

Introduction:

This study examines 439 Aljazeera English news articles captured through RSS feeds, leveraging transformer-based NLP to analyze sentiment patterns in news coverage.

Our dataset (title, pubDate, guid, link, description)

index	title	pubDate	guid	link	description
0	Far-right Oath Keepers, ex-Proud Boys lead... First raft of lawsuits target US birthright citi...	21 Jan 2025	https://www.aljazeera.com/news/2025/1/21/f...	https://www.aljazeera.com/news/2025/1/21/f...	Stewart Rhodes
1	Prince Harry court battle against Murdoch U...	21 Jan 2025	https://www.aljazeera.com/news/2025/1/21/f...	https://www.aljazeera.com/news/2025/1/21/f...	Donald Trump si
2	Israel's top general resigns over 'terrible' Oct...	21 Jan 2025	https://www.aljazeera.com/news/2025/1/21/f...	https://www.aljazeera.com/news/2025/1/21/f...	British prince an
3	'We will drill, baby, drill': Why Trump wants U...	21 Jan 2025	https://www.aljazeera.com/news/2025/1/21/f...	https://www.aljazeera.com/news/2025/1/21/f...	Herzi Halevi is th
4	'Far-right Oath Keepers, ex-Proud Boys lead... First raft of lawsuits target US birthright citi...	21 Jan 2025	https://www.aljazeera.com/news/2025/1/21/f...	https://www.aljazeera.com/news/2025/1/21/f...	For a second tim

Rows: 5 ↴

index	title	pubDate	guid	link	description
count	439	439	439	439	439
unique	439	16	439	439	439
top	Far-right Oath Keepers, ex-Proud Boys lead... First raft of lawsuits target US birthright citi...	17 Jan 2025	https://www.aljazeera.com/news/2025/1/21/f...	https://www.aljazeera.com/news/2025/1/21/f...	Stewart Rhodes
freq	1	40	1	1	1

Rows: 4 ↴

```
Summarize dataset: 0% | 0/5 [00:00<?, ?it/s]
Generate report structure: 0% | 0/1 [00:00<?, ?it/s]
Render HTML: 0% | 0/1 [00:00<?, ?it/s]
Export report to file: 0% | 0/1 [00:00<?, ?it/s]
```

Data Summary

Overview Variables Missing values Sample

Overview

Overview Alerts 4 Reproduction

Dataset statistics

Number of variables	5
Number of observations	439
Missing cells	0
Missing cells (%)	0.0%
Duplicate rows	0
Duplicate rows (%)	0.0%
Total size in memory	17.3 KiB
Average record size in memory	40.3 B

Variable types

Text	4
Categorical	1

Variables

Select Columns ▾

Let's categorize the news Articles

index	title	pubDate	guid	link	description
91	'Tired of war': Gaza ceasefire to go into forc...	18 Jan 2025	https://www.aljazeera.com/news/2025/1/18/i...	https://www.aljazeera.com/news/2025/1/18/i...	Hours before ce
92	Palestinian Authority ready to 'assume full re...	18 Jan 2025	https://www.aljazeera.com/news/2025/1/18/...	https://www.aljazeera.com/news/2025/1/18/...	Palestinian presi
93	Israel-Gaza ceasefire deal: Which Palestinian...	18 Jan 2025	https://www.aljazeera.com/news/2025/1/18/...	https://www.aljazeera.com/news/2025/1/18/...	Thousands of Pe
94	Russia-Ukraine war: List of key events, day 1,...	18 Jan 2025	https://www.aljazeera.com/news/2025/1/18/r...	https://www.aljazeera.com/news/2025/1/18/r...	Here are the key
95	Does Imran Khan conviction threaten Pakista...	18 Jan 2025	https://www.aljazeera.com/news/2025/1/18/...	https://www.aljazeera.com/news/2025/1/18/...	The conviction c
96	Man Utd on rollercoaster ride to recovery: A...	18 Jan 2025	https://www.aljazeera.com/sports/2025/1/18...	https://www.aljazeera.com/sports/2025/1/18...	Manchester Unit
97	'Fields were solitary': Migration raids send ch...	17 Jan 2025	https://www.aljazeera.com/news/2025/1/17/f...	https://www.aljazeera.com/news/2025/1/17/f...	With Trump set t
98	Israeli cabinet approves Gaza ceasefire deal	17 Jan 2025	https://www.aljazeera.com/news/2025/1/17/i...	https://www.aljazeera.com/news/2025/1/17/i...	The deal will tak
99	Gaza atrocities will 'haunt' Antony Blinken, s...	17 Jan 2025	https://www.aljazeera.com/news/2025/1/17/g...	https://www.aljazeera.com/news/2025/1/17/g...	Hala Rharrit call
100	More than 230,000 displaced in DRC since s...	17 Jan 2025	https://www.aljazeera.com/news/2025/1/17/m...	https://www.aljazeera.com/news/2025/1/17/m...	The UN says the
101	Former CIA employee pleads guilty to leaking	17 Jan 2025	https://www.aljazeera.com/news/2025/1/17/f...	https://www.aljazeera.com/news/2025/1/17/f...	Asif William Bob

