



Twitter, 5G, and conspiracy theories.....

1 Introduction

1 Introduction

In this study, we research
conspiracy content
found in tweets with the
hashtag #5G.

2 Background

2 Background

#5G

#Stop5G

5G to Bolivia and beyond

There's absolutely no way 5G mobile phone signals either transmit the virus or reduce our defences to it - we've debunked these claims, which scientists say are biologically impossible.

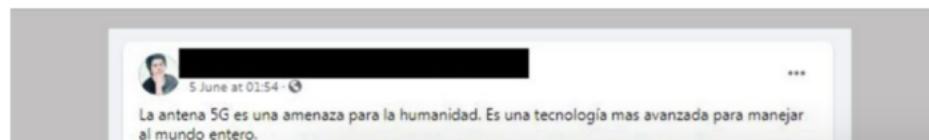
But this hasn't stopped these rumours going global, leading to protests even in countries where the technology doesn't yet exist.



In Bolivia, the sharing of videos of telecommunications equipment along with claims 5G is responsible for coronavirus, have led to attacks on masts in two towns.

There is no 5G technology in the country, says Adriana Olivera, a journalist at Bolivia Verifica , but "after seeing these rumours, combined with the fact that everyone is confined to lockdown, it led to people pulling down antennas in K'ara K'ara and Yapacani".

- Latin America's coronavirus crisis in numbers



- Man jailed for 5G phone mast arson attack

- The Inquiry: Why are people attacking 5G mobile phone masts?



Bill Gates has featured a lot in Serbian media during the pandemic

In Serbia, 5G conspiracies and speculation about Bill Gates have also been popular both on television and in the tabloid press, where stories are often drawn from English or Russian sources.

"So we get to see the same fake news content as the UK, US or elsewhere," says Lazara Marinkovic, who reports on disinformation for BBC News Serbian.

Celebrities have also fed into the speculation, including Novak Djokovic who revealed his opposition to vaccinations in April and his wife Jelena who shared a video which promoted conspiracies about 5G.

CHECK OUT THE DEVIL HORN SYMBOLISM



THEY'RE NOT EVEN TRYING TO
HIDE IT ANY LONGER.

Thrillist · Yesterday
AOC's Twitch Stream Am
Us' Drew 435,000 Viewers

Los Angeles Times · Last
Why won't the Charlie Brow
holiday specials air on netw
TV?

COVID-19 · Yesterday
Harvard researcher estimat
COVID-19 has cost America
2.5 million years of life

Texas Tribune · Yesterday
Texas social workers can no
turn away clients who are
LGBTQ or have a disability

Show more

Who to follow

Ida Vehnämäki
@idavehna Follows you

Hannes Kallioinen
@hanagra... Follows you

Show more

[Terms of Service](#) [Privacy Policy](#)

[Ads info](#) [More](#) © 2020 Twitte

#scamdemic2020 #Agenda21
#Agenda2030 #NWO #Stop5G
#5GCoronavirus #5GDangers
#5GKILLS #coronavirus
#covid_19 #plandemic
#GodWins #JudgementDay
#FreeAssange
#Justice4Assange
#MAGA2020LandslideVictory

! Get the facts about COVID-19

9:18 PM · Oct 21, 2020 · Twitter for Android



Show more replies



Miki Perna
@mikipernu

1



StarryKnight0K @StarryK2015312 · 15m

testFauci #Genocide #stbilligates2020 #Agenda21 #Agenda2030
#stop5g #stop5gnow #coronavirus #lockdown2020 #Covid_19

Messag



Science has proven the criminal truth about Wi-Fi. But Radiation Deniers would rather live the shrivelled lives of lab rats running blind through an irradiated maze.

#5G #Cancer #Stop5G #Health
#Fitness #AusPol #ScoMo
#EHS #EMF #EMR #EME
#Radiation #Telstra
#SmartMeters

9:02 AM · Nov 22, 2020 · Twitter Web App

3 Retweets 3 Likes



Nov 22

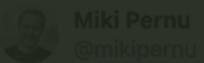
Replying to
Well that batshit insane 😂



Goldman Sachs
7,147 Tweets

Trending in United States
Nate

Messa



Miki Pernu
@mikiperunu

1



JT @BSA_JT · Nov 22
3 to @maxwithaxe 3



3 Questions

3 Questions

- 1. Ratio between conspiratory and non-conspiratory content?**
2. What kind of content is normal for tweets with #5G?
3. What kind of conspiratory content is tweeted with #5G?

