task4

August 15, 2024

[1]:
```
import pandas as pd
```

[2]:
```
df=pd.read_csv("sentimentdataset.csv")
```

[3]:
```
df.columns = df.columns.str.strip()
# Remove unnecessary columns
df = df.drop(columns=['Unnamed: 0', 'Unnamed: 0.1'])

# Convert 'Timestamp' to datetime
df['Timestamp'] = pd.to_datetime(df['Timestamp'])

# Check for missing values
missing_values = df.isnull().sum()

# Display cleaned DataFrame
df.head()
```

[3]:

	Text	Sentiment	Timestamp	User	Platform	Hashtags	Retweets	Likes	Country
0	Enjoying a beautiful day at the park!	Positive	2023-01-15 12:30:00	User123	Twitter	#Nature #Park	15.0	30.0	USA
1	Traffic was terrible this morning.	Negative	2023-01-15 08:45:00	CommuterX	Twitter	#Traffic #Morning	5.0	10.0	Canada
2	Just finished an amazing workout!	Positive	2023-01-15 15:45:00	FitnessFan	Instagram	#Fitness #Workout	20.0	40.0	USA
3	Excited about the upcoming weekend getaway!	Positive	2023-01-15 18:20:00	AdventureX	Facebook	#Travel #Adventure	8.0	15.0	UK
4	Trying out a new recipe for dinner tonight.	Neutral	2023-01-15 19:55:00	ChefCook	Instagram	#Cooking #Food	12.0	25.0	Australia

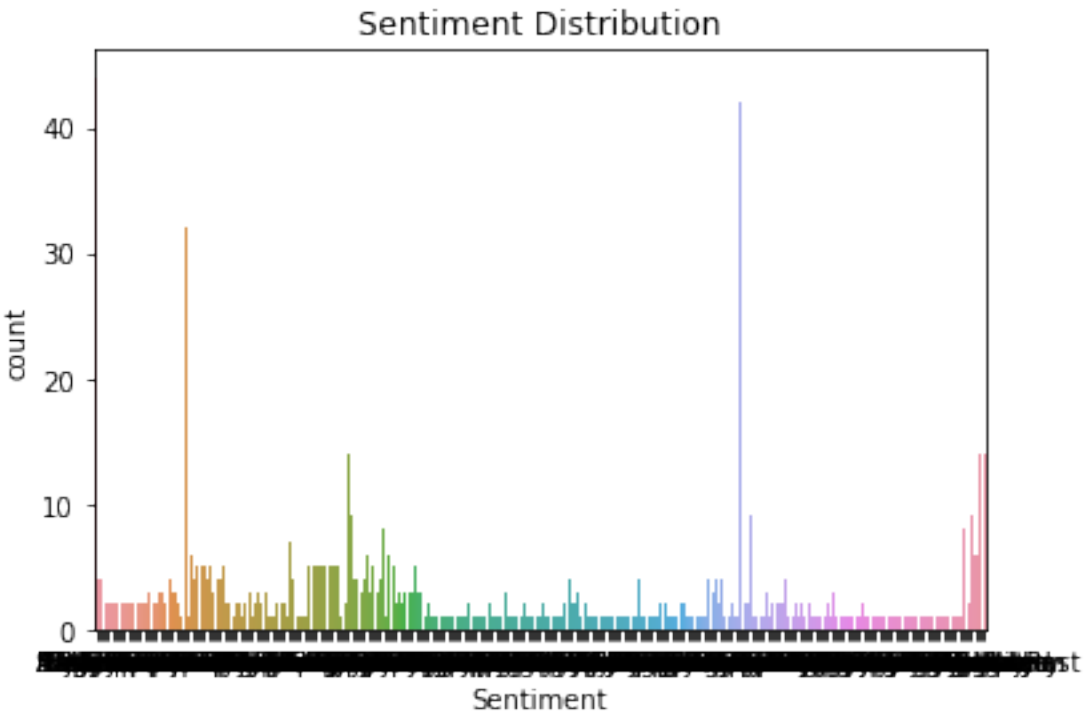
```
   Year  Month  Day  Hour
0  2023      1   15    12
1  2023      1   15     8
2  2023      1   15    15
3  2023      1   15    18
4  2023      1   15    19
```