101	Former CIA employee pleads guilty to leaking... A former CIA employee has pleaded guilty to leaking classified information to a reporter, marking the first conviction under the... Source: AP	17 Jan 2025	https://www.aljazeera.com/news/2025/1/17/...	https://www.aljazeera.com/news/2025/1/17/...	Alan William Kam
102	CNN found guilty for defaming US navy veter... A US court has ruled that CNN has defamed a US Navy veteran by publishing a story that he had lied about his service in the... Source: AP	17 Jan 2025	https://www.aljazeera.com/economy/2025/1/...	https://www.aljazeera.com/economy/2025/1/...	CNN settled wit
103	Qatar's PM calls for Gaza ceasefire agree... The prime minister of Qatar has called for a ceasefire in Gaza, urging Israel and the Palestinian group Hamas to stop their... Source: AP	17 Jan 2025	https://www.aljazeera.com/news/2025/1/17/...	https://www.aljazeera.com/news/2025/1/17/...	In an exclusive i
104	A frosty presidential inauguration? Trump m... US President Donald Trump's inauguration was a somber affair, with many guests staying away and the atmosphere being less celebratory... Source: AP	17 Jan 2025	https://www.aljazeera.com/news/2025/1/17/...	https://www.aljazeera.com/news/2025/1/17/...	US President-ele
105	ICC chief prosecutor meets Syria's de facto ... The chief prosecutor of the International Criminal Court (ICC) has met with Syria's de facto leader, President Bashar al-Assad,... Source: AP	17 Jan 2025	https://www.aljazeera.com/news/2025/1/17/...	https://www.aljazeera.com/news/2025/1/17/...	ICC's Karim Kha
106	What has Netanyahu won and lost by agreeing... The Israeli prime minister Benjamin Netanyahu has agreed to a deal with the opposition Labour party to form a coalition government... Source: AP	17 Jan 2025	https://www.aljazeera.com/news/2025/1/17/...	https://www.aljazeera.com/news/2025/1/17/...	Israeli PM may l



```
interactive(children=(Dropdown(description='Colormap:', options=('twilight', 'viridis', 'plasma', 'magma', 'inferno', 'cividis', 'inferno', 'cividis'))))
```



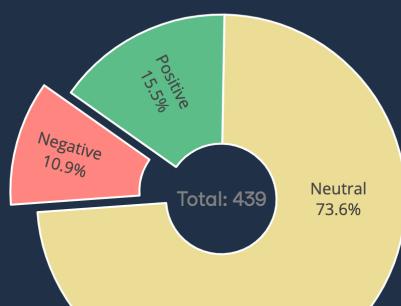
```
interactive(children=(Dropdown(description='Colormap:', options=['twilight', 'viridis', 'plasma', 'magma', 'inferno', 'cividis']),
```

Defining Function to Anlaze the Sentiments of News Description

Sentiment analysis results saved to 'aljazeera-sentiment-labels/aljazeera_sentiment.csv'

