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1 contributor

2686 lines (2686 sloc) | 218 KB

Social Network Analysis - Amber Heard Case - Instagram

Adel Abu Hashim & Mahmoud Nagy - November 2021

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Introduction

This case study aims to help **Amber Heard**

By analyzing new accounts posting/ commenting against a victim of a Social Bot Disinformation/Influence Operation.

We have two main datasets:
 (The datasets scraped from **Instagram**).

- 1- A dataset with posts data.
- 2- A dataset with comments data.

```
In [96]: import pandas as pd
import os
from datetime import datetime
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sb
import plotly.express as px
import plotly.graph_objects as go
import warnings
import re
import seaborn as sb
import re

warnings.filterwarnings("ignore")

import plotly.io as pio
from helpers import barh, pie, get_top, handler, isnull, bar, bar_peaks, facet_days

pio.renderers
# pio.renderers.default = "svg"
svg_renderer = pio.renderers["svg"]
svg_renderer.width = 950
svg_renderer.height = 550

%matplotlib inline
```

```
In [97]: os.chdir("../Data")
```

```
In [98]: df_comments = pd.read_csv("comments_cleaned.csv")
print(df_comments.shape)
df_comments.head()
```

	message	datetime	id	n_replies	n_likes	media_id	parent_id	user_id	username	is_verified	
0	#scarlettjohansson #alexandradaddario #emiliac...	2020-06-06:50:19	23	17915232430430980	0.0	0.0	2337634847974873088	n	3988263563	scarlettjohansonofficial	False
1	🔥🔥🔥	2020-06-06:50:20	23	17845867817208020	0.0	0.0	2337634847974873088	n	3988263563	scarlettjohansonofficial	False
2	very beautiful 😊 I love you very much 😍	2020-06-06:54:04	23	17889474637566402	0.0	0.0	2337634847974873088	n	12302008022	freric2368	False
3	...	2020-06-06:54:04	22	178601086752020	0.0	0.0	2337634847974873088	n	2400417105	mister_27	False

