

The background of the slide is black and features several translucent, white-outlined bubbles of various sizes. Some bubbles are large and partially cut off by the edges of the frame, while others are smaller and complete. They are scattered across the right side and top of the slide, creating a dynamic, organic feel.

TOPIC MODELING FOR #OOTT

ROBERT FANG

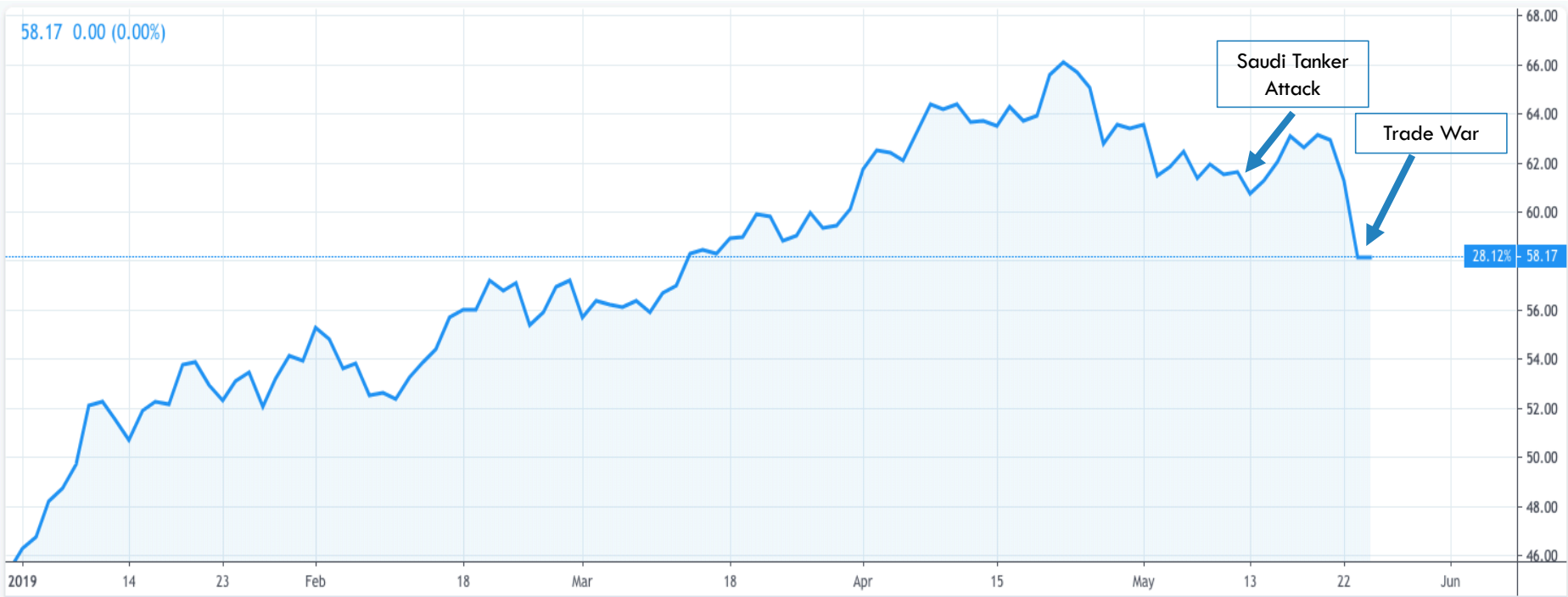
MAY 24TH, 2019

ORGANIZATION OF OIL TWEETERS



A screenshot of a Twitter search for the hashtag #oott. The interface shows the Twitter navigation bar at the top with 'Home', 'Moments', 'Notifications' (42), and 'Messages'. Below the navigation bar is a blue header with the hashtag #oott. Underneath the header are tabs for 'Top', 'Latest' (selected), 'People', 'Photos', 'Videos', 'News', and 'Broadcasts'. The main content area is divided into two columns. The left column contains a 'Search filters' section with a 'Show' link, a 'Who to follow' section with three profiles (BlacklionCTA, Spencer Welch, Dr. Gary N. Ross) and 'Follow' buttons, a 'Find people you know' section with a Gmail icon and a 'Connect other address books' link, and a 'Trends for you' section with four trending topics: #TrumpMustResign, Assange, Kemba, and Lester. The right column displays three tweets. The first tweet is from Nic (@NicoLongShort) 2m ago, discussing the oil market's tightness and the curve. The second tweet is also from Nic (@NicoLongShort) 4m ago, discussing the oil market's downward spiral and the correlation to the S&P 500. The third tweet is from Jessica Summers (@jessicaissummers) 5m ago, discussing the oil market's downward spiral and the correlation to the S&P 500. Below the tweets is a video player showing a news broadcast with the headline 'CRUDE OIL TUMBLES' and a timestamp of 22:18.