index	title	pubDate	guid	link	description
0	Far-right Oath Keepers, ex-Proud Boys lead... by Stewart Rhodes	21 Jan 2025	https://www.aljazeera.com/news/2025/1/21/far-right-oath-keepers-ex-proud-boys-lead...	https://www.aljazeera.com/news/2025/1/21/far-right-oath-keepers-ex-proud-boys-lead...	Stewart Rhodes
1	First raft of lawsuits target US birthright citi... by Donald Trump si	21 Jan 2025	https://www.aljazeera.com/news/2025/1/21/first-raft-of-lawsuits-target-us-birthright-citi...	https://www.aljazeera.com/news/2025/1/21/first-raft-of-lawsuits-target-us-birthright-citi...	Donald Trump si
2	Prince Harry court battle against Murdoch U... by British prince an	21 Jan 2025	https://www.aljazeera.com/news/2025/1/21/prince-harry-court-battle-against-murdoch-u...	https://www.aljazeera.com/news/2025/1/21/prince-harry-court-battle-against-murdoch-u...	British prince an
3	Israel's top general resigns over 'terrible' Oct... by Herzl Halevi is th	21 Jan 2025	https://www.aljazeera.com/news/2025/1/21/israels-top-general-resigns-over-terrible-oct...	https://www.aljazeera.com/news/2025/1/21/israels-top-general-resigns-over-terrible-oct...	Herzl Halevi is th
4	'We will drill, baby, drill': Why Trump wants U... by For a second tin	21 Jan 2025	https://www.aljazeera.com/news/2025/1/21/we-will-drill-baby-drill-why-trump-wants-u...	https://www.aljazeera.com/news/2025/1/21/we-will-drill-baby-drill-why-trump-wants-u...	For a second tin

Sentiment Distribution



```
HBox(children=(ColorPicker(value='#ff8680', description='Highlight Color'), FloatSlider(value=0.15, description='Alpha')))
```

```
interactive(children=(ColorPicker(value='#ff8680', description='Highlight Color'), FloatSlider(value=0.15, des...
```

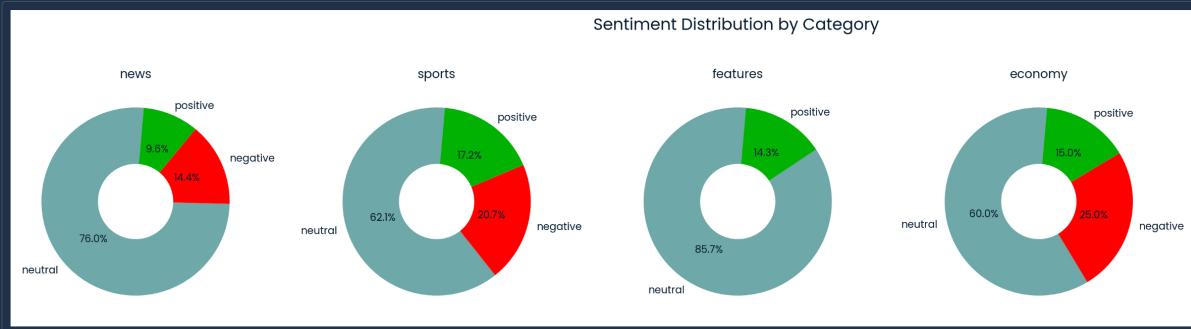
Sentiment Value Counts:

sentiment_label

neutral

negative

positive 48



Description: Negative Sentiment WordCloud



Description:Positive Sentiment WordCloud



Description:Neutral Sentiment WordCloud





Splitting the PubDate column further to Hour, Days, Months, Year etc

Interactive Category Analysis



```
interactive(children=(IntSlider(value=0, description='Minimum Count:', max=354), Dropdown(description='Sort Order:', options=['Descending', 'Ascending']), Output()), title='Interactive Category Analysis')
```

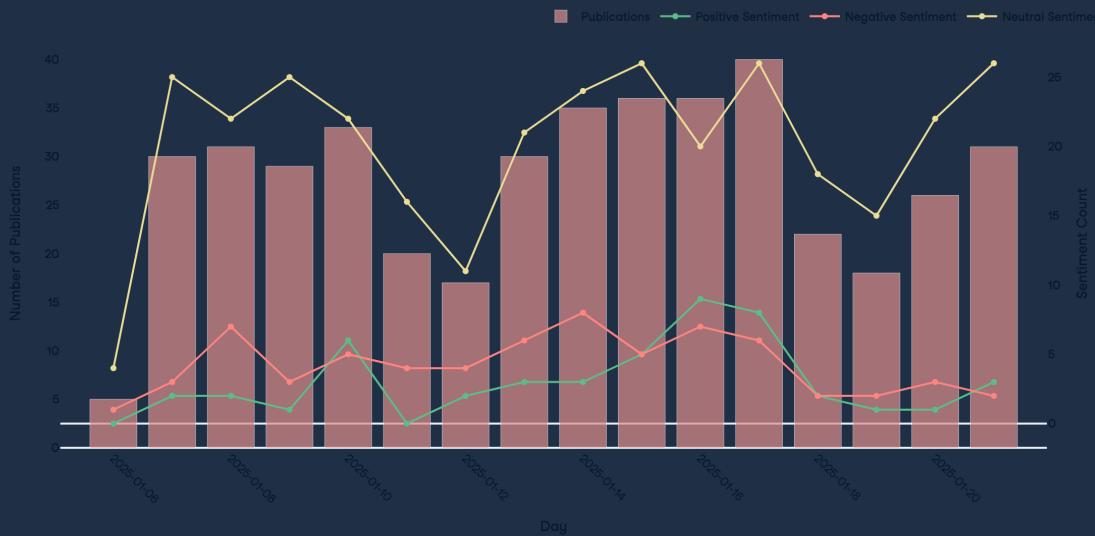
```
<function __main__.create_interactive_category_analysis(min_count=0, sort_order='Descending')>
```