3 Questions

1. Ratio between conspiratory and non-conspiratory content?
2. **What kind of content is normal for tweets with #5G?**
3. What kind of conspiratory content is tweeted with #5G?

3 Questions

1. Ratio between conspiratory and non-conspiratory content?
2. What kind of content is normal for tweets with #5G?
3. What kind of conspiratory content is tweeted with #5G?

4 Methods

4 Methods

1. Create a list of keywords and hashtags that are conspiratory
2. Tag dataset of #5G tweets either conspiratory or non-conspiratory
3. Analyze content of tweets, both conspiratory and non-conspiratory

4 Methods

1. Create a list of keywords and hashtags that are conspiratory

We analyze tweets found with these queries to form conspiratory tag words:

#5Gcoronavirus

#BillGates **AND** 5G

#hoax **AND** 5G

#Stop5G

4 Methods

1. Create a list of keywords and hashtags that are conspiratory

Tweets are gathered between 15.10. and 26.11. to create four datasets.

#5Gcoronavirus

#BillGates **AND** 5G

#hoax **AND** 5G

#Stop5G

4 Methods

1. Create a list of keywords and hashtags that are conspiratory
2. Tag dataset of #5G tweets either conspiratory or non-conspiratory
3. Analyze content of tweets, both conspiratory and non-conspiratory

4 Methods

2. Tag dataset of #5G tweets either conspiratory or non-conspiratory

Tweets with hashtag **#5G** are gathered between **15.10.** and **26.11.** to create our dataset to be tagged and analyzed.

4 Methods

1. Create a list of keywords and hashtags that are conspiratory
2. Tag dataset of #5G tweets either conspiratory or non-conspiratory
3. **Analyze content of tweets, both conspiratory and non-conspiratory**

4 Methods

Jupyter Lab



5 Results

5 Results

1. Ratio between conspiratory and non-conspiratory content?

We analyzed **55,666** unique English-language tweets out of **207,830**.

64.6% of all tweets were in English.
Then we removed 77,395 duplicates.

5 Results

1. Ratio between conspiratory and non-conspiratory content?

We produced the following keywords and hashtags to tag content with from **630 tweets**:

Conspiratory keywords

think, **nwo**, video, environment, technology, , fcc, **hoax**,
thegreatreset, mobile, **protest**, awareness, shop, **technocracy**, day,
5gkillgrid, **anti5g**, **arrestbillgates**, corona, **longcovid**, tower, **anti**,
want, **microwavesickness**, wifi, dont, **stop3gpp**, **no5g**, **safeg**,
cancer, **event201**, virus, 5g, covid, **vaccines**, **5gnetwork**,
covidhoax, fitness, smartgrid, **billgates**, latest, phone, impact, **emr**,
microwave, share, design, world, **ehs**, addition, **stop4glte**,
radiation, response, know, **5gkills**, landmark, **vaccine**, coronavirus,
wirelessradiation, safety, agenda2030, eme, safe, case, real, **nca**,
5gdangers, **emf**, cause, antenna, health, **warning**, **5gtowers**,
scomo, filed, **danger**, **publichealth**, stop, etsy, brief, frequency,
people, need, new, **5gcoronavirus**, **5gharm**, **symptom**, government,
wireless, covid19, excited, **lie**, twitter, **planetearth**, **truthmatters**

Conspiratory hashtags

5g, billgates, emf, cancer, covid19, health, radiation, stop4glte, arrestbillgates, technocracy, wireless, nwo, coronavirus, fcc, 5gdangers, wifi, ehs, longcovid, vaccines, covidhoax, publichealth, 5gcoronavirus, scomo, no5g, fitness, environment, emr, 5gkillgrid, wirelessradiation, 5gnetwork, agenda2030, 5gharm, truthmatters, planetearth, anti5g, antenna, mobile, etsy, safeg, smartgrid, covid, hoax, thegreatreset, stop3gpp,eme, microwavesickness, 5gtowers, 5gkills, event201, vaccine

5 Results

1. Ratio between conspiratory and non-conspiratory content?

1471 or 2.6% of all unique #5G tweets were tagged conspiratory.