SENTIMENT IMPACTS PRICES



NLP ANALYSIS FLOW



Input

Storage

tweepi

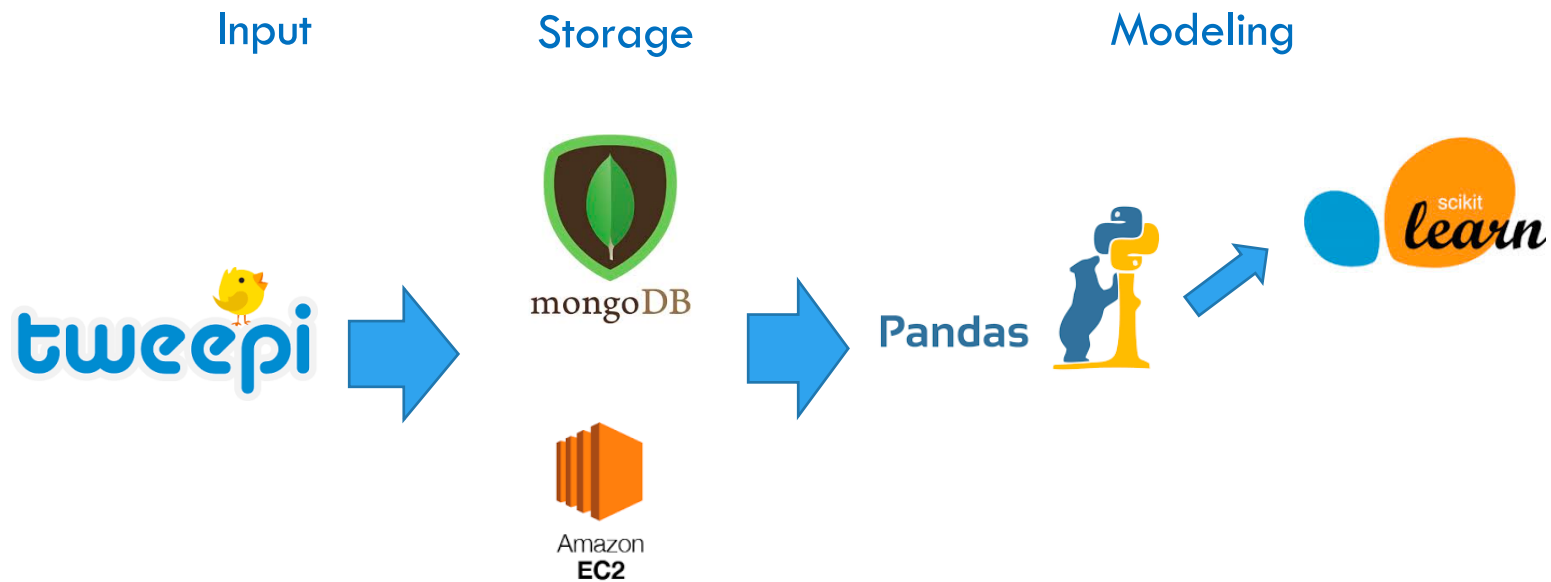


mongoDB

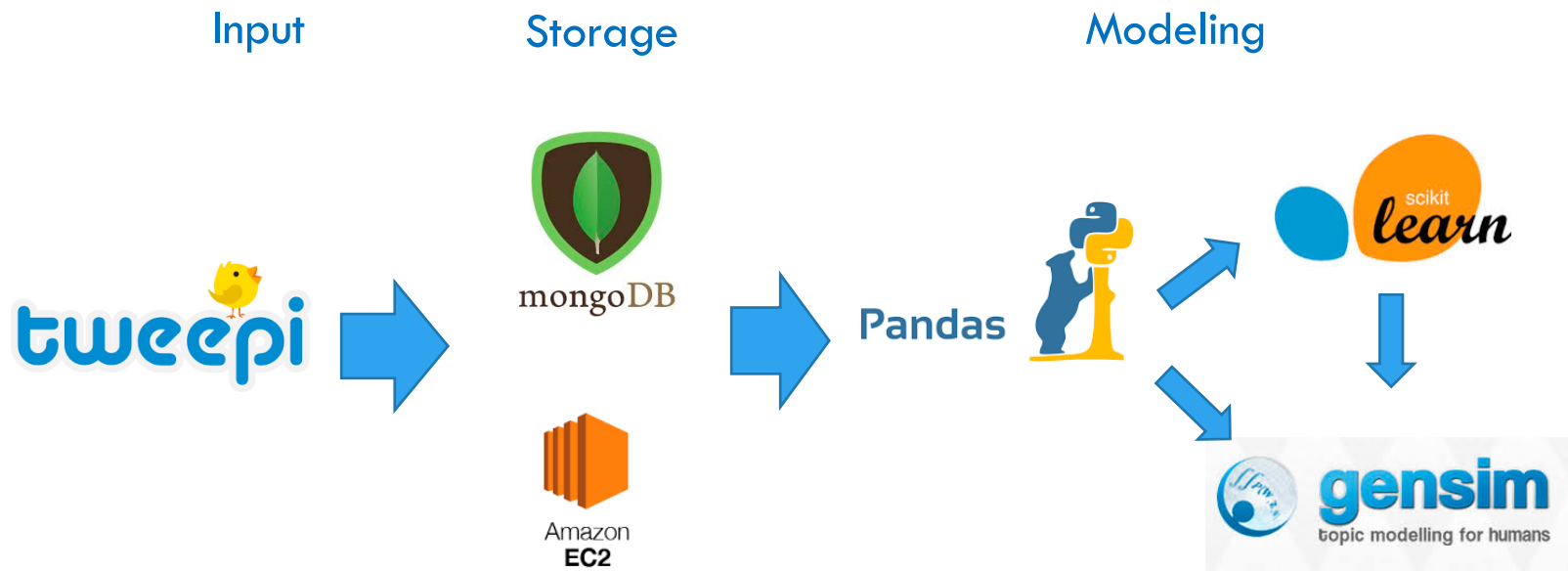


Amazon
EC2

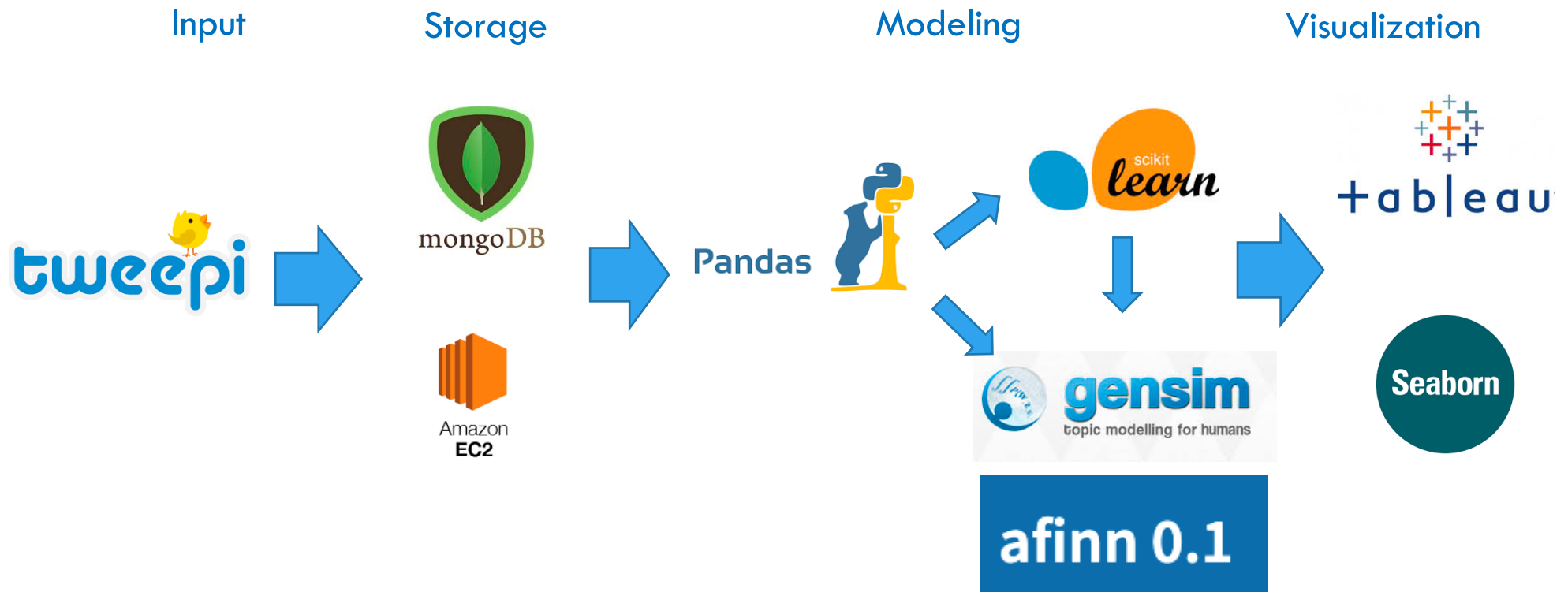
NLP ANALYSIS FLOW



NLP ANALYSIS FLOW



NLP ANALYSIS FLOW



TOPIC MODELING RESULTS



Saudi Infrastructure Attacks

Key words: **saudi, attack,** saudi arabia,
tankers, pipeline, drone, pump, station



[Iran news: "Sabotage attacks" on Saudi oil tankers stoke fears of ...](#)

[CBS News](#) - May 13, 2019

[Saudi Arabia said Monday two of its oil tankers were sabotaged off the coast of the United Arab Emirates in attacks that caused "significant ...](#)

[The Latest: Arab League condemns attacks on Saudi tankers](#)

[Citizentribune](#) - May 12, 2019

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US - China Trade War

Key words: **trade, china, war,** trade war, china
trade, **tensions,** talk, **tariff,** deal



Markets signal to US and **China** on the **trade war**: You have 'blundered ...
CNBC - May 14, 2019
The threat of the U.S.-**China** **trade war** escalating into something ... the ecosystem
around the economy and the trade **headlines** remains fragile.

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Energy Statistics

Key words: **production**, increase, **supply**,
year, **demand**, cut, month, bpd, rise,
inventory



Oil continues slide on **US** crude stockpiles surge
Moneycontrol.com - 11 hours ago
US crude oil inventories rose last **week**, hitting their highest levels since July 2017, the government's **Energy** Information Administration said on Wednesday. ... "The headlines **figures** are depressing enough and scratching the ...
Oil set for worst **week** in six months as crude stockpiles surge
TODAY.NG - 8 hours ago