07:12:28

2020-06-23 1806607649522844 0.0 0.0 2337634847974873088 n 1521544054 jorgero122129 False https://www.instagram.com/jorgero122129/

```
In [99]: df_comments["datetime"] = pd.to_datetime(df_comments["datetime"])
df_comments.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1751113 entries, 0 to 1751112
Data columns (total 16 columns):
 #   Column      Dtype  
--- 
 0   message     object  
 1   datetime    datetime64[ns]
 2   id          int64   
 3   n_replies   float64 
 4   n_likes    float64 
 5   media_id   int64   
 6   parent_id   object  
 7   user_id    int64   
 8   username   object  
 9   is_verified bool    
 10  account_url object  
 11  year        int64   
 12  month       object  
 13  dayofmonth int64   
 14  date        object  
 15  hour        int64   
dtypes: bool(1), datetime64[ns](1), float64(2), int64(6), object(6)
memory usage: 202.14+ MB
https://myvocabulary.com/word-list/violence-vocabulary/
https://myvocabulary.com/word-list/human-trafficking-vocabulary/

In [100]: mystr = 'Acid, Aggressor, Agitator, Aim, Alert, Ambush, Ammunition, Anarchy, Anguish, Annihilate, Apartheid, Arms,\\
Arsenal, Artillery, Assassin, Assassinate, Assault, Atrocity, Attack, Authority, Automatic'
A = set(mystr.lower().replace(' ', '').split(','))
A.discard('aim'); A.discard('arms')
A.add(' aim'); A.add(' arms')

mystr = 'Barrage, Barricade, Battle, Battlefield, Belligerent, Betrayal, Blast, Blindside, Blood, Bloody, Bomb,\\
Bombardment, Booby trap, Breach, Break, Brutal, Brutality, Brute, Bullet, Bully, Burn'
B = set(mystr.lower().replace(' ', '').split(','))
B.add('booby trap')

mystr = 'Cadaver, Camouflage, Campaign, Captive, Capture, Careen, Carnage, Casualties, Cataclysm, Causes, Chaos,\\
Charge, Charred, Checking, Clandestine, Clash, Coalition, Collapse, Combat, Commandos, Concentration, Concussion,\\
Conflagration, Conflict, Confrontation, Conquer, Consequences, Consolidate, Conspiracy, Conspire, Control,\\
Coordinates, Corpse, Counterattack, Countermand, Crash, Crime, Crisis, Cross-hairs, Culpability'
C = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Damage, Danger, Dangerous, Dash, Dead, Deadly, Death, Debacle, Deception, Deliberate, Demolish,\\
Demoralize, Despot, Destroy, Destruction, Detect, Detection, Devastation, Device, Dictator, Dictatorship,\\
Die, Disarmament, Disaster, Disastrous, Discipline, Disease, Dispute, Disruption, Dissonance, Division,\\
Domination, Doom, Downfall, Drama, Dread'
D = set(mystr.lower().replace(' ', '').split(','))
D.discard('die'); D.add('die ')

mystr = 'Encounter, Enemy, Enforce, Engagement, Epithet, Escalate, Excess, Execute, Execution, Expectations,\\
Explode, Exploitation, Explosion, Explosive, Expunge, Extremism'
E = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Faction, Fanatic, Fatal, Fear, Fearful, Felon, Ferment, Ferocious, Feud, Fierce, Fiery, Fight, Fighter,\\
Force, Forceful, Forces, Fray, Frenzy, Front lines, Fuel, Fugitive, Furtive'
F = set(mystr.lower().replace(' ', '').split(','))
F.add('front lines')

mystr = 'Gang, Gang up on, Gas, Genocide, Germ warfare, Grave, Grenade, Grievous, Groans, Guard, Guerrillas,\\
Guided bombs, Guns, Gunship'
G = set(mystr.lower().replace(' ', '').split(','))
G.discard('gas'); G.add(' gas')

mystr = 'Hammering, Harass, Harsh, Hatch, Hate, Hatred, Hazard, Hiding, Hijack, Hijacker, Hit, Hit-and-run,\\
Holocaust, Horror, Hostility, Howitzer, Hurt'
H = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Ignite, Impact, Improvise, Incident, Incite, Incontrovertible, Infanticide, Infiltrate, Inflame,\\
Informant, Injuries, Inmate, Insurgent, Insurrection, Intense, Intercept, Interdiction, International,\\
Interrogation, Intervene, Intimidate, Invasion, Investigate, Investigations, Involvement, Ire'
I = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Jail, Jeer, Jets, Join'
J = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Kamikaze, Keen, Kidnap, Killing, Knife, Knock-out'
K = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Land mines, Laser-activated, Launch, Launcher, Loathsome'
L = set(mystr.lower().replace(' ', '').split(','))
L.add('land mines')

mystr = 'Machine guns, Maim, Malevolent, Malicious, Maraud, March, Massacre, Mayhem, Megalomania, Menace,\\
Militancy, Militant, Militaristic, Military, Militia, Mines, Missile, Mission, Mistreatment, Mob, Mobile,\\
Mobilization, Momentum, Mortars, Munitions, Murder, Muscle'
M = set(mystr.lower().replace(' ', '').split(','))
```

```

M = set(mystr.lower().replace(' ', '')) #PACIFIC
M.discard('mob'); M.add(' mob')
M.add('machine guns')

mystr = 'Nationalist, Neutralize, Nightmare, Nitrate, Notorious'
N = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Offensive, Officials, Onerous, Operation, Opposition, Order, Out of control, Outbreak, Overrun, Overthrow'
O = set(mystr.lower().replace(' ', '').split(','))
O.add('out of control')

mystr = 'Pacify, Partisan, Patrol, Penetrate, Perform, Persecute, Petrify, Photos, Pilot, Pistol, Planes,\nPlunder, Position, Post-traumatic, Potent, Pound, Powder, Power, Powerful, Preemptive, Premeditate, Prey,\nPrison, Prisoner, Proliferation, Provocation, Prowl, Pugnacious, Pulverize, Pushing'
P = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Quail, Quarrel, Quell, Quiver'
Q = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Radiation, Radical, Rage, Ravage, Ravish, Rebel, Rebellion, Reconnaissance, Recovery, Recruit, Refugee,\nRegime, Regiment, Reinforcements, Relentless, Reparation, Reprisal, Reputation, Resistance, Retaliation, Retreat,\nRetribution, Revenge, Revolution, Ricochet, Rifle, Rift, Riot, Rival, Rocket, Rot, Rounds, Rule, Ruthless'
R = set(mystr.lower().replace(' ', '').split(','))
R.discard('rot'); R.add(' rot')

mystr = 'Sabotage, Sacrifice, Salvage, Sanction, Savage, Scare, Score, Scramble, Secrecy, Secret, Sedition, Seize,\nSeizure, Sensor, Setback, Shelling, Shells, Shock, Shoot, Shot, Showdown, Siege, Skirmish, Slaughter, Smash,\nSmuggle, Soldier, Special-ops, Specialized, Spy, Spy satellite, Squad, Stalk, Stash, Stealth, Storm, Straggler,\nStrangle, Strategic, Strategist, Strategy, Strength, Strife, Strike, Strip, Stronghold, Struggle, Subversive,\nSuffering, Superstition, Supplies, Support, Suppression, Surprise, Surrender, Survival, Survivor, Suspect'
S = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Tactics, Tank, Target, Tension, Terror, Terrorism, Terrorist, Terrorize, Threaten, Thug, Thwart, Topple,\nTorch, Tornado, Torpedo, Tourniquet, Tragic, Training, Trample, Trap, Trauma, Treachery, Trench, Trigger,\nTriumph, Tsunami, Turbulent'
T = set(mystr.lower().replace(' ', '').split(','))
T.discard('tank'); T.add(' tank')

mystr = 'Unbelievable, Unconventional, Unleash, Unruly, Uprising, Urgency'
U = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Vagrant, Vanguard, Vanish, Vehicle, Vehicular, Vendetta, Venomous, Vicious, Victory, Vile,\nVilify, Violation, Violence, Virulence, Vital, Vitriol, Vociferous, Void, Vow, Vulnerability'
V = set(mystr.lower().replace(' ', '').split(','))
V.discard('void'); V.add(' void')
V.discard('vile'); V.add(' vile')
V.discard('vow'); V.add(' vow')

mystr = 'Wage, War, Warheads, Warplane, Warrant, Warrior, Watchdog, Watchful, Weapon, Weather, Well-trained,\nWisdom, Worldwide, Wound, Wreckage'
W = set(mystr.lower().replace(' ', '').split(','))
W.discard('war'); W.add('war ')

mystr = 'X-ray'
X = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Yearn, Yelling'
Y = set(mystr.lower().replace(' ', '').split(','))

mystr = 'Zeal, Zealot, Zigzag, Zone'
Z = set(mystr.lower().replace(' ', '').split(','))

violence = A|B|C|D|E|F|G|H|I|J|K|L|M|N|O|P|Q|R|S|T|U|V|W|X|Y|Z