Number of dates that couldn't be parsed: 0

First 5 rows with date components:

	pubDate	Date	Day	Month	Year	Day of the week	Hour
0	2025-01-21	2025-01-21	21	1	2025	Tuesday	0
1	2025-01-21	2025-01-21	21	1	2025	Tuesday	0
2	2025-01-21	2025-01-21	21	1	2025	Tuesday	0
3	2025-01-21	2025-01-21	21	1	2025	Tuesday	0
4	2025-01-21	2025-01-21	21	1	2025	Tuesday	0

Publication & Sentiment Trends by Day

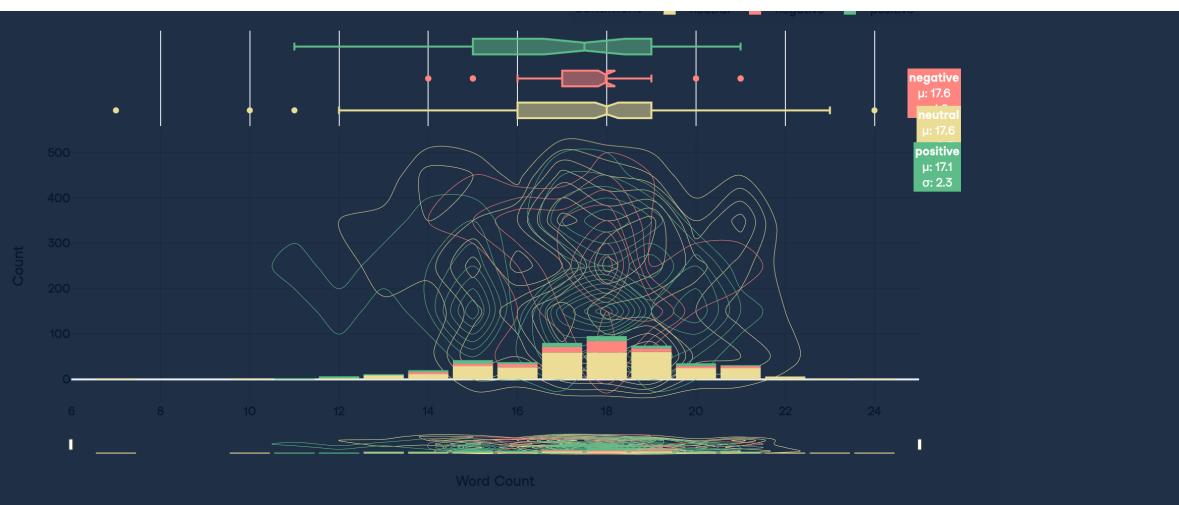


```
interactive(children=(Dropdown(description='Time Unit:', index=1, options=['Hour', 'Day', 'Day of Week', 'Month', 'Year']), Output()), title='Publication & Sentiment Trends by Day')
```

```
<function __main__.interactive_time_analysis(df, time_unit='Day')>
```

Interactive Analysis of Word Count

Sentiment: ▲ positive, ▼ negative, ■ neutral



```
interactive(children=Dropdown(description='Feature:', options=('word_count', 'char_count', 'avg_word'), value...
<function __main__.interactive_feature_analysis(df, feature='word_count')>
```

index	description	avg_word
0	Stewart Rhodes and Enrique Tarrio, who received some of longest sentences for the US Capitol attack, freed from prison.	6.26
1	Donald Trump signs record 26 executive orders on second term's first day, including an effort to restrict citizenship.	6.56
2	British prince and former senior MP Tom Watson are suing News Group Newspapers over alleged unlawful activities.	6.59
3	Herzi Halevi is the most senior Israeli figure to resign over the October 7, 2023 Hamas-led attack.	5.82
4	For a second time, Donald Trump promises to pull the US from a global agreement that most countries are party to.	5.38