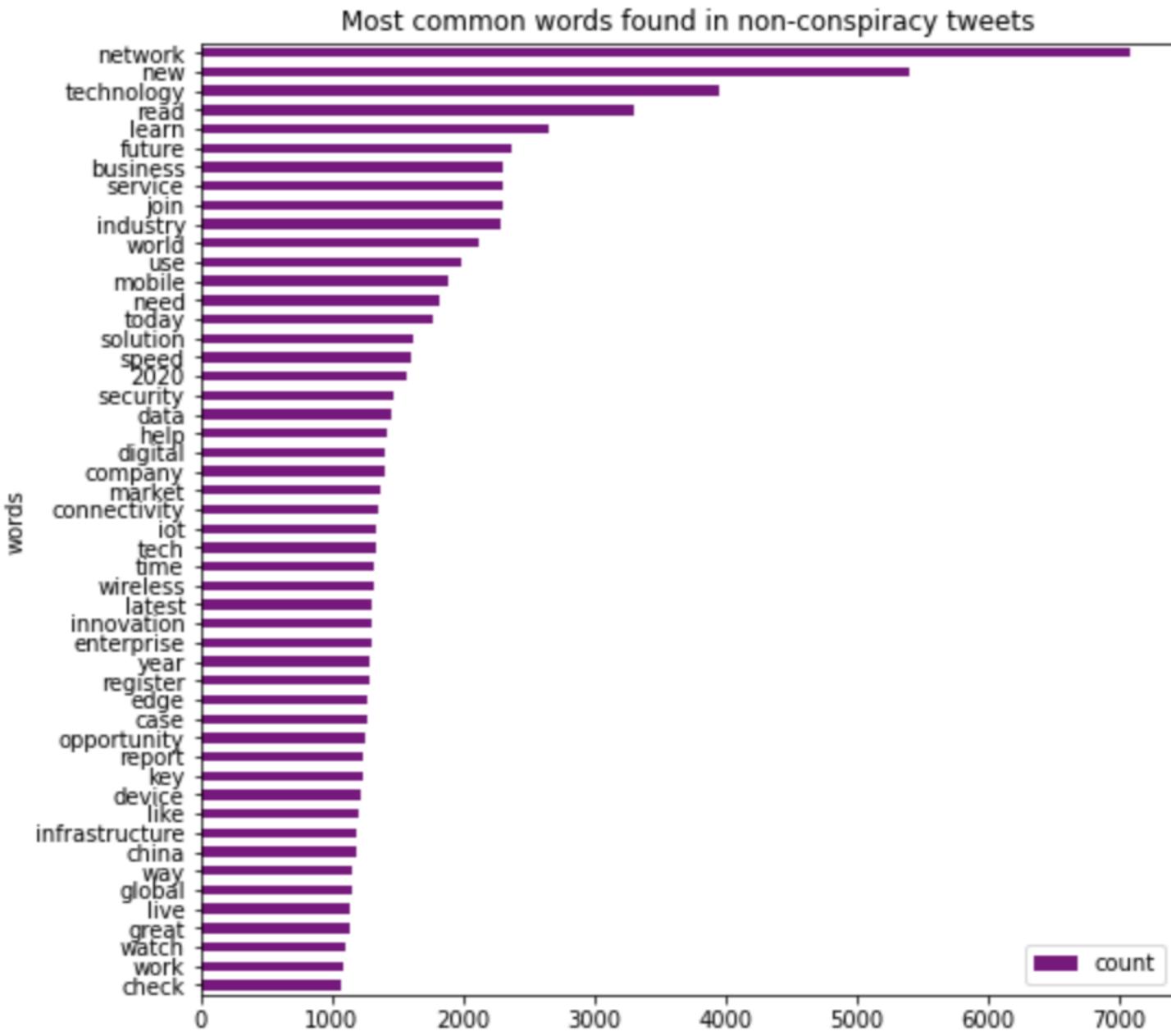
We did not assess what the ratio would be with duplicate tweets included.