```

```
In [101]: from string import ascii_uppercase
'|'.join(list(ascii_uppercase))
```

```
Out[101]: 'A|B|C|D|E|F|G|H|I|J|K|L|M|N|O|P|Q|R|S|T|U|V|W|X|Y|Z'
```

```
In [102]: df_viol = df_comments[df_comments["message"].str.contains('|'.join(violence))]
print(df_viol.shape)
df_viol.head()
```

```
(100741, 16)
```

	message	datetime	id	n_replies	n_likes	media_id	parent_id	user_id	username	is_verified
0	#scarlettjohansson #alexandradaddario #emiliac...	2020-06-06:50:19	23 17915232430430980	0.0	0.0	2337634847974873088	n	3988263563	scarlettjohansonofficial	False
4	bombón bello ❤️ ❤️❤️❤️	2020-06-07:14:40	23 18066076495222844	0.0	0.0	2337634847974873088	n	1521544054	jorgero122129	False
89	dangerous super star oscar star	2020-04-17:53:27	14 18136297477034792	0.0	1.0	2287233500130044160	n	32552879217	bakht.ali.khan.scientist	False
117	#rockhound #stoneforsale #cabfsorsale #jewelry...	2021-03-18:08:07	13 17886330581019956	0.0	0.0	2504150184469410816	n	44659432321	reach_dream.id	False
122	#suicidesquad #thewolfowallstreet #scarlettjo...	2020-08-18:48:32	11 1788027742662512	0.0	0.0	2373510329793922048	n	39554194013	cinefilms7	False

Note: It will be more efficient to work on a more focused list of threat keywords.

In [104]:	# the comment die repeated 15 times df_comments[df_comments["message"] == 'die']																																																
Out[104]:	<table border="1"> <thead> <tr> <th></th><th>message</th><th>datetime</th><th></th><th>id</th><th>n_replies</th><th>n_likes</th><th></th><th>media_id</th><th>parent_id</th><th></th><th>user_id</th><th></th><th>username</th><th>is_verified</th><th></th></tr> </thead> <tbody> <tr> <td>58732</td><td>die</td><td>2020-12-08 02:53:32</td><td></td><td>17858014535306286</td><td>0.0</td><td>6.0</td><td></td><td>2458896052462193664</td><td>n</td><td></td><td>21679518827</td><td></td><td>ivyjenprise</td><td>False</td><td>https://www.instagram.com/p/CBzJLjAqDfI/</td></tr> <tr> <td>128367</td><td>die</td><td>2020-11-07 04:27:44</td><td></td><td>18115301632166744</td><td>0.0</td><td>0.0</td><td></td><td>2436609445252083712</td><td>n</td><td></td><td>25535518798</td><td></td><td>slut_for_big_juicy_tacos</td><td>False</td><td>https://www.instagram.com/p/CBzJLjAqDfI/</td></tr> </tbody> </table>		message	datetime		id	n_replies	n_likes		media_id	parent_id		user_id		username	is_verified		58732	die	2020-12-08 02:53:32		17858014535306286	0.0	6.0		2458896052462193664	n		21679518827		ivyjenprise	False	https://www.instagram.com/p/CBzJLjAqDfI/	128367	die	2020-11-07 04:27:44		18115301632166744	0.0	0.0		2436609445252083712	n		25535518798		slut_for_big_juicy_tacos	False	https://www.instagram.com/p/CBzJLjAqDfI/
	message	datetime		id	n_replies	n_likes		media_id	parent_id		user_id		username	is_verified																																			
58732	die	2020-12-08 02:53:32		17858014535306286	0.0	6.0		2458896052462193664	n		21679518827		ivyjenprise	False	https://www.instagram.com/p/CBzJLjAqDfI/																																		
128367	die	2020-11-07 04:27:44		18115301632166744	0.0	0.0		2436609445252083712	n		25535518798		slut_for_big_juicy_tacos	False	https://www.instagram.com/p/CBzJLjAqDfI/																																		