Rows: 5 ↓

index	description	char_count
0	Stewart Rhodes and Enrique Tarrio, who received some of longest sentences for the US Capitol attack, freed from prison.	119
1	Donald Trump signs record 26 executive orders on second term's first day, including an effort to restrict citizenship.	118
2	British prince and former senior MP Tom Watson are suing News Group Newspapers over alleged unlawful activities.	112
3	Herzi Halevi is the most senior Israeli figure to resign over the October 7, 2023 Hamas-led attack.	99
4	For a second time, Donald Trump promises to pull the US from a global agreement that most countries are party to.	113

Rows: 5 ↓

index	description	word_count
0	Stewart Rhodes and Enrique Tarrio, who received some of longest sentences for the US Capitol attack, freed from prison.	19
1	Donald Trump signs record 26 executive orders on second term's first day, including an effort to restrict citizenship.	18
2	British prince and former senior MP Tom Watson are suing News Group Newspapers over alleged unlawful activities.	17
3	Herzi Halevi is the most senior Israeli figure to resign over the October 7, 2023 Hamas-led attack.	17
4	For a second time, Donald Trump promises to pull the US from a global agreement that most countries are party to.	21

Rows: 5 ↓

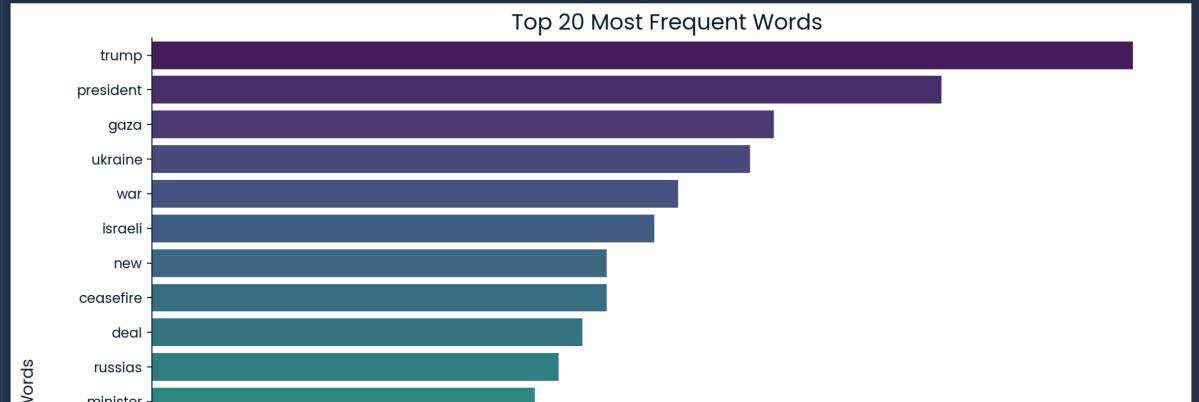
```
[nltk_data] Downloading package stopwords to /home/repl/nltk_data...
[nltk_data]  Unzipping corpora/stopwords.zip.
```

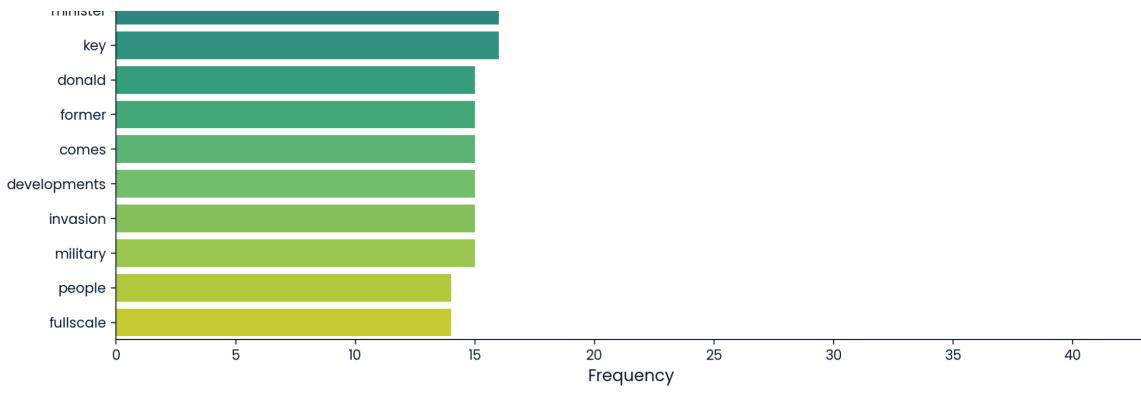
index	description
0	stewart rhodes enrique tarrio, received longest sentences us capitol attack, freed prison.
1	donald trump signs record 26 executive orders second term's first day, including effort restrict citizenship.
2	british prince former senior mp tom watson suing news group newspapers alleged unlawful activities.
3	herzi halevi senior israeli figure resign october 7, 2023 hamas-led attack.
4	second time, donald trump promises pull us global agreement countries party to.