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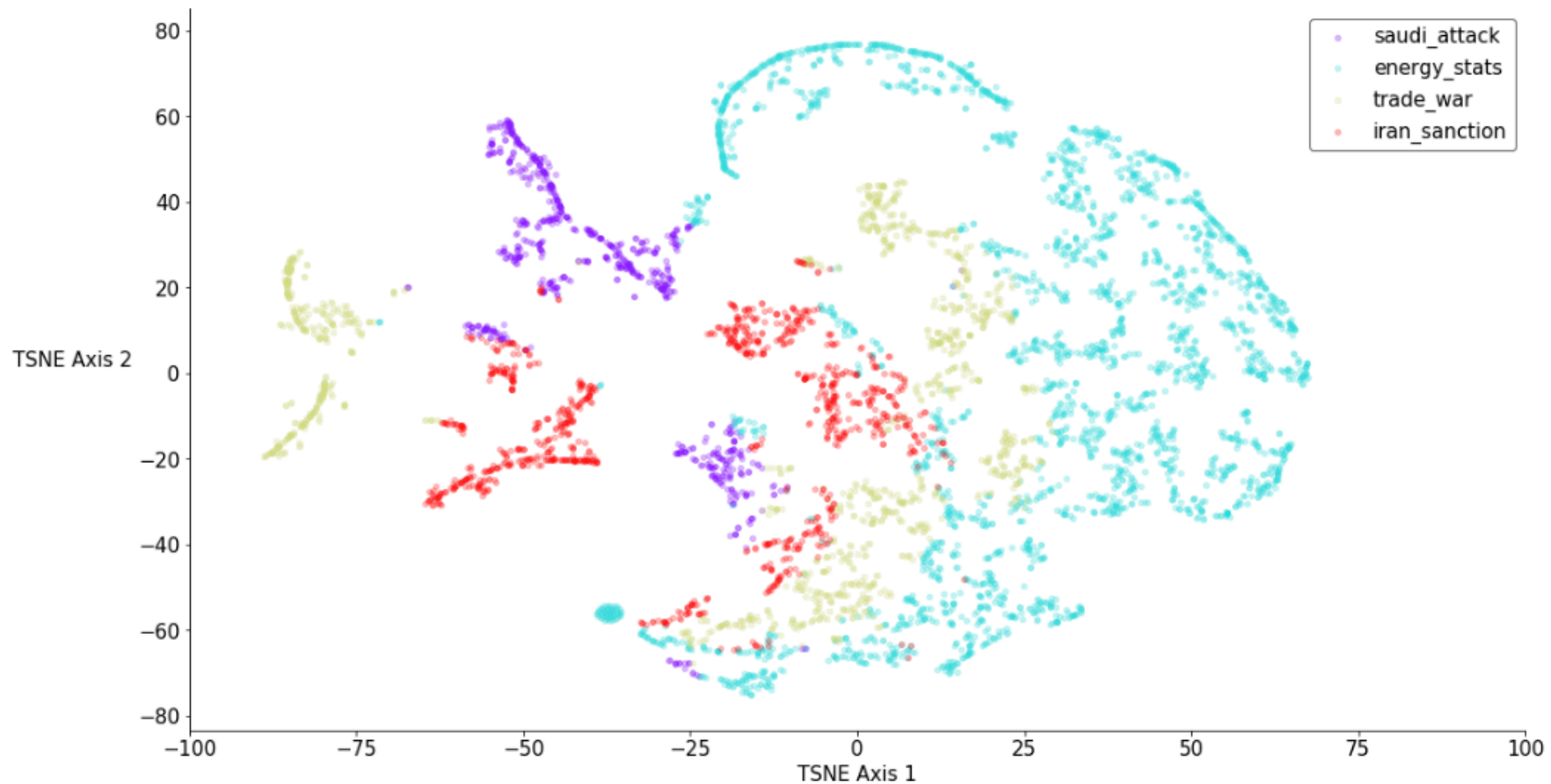
Iran Sanctions

Key words: **say, iran, minister**, meet, iraq, **falih**, deal, **al, sanction**, iranian

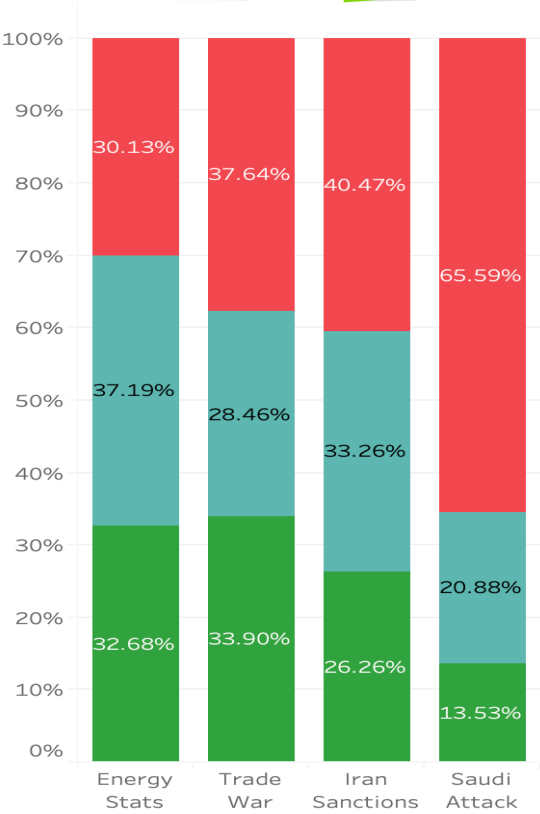


Trump's **sanctions** on **Iran** are hitting Hezbollah, and it hurts
Washington Post - May 18, 2019
BEIRUT — The powerful Lebanese Hezbollah militia has thrived for decades on generous cash handouts from **Iran**, spending lavishly on ...