166485	die	2021-05-05 11:46:03	17894038498986352	0.0	0.0	2553748999674566144	n	5850769474	30secondsintoyouravelshiva	False	https://www.instagram.com/
269195	die	2020-11-16 16:57:14	18143307907109632	0.0	0.0	2443143072026808320	n	4099437574	consti.rgb	False	https://www.instagram.com/
311402	die	2020-11-12 11:23:03	17861523101225796	0.0	1.0	2440264231002668032	n	25535518798	slut_for_big_juicy_tacos	False	https://www.instagram.com/
365864	die	2020-11-11 12:06:14	17937017494418218	0.0	0.0	2439823329039657472	n	1911116888	denny_reid	False	https://www.instagram.com/
410577	die	2020-11-22 20:23:21	17847414395425436	0.0	5.0	2448188689260675584	n	16129093992	alitz4y4n	False	https://www.instagram.com/
770630	die	2020-11-07 01:20:34	17881472632881430	0.0	0.0	2436553450303797760	n	25535518798	slut_for_big_juicy_tacos	False	https://www.instagram.com/
846359	die	2018-08-01 18:03:29	17964281413009510	0.0	0.0	1835501814478774528	n	5883459961	alec_leyhub	False	https://www.instagram.com/
964526	die	2020-11-07 01:26:55	17861480132205220	0.0	0.0	2436618900563834880	n	25535518798	slut_for_big_juicy_tacos	False	https://www.instagram.com/
1247187	die	2020-12-11 05:53:20	17879740102935508	0.0	4.0	2460956363289684480	n	4402756480	rowenagrc	False	https://www.instagram.com/
1328148	die	2021-01-03 00:05:43	18183603988042000	0.0	3.0	2477637202505256960	n	1075987790	dominik_mit_que	False	https://www.instagram.com/
1559012	die	2020-11-14 01:42:01	18116594785160884	0.0	0.0	2441737730657456640	n	4237770078	kai06_	False	https://www.instagram.com/
1559441	die	2020-11-13 22:05:57	18016231099290828	0.0	0.0	2441737730657456640	n	769216042	_mandom_	False	https://www.instagram.com/
1654866	die	2020-12-11 05:52:49	17856176576324756	0.0	0.0	2461266069782543360	n	4402756480	rowenagrc	False	https://www.instagram.com/

In [105]:

```
# Investigated Every Keyword to be put on the threat keywords list
df_comments[df_comments["message"].str.contains('kill' or 'amber')].message.value_counts().head()
```

Out[105]:

```
[tags: #mera #justiceleague #aquaman #3daystokill #londonfields #theinformers #crazydrive #theward #artist #activist #wearewithyouamberheard]
47
kill amber
19
[tags]\n#amberheardfan #amberheardfans #amberheardstyle #amberheardedits #amberheard #love #instagood #wearewithyouamberheard #photoofth
eday #fashion #beautiful #happy #cute #tbt #amberheardfansindia #standwithamberheard #aquaman #wearewithamberheard #magicmikexxl\n#3daystokill #thedan
ishgirl #londonfields \n#pineappleexpress 13
killer
13
@heardsource #mera #justiceleague #aquaman #3daystokill #londonfields #theinformers #crazydrive #theward #artist #activist #wearewithyouamberheard
8
Name: message, dtype: int64
```

In [106]:

```
df_comments[df_comments["message"].str.contains('kill her')].message.value_counts().head()
```