Rows: 5 ↓

Text Cleaning: 0% | 0/439 [00:00<?, ?it/s]

Text Cleaning: 0% | 0/439 [00:00<?, ?it/s]

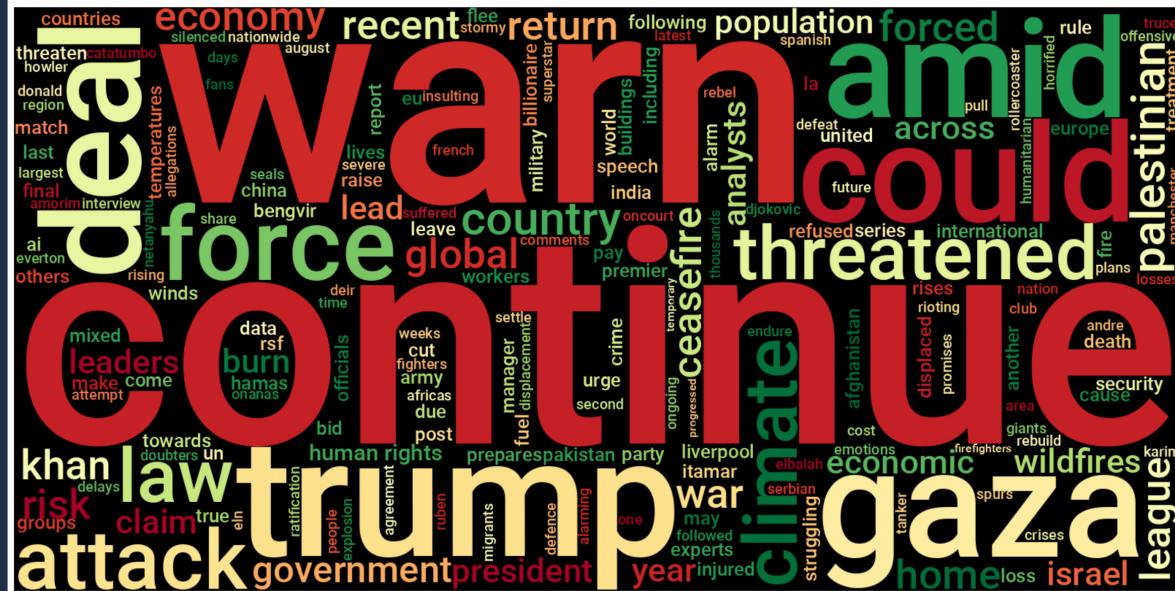




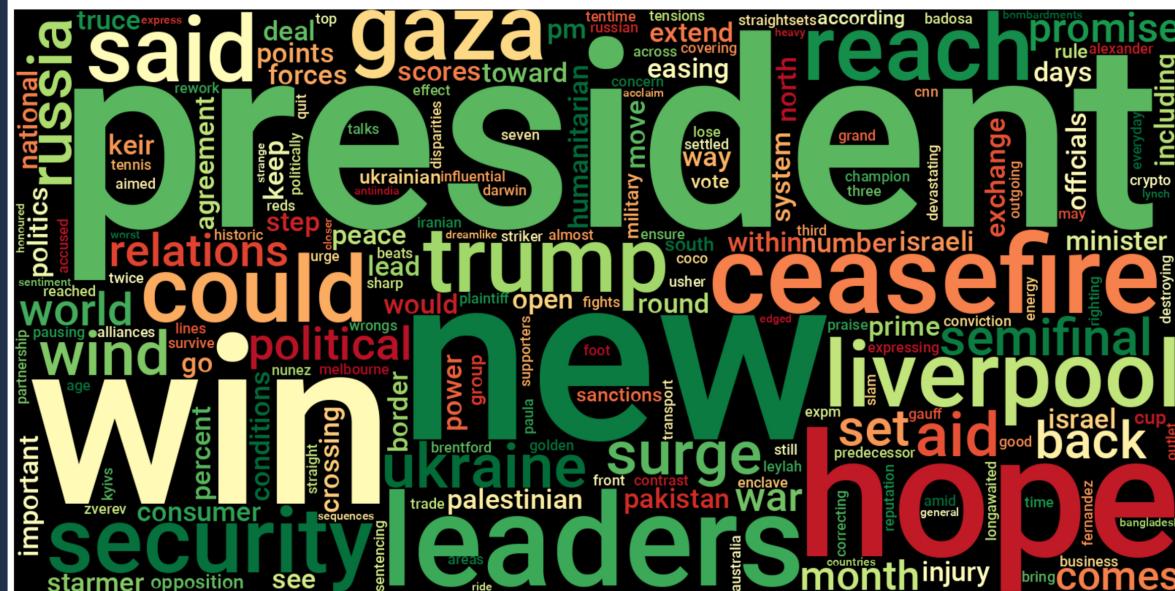
Text Cleaning: 0%

| 0/439 [00:00<?, ?it/s]

Negative Sentiment Word Cloud