5 Results

2. What kind of content is normal for tweets with #5G?

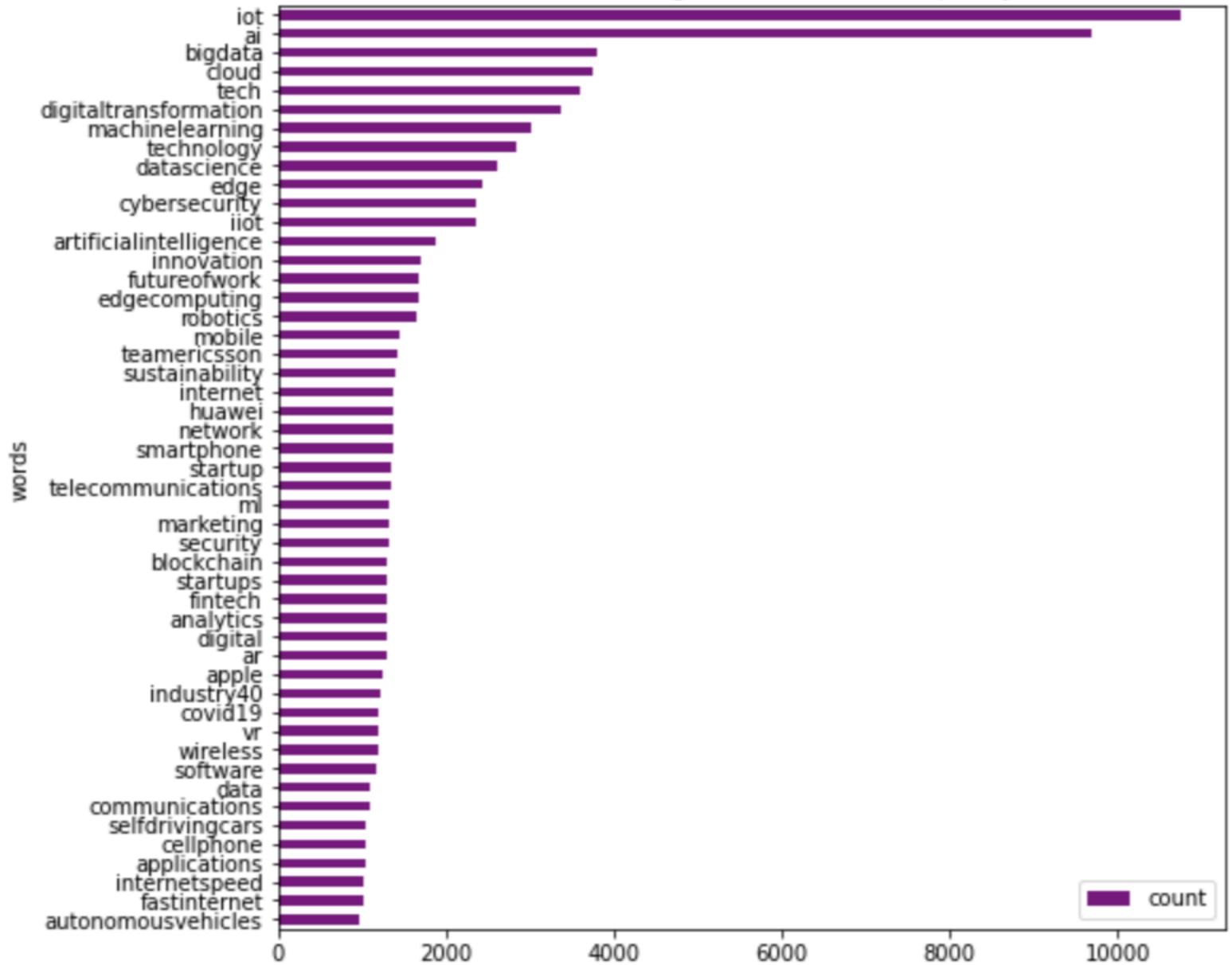
The content is technology-oriented: discussing and marketing AI, IoT, networks, solutions, security, mobile phones...

words



	terms	tfidf
7388	network	1058.472974
7406	new	879.242328
10661	technology	715.803552
8797	read	690.055552
4771	future	549.853865
6350	learn	517.391042
2060	business	485.267777
5681	industry	469.688568
6075	join	457.571670
11826	world	455.032170
9646	service	444.910635
11378	use	424.018204
7361	need	421.997270
7100	mobile	397.210933
10084	speed	391.566263
10894	today	382.464670
265	2020	373.518367
5933	iot	364.682356
9995	solution	332.839261
9563	security	332.774672