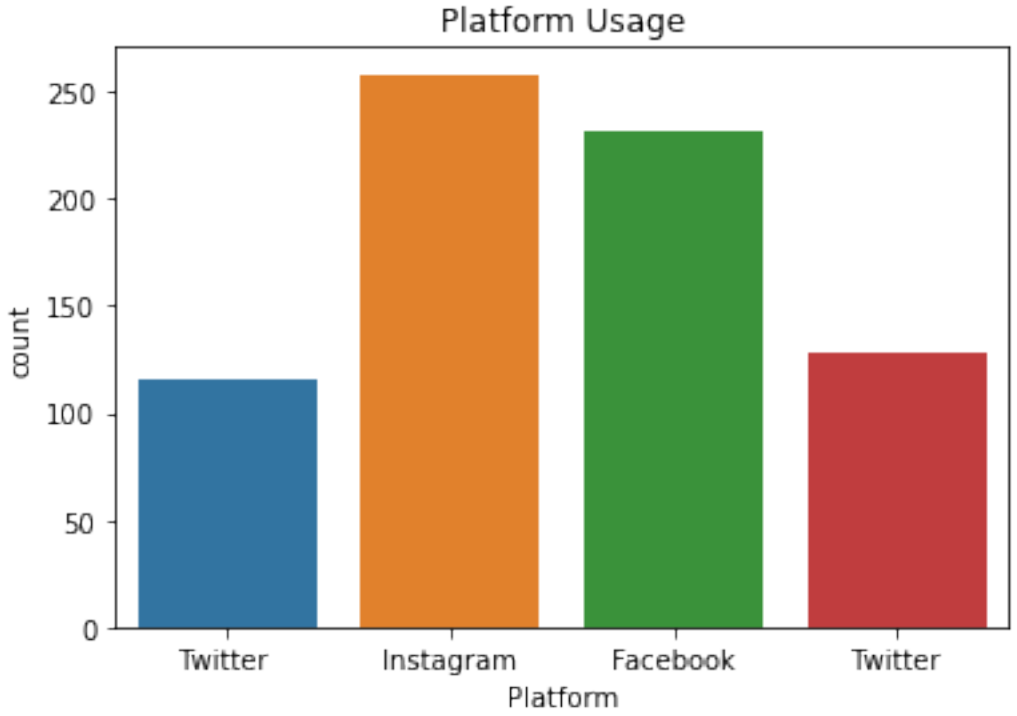
[4]:
```
# Sentiment distribution
sentiment_counts = df['Sentiment'].value_counts()

# Platform usage
platform_usage = df['Platform'].value_counts()

# Hashtag analysis (splitting hashtags and counting occurrences)
df['Hashtags'] = df['Hashtags'].str.split()
all_hashtags = df['Hashtags'].explode().value_counts()

sentiment_counts, platform_usage, all_hashtags.head(10)
```

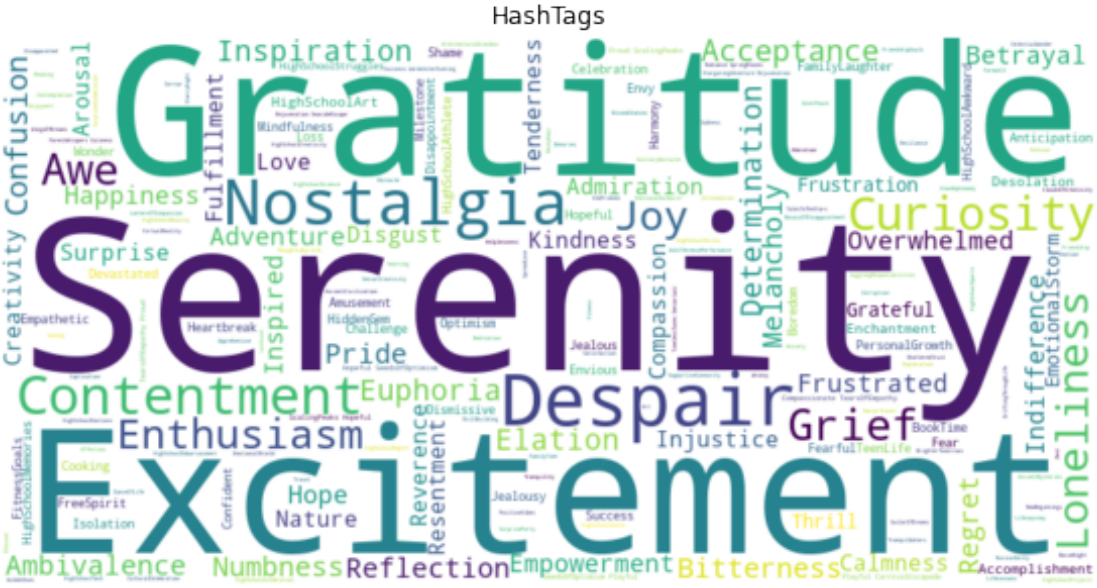
[4]:
```
( Positive            44
  Joy                 42
  Excitement          32
  Happy               14
  Contentment         14
                      ..
  Heartache            1
  Sorrow               1
  Loneliness           1
  Challenge            1
  Numbness             1
 Name: Sentiment, Length: 279, dtype: int64,
  Instagram     258
  Facebook      231
  Twitter       128
  Twitter       115
 Name: Platform, dtype: int64,
 #Serenity       15
 #Gratitude      13
 #Excitement     13
 #Nostalgia      11
 #Despair        11
 #Curiosity      10
 #Contentment    10
 #Loneliness      9
 #Awe             9
 #Hopeful         9
```

```
Name: Hashtags, dtype: int64)
```