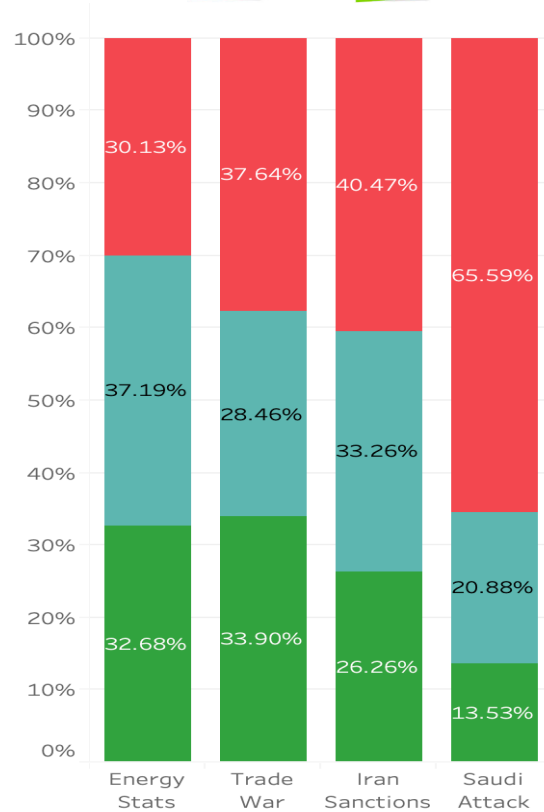
VISUALIZING TOPICS USING TSNE



SENTIMENT ANALYSIS



SENTIMENT ANALYSIS



Most Positive Sentiment

 **Matt Lofgran** @mlofgran · May 11

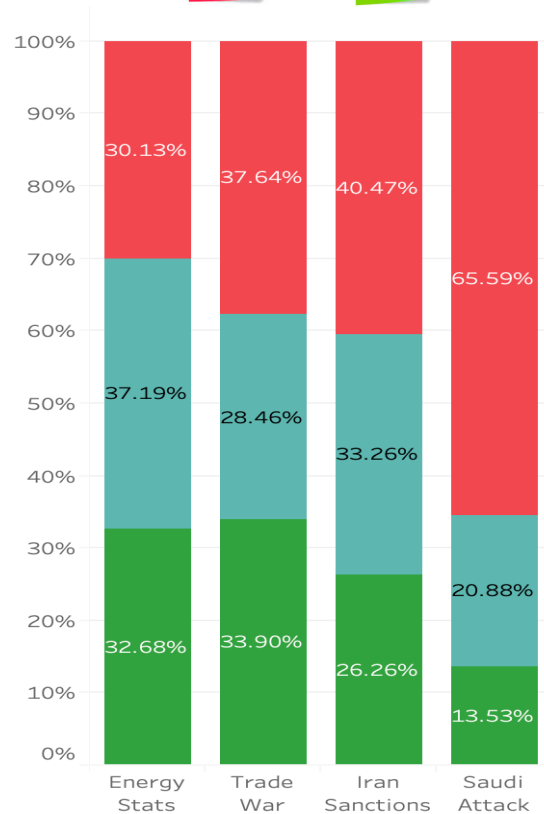
This should be good for greater markets (positive sign towards trade deal) and good for oil prices. [#NTOG](#) [#OOTT](#) [#oil](#) [#ChinaTradeDeal](#)

Matt Lofgran @mlofgran

Chinese Oil Majors Backtrack On Pledge To Buy Iranian Oil | OilPrice.com/?utm_source=tw... oilprice.com/Energy/Crude-O... #oilprice

1 2 2

SENTIMENT ANALYSIS



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Chinese Oil Majors Backtrack On Pledge To Buy Iranian Oil | OilPrice.com/?utm_source=tw... oilprice.com/Energy/Crude-O... [#oilprice](#)

1 2 2

Most Negative Sentiment

Bill @GetupPig · May 15

closed today's oil short for a big fat fucking loss. I can't believe that I still miss oil trades like that after 4 years of being so focused. God 'Fucking' Damn it!!!! [#oott](#)

2

LIVE STREAM EXAMPLE



Unprocessed Tweet: 0. #Fujairah latest: Just got confirmation from the UK government that it is involved in the investigation into the attack on the 4 ships. Expects the investigation to be wrapped up this week. #OOTT #arabiangulf #PersianGulf

LIVE STREAM EXAMPLE



Unprocessed Tweet: 0. #Fujairah latest: Just got confirmation from the UK government that it is involved in the investigation into the attack on the 4 ships. Expects the investigation to be wrapped up this week. #OOTT #arabiangulf #PersianGulf

Clean Tweet: latest just got confirmation from the uk government that it is involved in the investigation into the attack on the ships ects the investigation to be wrapped up this week

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Saudi_News	0.49
Energy_Stats	-0.14
China_Trade	-0.17
Iran_Sanctions	-0.25
Topic	Saudi_News
sentiment	-1

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Saudi_News 0.49

Energy_Stats -0.14

China_Trade -0.17

Iran_Sanctions -0.25

Topic Saudi_News

sentiment -1

Unprocessed Tweet: 1. Can't blame crude build on refinery outages.