Positive Sentiment Word Cloud



Neutral Sentiment Word Cloud



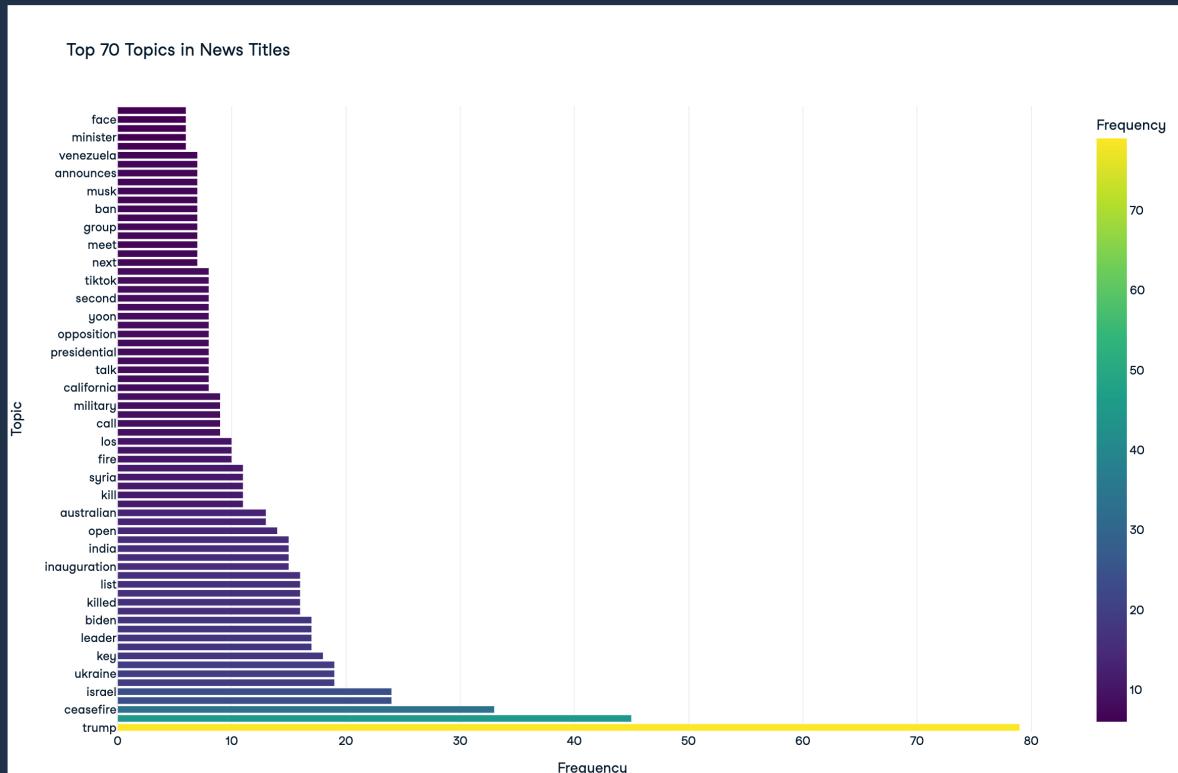


Tokenizing Titles: 100% | 439/439 [00:00<00:00, 8284.81it/s]
Tokenizing Descriptions: 100% | 439/439 [00:00<00:00, 9530.14it/s]