Most common hashtags found in non-conspiracy tweets



hashtags

	terms	tfidf
3080	iot	2504.693681
373	ai	1980.090873
5439	teamericsson	1210.387683
1219	cloud	1050.641464
1755	digitaltransformation	1034.641936
5449	tech	896.543689
5486	technology	819.784031
1913	edge	782.016055
795	bigdata	734.076955
1918	edgecomputing	715.369739
3467	machinelearning	709.933293
4945	security	678.305284
1539	cybersecurity	674.450940
2812	huawei	664.363525
2902	iiot	584.060140
2985	innovation	544.676757
1600	datascience	541.452177
572	artificialintelligence	529.473908
6179	wireless	508.438313
2415	futureofwork	481.802574

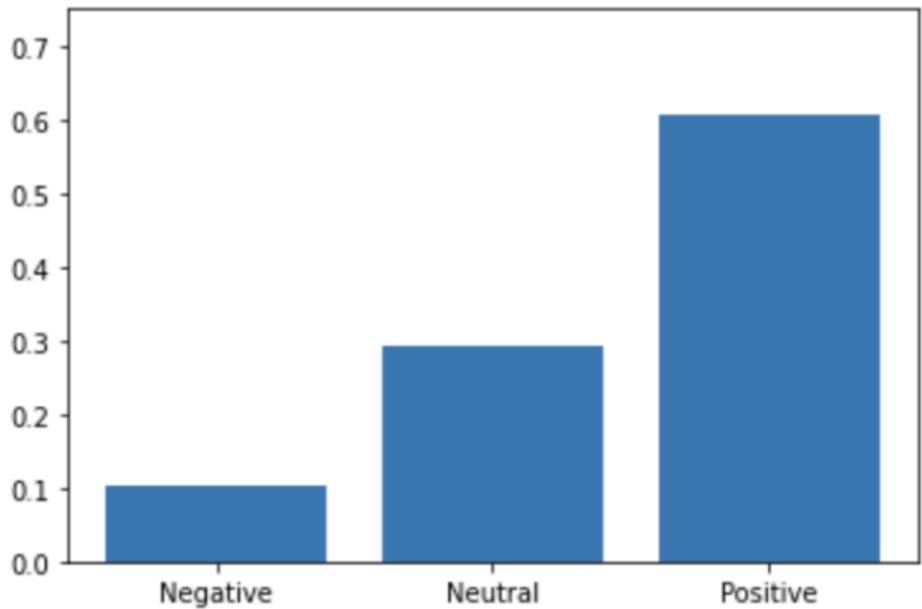
5 Results

2. What kind of content is normal for tweets with #5G?

A sentiment analysis shows that of the tweets,

- **60.6%** are positive,
- **29.1%** neutral, and
- **10.3%** negative.

Sentiments of non-conspiratory tweets.



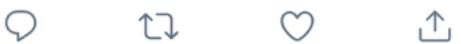


WWW!NEWS.CN

The 2020 #World5GConvention kicked off in #Guangzhou Thursday, during which world-renowned infocom scientists, #5G service providers and application adopters will exchange ideas on cutting-edge technologies and innovative applications in 5G industry. See more photos by Xinhuanet.

4:49 AM · Nov 27, 2020 · Twitter for Android

4 Likes



5 Results

3. What kind of conspiratory content is tweeted with #5G?

Here we find that there is two types of content: tweets that **clearly involve conspiracy theories** and tweets that **look legitimate, but aren't**.