U.S. refinery intakes decreased -98 kb/d to 16.6 mmb/d week ending May 17.

Intakes are +50 kb/d more than 5-year average but -50 kb/d less than a year ago.

#OOTT #oilandgas #oil #WTI #CrudeOil #fintwit #OPEC <https://t.co/CJyKh2rE3k>

Clean Tweet: can t blame crude build on refinery outages u s refinery intakes decreased kb d to mmb d week ending may intakes are kb d more than year average but kb d less than a year ago

Saudi_News 0.22

Energy_Stats 0.67

China_Trade 0.39

Iran_Sanctions -0.57

Topic Energy_Stats

sentiment -5

TAKEAWAY



- Identify key market driver and sentiment shift
- Enable fast decision making and highly adaptive
- Provide valuable input for downstream data analysis
- Don't be Bill

THANK YOU – QUESTIONS?



Tweets **Tweets & replies** **Media**

**Bill @GetupPig** · 2h
I'm done trading oil #OOTT

Bill @GetupPig
closed today's oil short for a big fat fucking loss. I can't believe that I still miss oil trades like that after 4 years of being so focused. God 'Fucking' Damn it!!!! #oott

   2 

LIVE DEMO



```
JupyterLab
(*) News about #OOT on Twi...
Factor Analysis: A Short Intro...
localhost:8891/lab
File Edit View Run Kernel Tabs Settings Help
Launcher Project4_Tweepy_EDA.ipynb Project4-Modeling_beta.ipynb metis
Unprocessed Tweet: 1. One of these lines is not like the others...
U.S. crude oil inventories aren't following typical seasonal patterns thus far in 2019. #OOTTT https://t.co/YvE6iCQIK2
Clean Tweet: one of these lines is not like the others u s crude oil inventories aren t following typical seasonal patterns thus far in
Saudi_News 0.12
Energy_Stats 0.16
China_Trade 0.01
Iran_Sanctions -0.08
Topic Energy_Stats
sentiment 1
Name: 0, dtype: object

Unprocessed Tweet: 2. With the bloodbath today, #oil converged to my fair value models & now sits b/w them @ 57.9. Despite lower imports (OPEC), shale prod has kept US WTI-grade supply abundant. #USD strength & demand concerns also bearish factors. TBD: What's left of spec longs? $CL_F #oott #trading https://t.co/xno2H9ZCfh
Clean Tweet: With the bloodbath today converged to my fair value models amp now sits b w them despite lower imports opec shale prod has kept us wti grade supply abundant strength amp demand concerns also be
arish factors tbd what s left of spec longs cl f
Saudi_News 0.36
Energy_Stats 0.68
China_Trade 0.05
Iran_Sanctions -0.33
Topic Energy_Stats
sentiment 3
Name: 0, dtype: object

Unprocessed Tweet: 3. #Brent crude #oil trades softer but above support. A battle is currently being fought between tight fundamentals with backwardation at 5-yr high and longer term demand worries with #Tradewar accele rating global slowdown #OOTTT https://t.co/rXgH5S1k0W
Clean Tweet: crude trades softer but above support a battle is currently being fought between tight fundamentals with backwardation at yr high and longer term demand worries with accelerating global slowdown
Saudi_News 0.29
Energy_Stats 0.76
China_Trade -0.63
Iran_Sanctions -0.15
Topic Energy_Stats
sentiment -4
Name: 0, dtype: object

Unprocessed Tweet: 4. Well, that's special.
Clean Tweet: well that s special
Saudi_News 0
Energy_Stats 0
China_Trade 0
Iran_Sanctions 0.01
Topic Iran_Sanctions
sentiment 0
Name: 0, dtype: object

[516]: from pprint import pprint

[517]: pprint(twitter_stream.listener.test)
{'contributors': None,
 'coordinates': None,
 'created_at': 'Wed May 22 21:11:44 +0000 2019',
 'entities': {'hashtags': [],
 'symbols': [],
 'urls': [],
 'user_mentions': [{'id': 4814182687,
 'id_str': '4814182687',
 'indices': [3, 17]
```