Out[106]:

```
kill her
4
seriously, how and why on earth are you supporting @amberheard when quite clearly she a massive liar & the abuser in the ongoing case with @johnnydepp
😊😊 amazing how narcissists will gaslight and goad to get a reaction & when that person finally reacts & blows up, the narcissist is in exactly the right place to film the blow up 😊 it's almost as if she knew what she was doing??!!!! it's funny... for the amount of times she claims he threatened to kill her, she doesn't have not one recording but she's documented everything else!!! i also find it funny that if he has beaten her so badly, thrown phones at her face etc that she doesn't have any open wounds/ gashes/ stitches etc.... plus the supposed hair evidence... if you yank/ pull someone's hair, it doesn't break off in a 2/3inch section at the bottom (that's cutting) it gets ripped out in clumps from the roots!!! \nshe's 100% a total narcissistic sociopath!!! 😊😊 #justiceforjohnnydepp 3
amazing how narcissists will gaslight and goad to get a reaction & when that person finally reacts & blows up, the narcissist is in exactly the right place to film the blow up 😊 it's almost as if she knew what she was doing??!!!! it's funny... for the amount of times she claims he threatened to kill her, she doesn't have not one recording but she's documented everything else!!! i also find it funny that if he has beaten her so badly, thrown phones at her face etc that she doesn't have any open wounds/ gashes/ stitches etc.... plus the supposed hair evidence... if you yank/ pull someone's hair, it doesn't break off in a 2/3inch section at the bottom (that's cutting) it gets ripped out in clumps from the roots!!! \nshe's 100% a total narcissistic sociopath!!! 😊😊 #justiceforjohnnydepp 3
```

let's also not forget that it wasn't the first abusive relationship for amber but it was the first for johnny according to almost all of his exes, so we know who started to shift the relationship into a toxic and abusive place and you can't blame johnny for getting wrapped up in it and talking to his friend how he "wants to kill her" in his rage but would never do it, meanwhile amber actually used physical violence on him.

2
😊 amazing how narcissists will gaslight and goad to get a reaction & when that person finally reacts & blows up, the narcissist is in exactly the right place to film the blow up 😊 it's almost as if she knew what she was doing??!!!! it's funny... for the amount of times she claims he threatened to kill her, she doesn't have not one recording but she's documented everything else!!! i also find it funny that if he has beaten her so badly, thrown phones at her face etc that she doesn't have any open wounds/ gashes/ stitches etc.... plus the supposed hair evidence... if you yank/ pull someone's hair, it doesn't break off in a 2/3inch section at the bottom (that's cutting) it gets ripped out in clumps from the roots!!! \nshe's 100% a total narcissistic sociopath!!! 😊😊

2
Name: message, dtype: int64

In [107]:

```
df_comments[df_comments["message"].str.contains('deathtoamber')].message.value_counts().head()
```

Out[107]:

```
#deathtoamber 1
Name: message, dtype: int64
```

In [120]:

```
df_comments[df_comments["message"].str.contains('death to amber')].message.value_counts().head()
```

Out[120]:

```
@mark.marked89 death to amber that fuck cucc 1
Name: message, dtype: int64
```

Tn F1.0.2

```
# KYS is an internet acronym standing for "kill yourself"
threat = {'death', 'death ', 'burn', 'kys', 'go kys', 'raped', 'get raped', 'go die', 'diecunt',
'kill amber', 'kill her', 'deathtoamber', 'death to amber'}
```

```
In [109... df_threat = df_comments[(df_comments["message"].str.contains('|'.join(threat))) |
(df_comments["message"] == 'die')]
print(df_threat.shape)
df_threat.head()
```

(2649, 16)

	message	datetime	id	n_replies	n_likes	media_id	parent_id	user_id	username	is_verified	
889	i shouldn't threaten people with death, but i ...	2020-02-04 00:15:56	18087529300179632	1.0	5.0	2235162134629858816	n	16460589583	fucked_ur_mom.com_	False	https://www.instagram.com/p/CzJLWfBjDwv/
2472	@cigarettesaftersex first of all if she real...	2018-11-14 23:36:29	17983705108105908	NaN	2.0	190880712740829952	17999702125036416	1551186160	rinadalzahrani	True	https://www.instagram.com/p/BXyfCfBjDwv/
7850	@willycade aquaman was man handled by deathstr...	2018-05-26 05:08:47	17934564094097342	NaN	0.0	1787378148288819712	17873477521240764	4780195349	all.around.geeks	True	https://www.instagram.com/p/BXyfCfBjDwv/
7851	@all.around.geeks because deathstroke is a g ...	2018-05-26 05:17:20	17922396760133996	NaN	1.0	1787378148288819712	17873477521240764	4560255415	willycade	True	https://www.instagram.com/p/BXyfCfBjDwv/
9643	benjamin anthony brereton (stoke-on-trent, 18 ...	2021-06-15 01:40:49	18236380696000440	2.0	34.0	2596223551650236928	n	34155585717	m4tiaaaaass_	False	https://www.instagram.com/p/CzJLWfBjDwv/