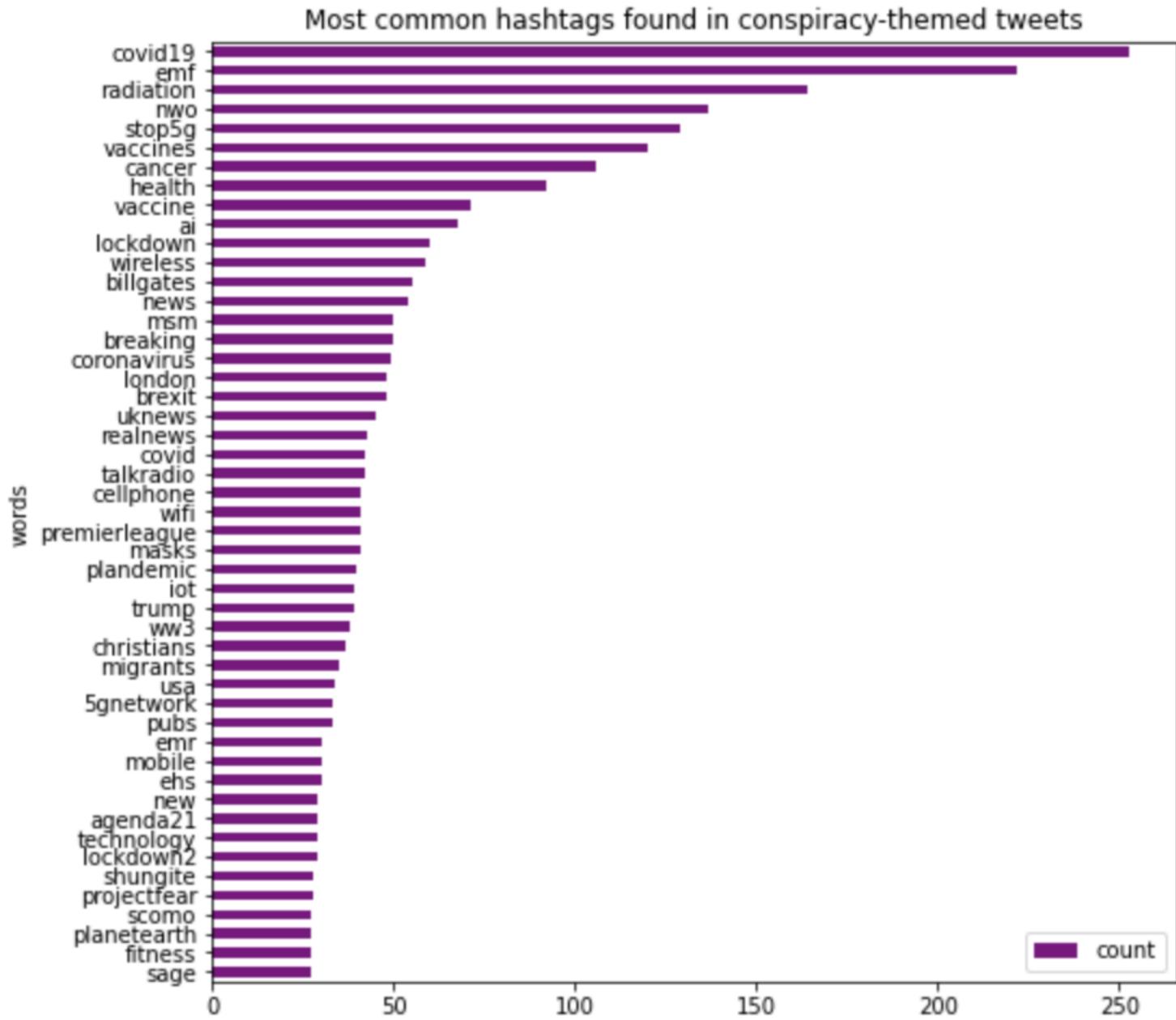
Most common words found in conspiracy-themed tweets

words



words

	terms	tfidf
1023	radiation	53.054486
934	people	26.968484
751	lie	24.895213
316	danger	24.519969
427	emf	23.147457
604	health	22.822489
1345	vaccine	20.726469
1038	real	19.230237
1237	symptom	18.765188
483	exposure	18.567078
314	daily	18.500718
89	atp	17.864241
872	new	16.748320
1289	tower	16.520592
191	cause	16.329199
416	effect	15.382041
1356	virus	15.232777
291	covid	15.148817
754	like	15.058603
195	cell	15.051681



hashtags

	terms	tfidf
125	covid19	96.092162
176	emf	93.830832
393	radiation	62.403782
349	nwo	46.751435
454	stop5g	42.572778
85	cancer	38.416540
500	vaccines	38.294855
236	health	31.398258
499	vaccine	30.086203
65	billgates	24.464007
520	wireless	22.815570
124	covid	20.417645
282	lockdown	18.995338
370	pandemic	18.750702
518	wifi	18.264723
121	coronavirus	17.883783
35	ai	17.867918
90	cellphone	16.544654
147	depopulationagenda	15.272721
325	msm	13.691068