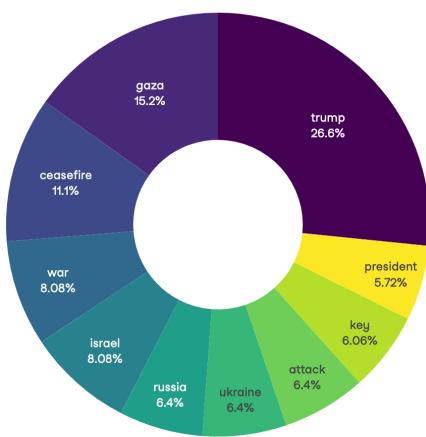
Tokenization Verification:

Description Samples:

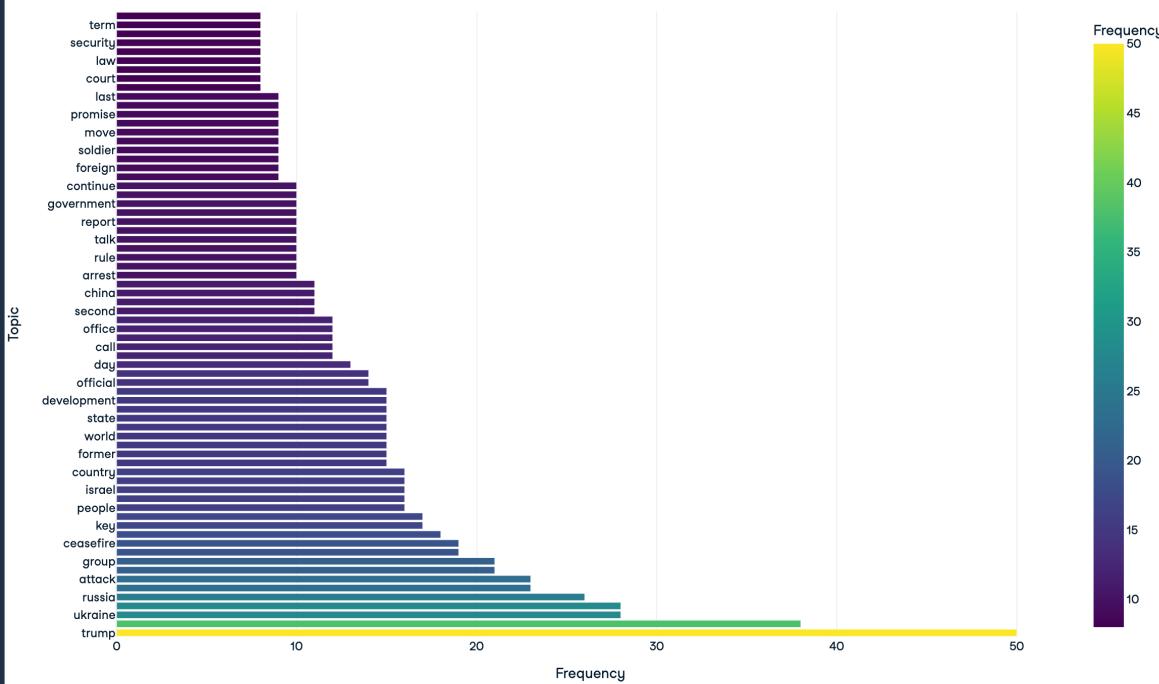
```
Tokenizing Titles: 100% |██████████| 439/439 [00:00<00:00, 9454.78it/s]
Tokenizing Descriptions: 100% |██████████| 439/439 [00:00<00:00, 9596.30it/s]
Processing title_token_word_list: 100% |██████████| 439/439 [00:00<00:00, 28011.37it/s]
Processing desc_token_word_list: 100% |██████████| 439/439 [00:00<00:00, 26077.37it/s]
```



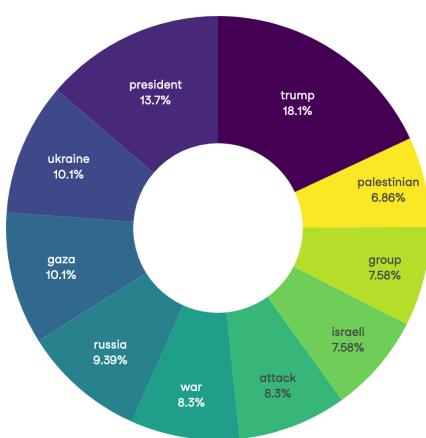
Top 10 Title Topics Distribution



Top 70 Topics in News Descriptions



Top 10 Description Topics Distribution



Weekly Sentiment Trends