A Heat Map for the Count of Comments Containing Threat Keywords

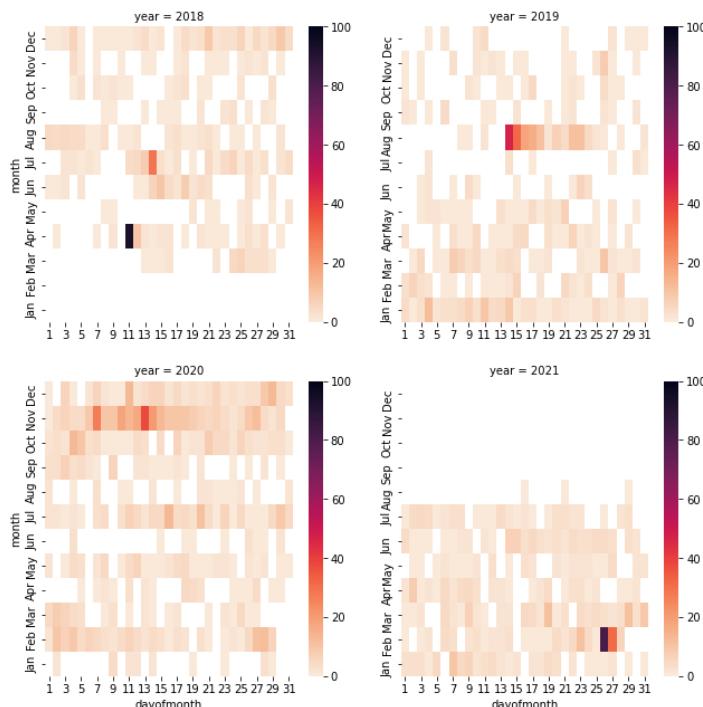
```
In [110... daily_counts = df_threat.groupby(['year', 'dayofmonth', 'month']).size().reset_index(name='count')
months = ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec']

def draw_heatmap(*args, **kwargs):
    data = kwargs.pop('data')
    d = data.pivot(index=args[1], columns=args[0], values=args[2])
    d = d.reindex(index=months[::-1])
    sb.heatmap(d, **kwargs)

g = sb.FacetGrid(daily_counts, col='year', col_wrap=2, height=4.5)
g.map_dataframe(draw_heatmap, 'dayofmonth', 'month', 'count', cmap='rocket_r', vmin=0, vmax=100);

plt.suptitle('A Heat Map for the Count of Comments Containing Threat Keywords', y=1.04, fontsize=18)
g.fig.subplots_adjust(wspace=0.15, hspace=0.2)
for axis in g.axes.flat:
    axis.tick_params(labelbottom=True, labelleft=True)
```

A Heat Map for the Count of Comments Containing Threat Keywords



Most Repeated Comments Containing Threat Keywords

```
In [111... df = df_threat.groupby(['message']).agg({'id':'count', 'n_likes': 'sum', 'n_replies': 'sum'}).reset_index()
df.rename(columns={'id':'repeated_times'})
```

```
df.sort_values('repeated_times', ascending=False).head(25)
```

	message	repeated_times	n_likes	n_replies
1711	kill amber	19	68.0	0.0

1259	die	15	19.0	0.0
1844	logan's death	7	1.0	0.0
1141	burn	6	9.0	0.0
36	#lilycollins #lilyjanecollins #lilycollins #e...	6	0.0	0.0
1860	logan's death	5	2.0	0.0
2454	yondu's death	5	1.0	0.0
1787	kill her	4	2.0	0.0
1824	life is tough and short will never quit till d...	4	0.0	0.0
1800	kys	4	1.0	0.0
1031	amazing how narcissists will gaslight and goad...	3	30.0	2.0
1164	burn the witch	3	38.0	2.0
1934	nah it's the death	3	1.0	0.0
1966	no it's the death	3	0.0	0.0
2466	you are a desire...\na desire that i want to be ...	3	0.0	0.0
590	@luke.d.burnett they need to put zack on with ...	3	15.0	0.0
1154	burn it	3	94.0	1.0
2106	seriously, how and why on earth are you suppor...	3	2.0	0.0
1147	burn in hell	3	5.0	0.0
1714	kill amber #justiceforjohnnydepp	2	51.0	2.0
2179	so zack brought frank miller's dark knight to...	2	10.0	1.0
1533	i really want to say a big thank you ma, for a...	2	0.0	0.0
1323	fuck gal, marry margot, kill amber	2	0.0	0.0
41	#supremegodkabir\nbirth and death are the bigg...	2	0.0	0.0
1963	no its the death	2	0.0	0.0