[5]:
```
import matplotlib.pyplot as plt
import seaborn as sns

sns.countplot(x='Sentiment', data=df)
plt.title('Sentiment Distribution')
plt.show()

# Plot platform usage
sns.countplot(x='Platform', data=df)
plt.title('Platform Usage')
plt.show()

#: Word cloud for hashtags
from wordcloud import WordCloud

# Generate word cloud
wordcloud = WordCloud(width=800, height=400, background_color='white').
 ↪generate(' '.join(df['Hashtags'].explode().dropna()))
plt.figure(figsize=(10, 5))
plt.imshow(wordcloud, interpolation='bilinear')
plt.axis('off')
plt.title('HashTags')
plt.show()
```

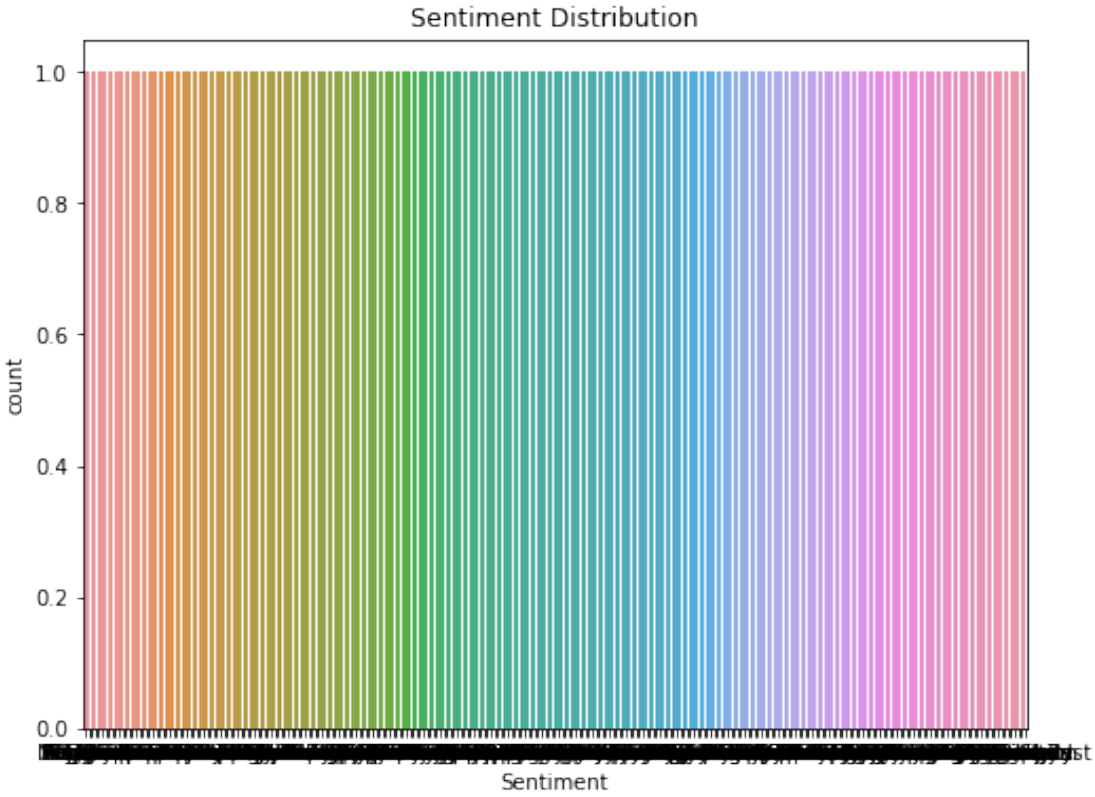



Platform Usage
250
200
150
100
50
0
count
Twitter
Instagram
Facebook
Twitter
Platform


HashTags
Gratitude
Serenity
Excitement
Inspiration
Acceptance
Betrayal
Awe
Nostalgia
Joy
Curiosity
Contentment
Despair
Enthusiasm
Grief
Loneliness
Ambivalence
Numbness
Reflection
Empowerment
Bitterness
Calmness
Hope
Nature
Pride
Euphoria
Elation
Injustice
Frustrated
Overwhelmed
Adventure
Disgust
Kindness
Surprise
Happiness
Love
Admiration
Frustration
Determination
Melancholy
Compassion
Inspired
Fulfillment
Tenderness
Arousal
Confusion
Creativity
Indifference
Regret
Thrill
Resentment
Reverence
Grateful
Enchantment
Amusement
Challenge
Optimism
Jealousy
Envious
Heartbreak
Empathetic
Devastated
Isolation
FreeSpirit
Cooking
Confident
Success
Accomplishment
Anticipation
Desolation
Windfulness
HighSchoolArt
Celebration
Envy
Harmony
FamilyLaughter
PersonalGrowth
BookTime
Fear
FearfulTeenLife
EmotionalStorm
Loss
Shame
Milestone
Disappointment
HighSchoolAthlete
HighSchoolCrush
Hopeful
Boredom
Wonder

[14]:
```
a=df['Sentiment'].drop_duplicates()
print(len(a))
plt.figure(figsize=(8,6))
sns.countplot(x=a)
plt.title('Sentiment Distribution')
plt.show()
```

279



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