859-1', 'utf-16']

for encoding in encodings:
    try:
        data = pd.read_csv(dataset_file, encoding=encoding)
        print(f"Successfully read the file with encoding: {encoding}")
        dataset_path = 'sentiment_analysis.csv'
        df = pd.read_csv(dataset_file, encoding=encoding)

        if 'text' not in df.columns:
            print("The dataset does not contain a 'text' column.")
            break
        df['text'] = df['text'].astype(str)

        df['NEW_Sentiment'] = df['text'].apply(analyze_sentiment)
        print(df.head())
        df.to_csv('sentiment_analysis_results.csv', index=False)
        print(data.head()) # Print the first few rows to verify
        break
    except UnicodeDecodeError:
        print(f"Encoding {encoding} failed.")
    except Exception as e:
        print(f"An error occurred: {e}")
```

3. Output : The last column 'NEW_Sentiment' is added to the dataset.

```
akshashe@Akshays-MacBook-Air sentiment_analysis % python3 test_dataset.py
Text: I Like Enterprise Software Course
Sentiment: -- Neutral
-----
Text: I hate this fall. It's too sunny today
Sentiment: -- Negative
-----
Text: It's okay, we all can complete assignments by deadline !
Sentiment: -- Positive
-----
encoding utf-8 failed.
Successfully read the file with encoding: latin1
textID text sentiment Time of Tweet Age of User Country Population -2020 Land Area (Km²) Density (P/Km²) NEW_Sentiment
0 f87dea47db Last session of the day http://twitpic.com/67ezh neutral morning 0-20 Afghanistan 38928346.0 652860.0 60.0 Neutral
1 96d74cb729 Shanghai is also really exciting (precisely -... positive noon 21-30 Albania 2877797.0 27400.0 105.0 Positive
2 eee518ae67 Recession hit Veronique Branquinho, she has to... negative night 31-45 Algeria 43851044.0 2381740.0 18.0 Neutral
3 01082688c6 happy bday! positive morning 46-60 Andorra 77265.0 470.0 164.0 Positive
4 33987a8ee5 http://twitpic.com/4w75p - I like it!! positive noon 60-70 Angola 32866272.0 1246700.0 26.0 Neutral
-----
textID text sentiment Time of Tweet Age of User Country Population -2020 Land Area (Km²) Density (P/Km²)
0 f87dea47db Last session of the day http://twitpic.com/67ezh neutral morning 0-20 Afghanistan 38928346.0 652860.0 60.0
1 96d74cb729 Shanghai is also really exciting (precisely -... positive noon 21-30 Albania 2877797.0 27400.0 105.0
2 eee518ae67 Recession hit Veronique Branquinho, she has to... negative night 31-45 Algeria 43851044.0 2381740.0 18.0
3 01082688c6 happy bday! positive morning 46-60 Andorra 77265.0 470.0 164.0
4 33987a8ee5 http://twitpic.com/4w75p - I like it!! positive noon 60-70 Angola 32866272.0 1246700.0 26.0
```

4. GitHub repo Link:

https://github.com/ananya101001/SJSU_Enterprise_software_platform_CMPE_272

[Github- assignment LLMs](#)

Extra Credit:

- II Use a language model to help your team solve HackerRank coding problems, in the language of your choice:

I could only solve easy and medium problems.

Easy:

```
if __name__ == '__main__':  
    a = int(input())  
    b = int(input())  
  
    print(a+b)  
    print(a-b)  
    print(a*b)
```

Medium:

Done !