In [112]: df_threat.message.value_counts().head(25)

```
Out[112]:
kill amber
19
die
15
logan's death
7
burn
6
#lilycollins #lilyjanecollins #lilyjcollins #emilyinparis #tothebone #loverosie #mirrormirror #shadowhunters #theblindsie #actress #audreyhepburn #ambe
rhead #angelinajolie #bradpitt #sandrabullock #cateblanchett #chrisevans #robertdowneyjr #tomholland #scarlettjohansson #clarifyfray #clarissafairchild #
tmicast #tmi #cobmovie #clace #snowwhite #philcollins #followers
6
logan's death
5
yondu's death
5
life is tough and short will never quit till death
4
kill her
4
kys
4
seriously, how and why on earth are you supporting @amberheard when quite clearly she a massive liar & the abuser in the ongoing case with @johnnydepp
😊😊 amazing how narcissists will gaslight and goad to get a reaction & when that person finally reacts & blows up, the narcissist is in exactly the right p
lace to film the blow up 🙄 it's almost as if she knew what she was doing????!! it's funny... for the amount of times she claims he threatened to
kill her, she doesn't have not one recording but she's documented everything else!!! i also find it funny that if he has beaten her so badly, thrown pho
nes at her face etc that she doesn't have any open wounds/ gashes/ stitches etc.... plus the supposed hair evidence... if you yank/ pull someone's hair,
it doesn't break off in a 2/3inch section at the bottom (that's cutting) it gets ripped out in clumps from the roots!!! \nshe's 100% a total narcissisti
c sociopath!!! 😊😊 #justiceforjohnnydepp 3
amazing how narcissists will gaslight and goad to get a reaction & when that person finally reacts & blows up, the narcissist is in exactly the right p
lace to film the blow up 🙄 it's almost as if she knew what she was doing????!! it's funny... for the amount of times she claims he threatened to kill
her, she doesn't have not one recording but she's documented everything else!!! i also find it funny that if he has beaten her so badly, thrown phones a
t her face etc that she doesn't have any open wounds/ gashes/ stitches etc.... plus the supposed hair evidence... if you yank/ pull someone's hair, it d
oesn't break off in a 2/3inch section at the bottom (that's cutting) it gets ripped out in clumps from the roots!!! \nshe's 100% a total narcissistic so
ciopath!!! 😊😊 #justiceforjohnnydepp
3
@luke.d.burnett they need to put zack on with her like ww1 to make sure she don't do nothing stupid
3
burn in hell
3
no it's the death
3
burn the witch
3
burn it
3
nah it's the death
3
you are a desire...\na desire that i want to be fulfilled, yet glowing and alight,\na desire that i want to burn in my heart each night.\nyou are a dream...
\na dream that entered my heart without any warning,\na dream that i want to wake up with each morning.when i feel the warmth in her heart\ni know she i
s the one from whom i shall never depart\nwhen i rest my head on her knees\ni can weave a future of dreams\nas my love, i silently profess\nunto my darlin
g princess.you have come into my life\nand it changed with a blink of an eye\neyou have blown the roof\nunto let me see the blue sky.\ni can praise you for
a whole day\nbut my love for you so great\nthat i need many days to say.
3
climate challenge: \nclimate change affects every corner of our planet today-from the extremity to the tropics and from the mountains to the oceans. peo
ples and nature worldwide are already feeling the effects:water supplies are shrinking,extreme weather events increasing in frequency and intensity,fore
sts burning, and coral reefs dying.\nwe can to help protect our only home. every action counts towards securing a brighter future for our planet\nthnx\n
hmaileha
2
a woman standing on the crest of a cliff\nhanging steeply over the vastness of the sea,\ni ran with my eyes until the full moon\nmelting into the minor
chord of the surf.\nthe sea shed a tear on the shore,\na gentle roar called and beckoned,\nwaves of stones caressed below,\nin the spray of salty love g
ave her.\n\nin this magic-shrouded darkness\nsuddenly i heard inviting sounds\nand in reality, as if in a dream,\nhappily, she spread her arms out to
meet me.\nand she screamed - i love you!\ni'm not looking for death, i just want to be with you.\n\nin a guttural cry - pain, joy, longing\nstep ...
2
ouch burn😊😊
```

```

2
she should kys
2
i really want to say a big thank you ma, for all the support and guidance towards a successful withdrawal, actually i never believed in the process, all
i was thinking was that i have lost my money on it..until on friday i saw a notification from my mail..you have made me understand the meaning of trus
t,confidence and patient..i really want to say thank you mrs adriana colburn..she is really trustworthy and patient as well..if you are really interes
ted on earning on binary/forex trade..you can contact her via clicking on her name \n@adriana.colburn303\whatsapp +18488634766\www.facebook.com/adria
na.colburn.514
2
his death was sad
2
Name: message, dtype: int64

```

Top Users Commented with Threat Keywords

```

In [113]: # The total number of different users Commented with Threat Keywords
df_threat.username.nunique()

Out[113]: 2294

In [114]: df_nthreat = df_threat.groupby(['username']).agg({'message':'count', 'n_likes': 'sum', 'n_replies': 'sum'}).reset_index(
    ).rename(columns={'message':'n_comments'}).sort_values('n_comments', ascending=False)

df_nthreat.head(25)

Out[114]:
   username  n_comments  n_likes  n_replies
0  2087      ticketm6       21      1.0       3.0
1  1395      mcukv        16      2.0       3.0
2  783       fusco7134      14      2.0       0.0
3  1915  slut_for_big_juicy_tacos      13      1.0       0.0
4  1800      ryan_swift_bat13      11     56.0       0.0
5  1247      life_with_stacey      8     39.0       3.0
6  558       dcebucteddy       8     16.0       4.0
7  1826  samueleduardoarmandof      7     19.0       0.0
8  990       j_rousseau       7      1.0       0.0
9  1276      love_warkad       7      0.0       0.0
10 1251      lilycollins       6      0.0       0.0
11 1448      mir_o_slav_71       6      0.0       0.0
12 457       colepoff        6      7.0       0.0
13 1126      juliojczsde       5      4.0       0.0
14 33       _a_tired_ass_enby_       5      2.0       0.0
15 1605      ohgodnotsimone       4      6.0       0.0
16 2143      v4l3nt1nlol       4      5.0       0.0
17 868       hannah_in_wonderland       4      4.0       0.0
18 1484      motivationnetwork       4      2.0       0.0
19 1420      michael.quinlivan       4      2.0       6.0
20 281       austinebner23       4      2.0       0.0
21 529       danthomasnilsson       4      3.0       3.0
22 1808      sadistix.pl       4     11.0       0.0
23 384       cameron.sowell       4     16.0       0.0
24 1183      king_of_fancasts       4      1.0       0.0

In [115]: barh(
    df_nthreat[['username', 'n_comments']].head(20), 'Top users commentd with Threat Keywords', 0
)

```

Threat Keywords Users Contributions on Each Date

```

In [116]: df = df_threat.groupby(['date', 'username']).agg({'message':'count', 'n_likes': 'sum', 'n_replies': 'sum'}).reset_index(
    ).rename(columns={'message':'n_comments'}).sort_values('n_comments', ascending=False)

df.head(15)

Out[116]:
   date      username  n_comments  n_likes  n_replies
0  1619  2020-11-07  slut_for_big_juicy_tacos      12      0.0      0.0
1  1377  2020-07-20      life_with_stacey       8     39.0      3.0
2  1026  2019-11-26  samueleduardoarmandof       7     19.0      0.0
3  1668  2020-11-12      _a_tired_ass_enby_       5      2.0      0.0
4  780   2019-06-23      j_rousseau       5      1.0      0.0
5  2383  2021-06-14      cameron.sowell       4     16.0      0.0
6  1710  2020-11-13      v4l3nt1nlol       4      5.0      0.0
7  1533  2020-10-17      deptheadest       3      0.0      0.0
8  2280  2021-04-02      rom.desire       3      8.0      0.0
9  2423  2021-06-26      fusco7134       3      0.0      0.0
10 698   2019-04-07      kkeller_md       3      1.0      0.0
11 2204  2021-03-09  iakeoreenhill25       3      3.0      0.0

```

1463	2020-09-09	sanjidrip	3	1.0	0.0
701	2019-04-10	love_warkad	3	0.0	0.0
414	2018-12-04	ericjeffrey07	3	0.0	0.0

Threat Keywords Peak Dates

```
In [117]: threat_dates = df_threat.groupby(['date']).agg({'message':'count', 'n_likes': 'sum', 'n_replies': 'sum'}).reset_index()
.rename(columns={'message':'n_comments'}).sort_values('n_comments', ascending=False)
threat_dates.head(15)
```

	date	n_comments	n_likes	n_replies
14	2018-04-11	93	28.0	5.0
673	2021-02-26	81	548.0	3.0
304	2019-08-14	47	404.0	19.0
580	2020-11-13	38	130.0	4.0
305	2019-08-15	32	134.0	0.0
674	2021-02-27	31	0.0	1.0
64	2018-07-14	29	64.0	1.0
574	2020-11-07	27	171.0	1.0
581	2020-11-14	21	15.0	0.0
577	2020-11-10	18	443.0	0.0
306	2019-08-16	18	4.0	0.0
579	2020-11-12	17	343.0	1.0
307	2019-08-17	16	70.0	0.0
578	2020-11-11	14	20.0	1.0
582	2020-11-15	13	65.0	0.0

```
In [118]: bar_peaks(threat_dates[['date', 'n_comments']].head(3), 'Threat Keywords Peaks')
```

More Investigations on Top Users Commented with Threat Keywords

```
In [119]: df_threat.username.value_counts().head(20)
```

ticetm6	21
mcukv	16
fusco7134	14
slut_for_big_juicy_tacos	13
ryan_swift_bat13	11
dcebucteddy	8
life_with_stacey	8
j_rousseau	7
samuoleduardoarmandof	7
love_warkad	7
lilyscillins	6
colepoff	6
mir_o_slav_71	6
julioczysde	5
_a_tired_ass_enby_	5
king_of_fancasts	4
danthomasnilsson	4
austinebner23	4
ohgodnotsimone	4
motivatornetwork	4
Name: username, dtype: int64	

In []:



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