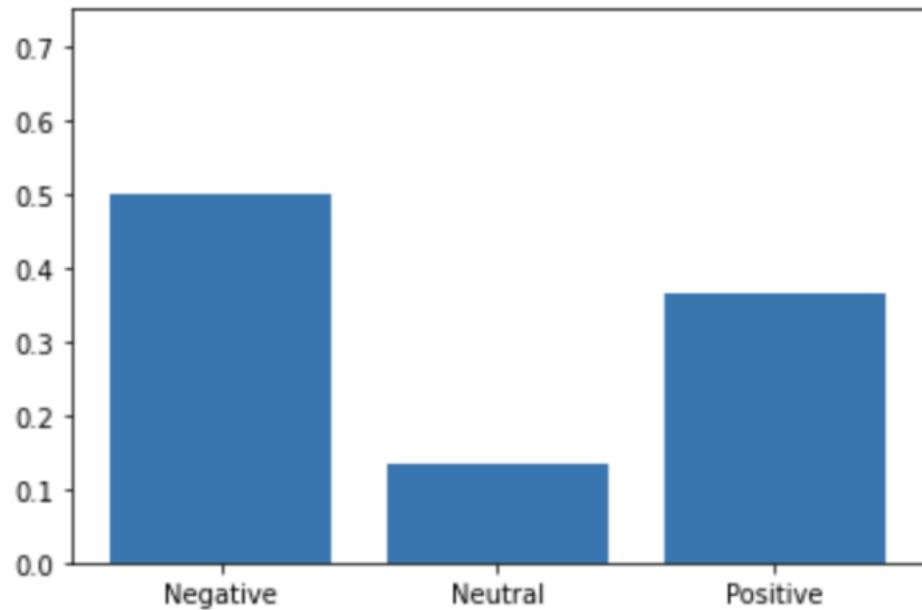
5 Results

3. What kind of conspiratory content is tweeted with #5G?

A sentiment analysis shows that of the tweets,

- **36.6%** are positive,
- **13.5%** neutral, and
- **49.9%** negative.

Sentiments of conspiratory tweets.





← Tweet

Home

Explore

1 Notifications

Messages

Bookmarks

Lists

Profile

More

Tweet

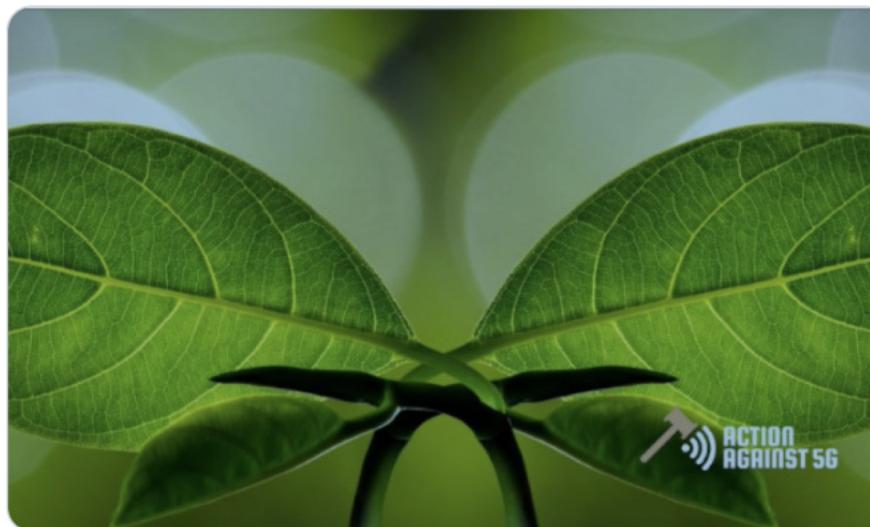
Life entwined. Nature in balance. Molecules in harmony.
Why would anyone destroy it?

electrosensitivity.co/plants-and-ani...

Visit our website: actionagainst5g.org

#5gjusticeuk

#5g #5gdangers #health #publicsafety #emfprotection
#wedonotconsent



1:14 AM · Jun 17, 2020 · Twitter Web App

16 Retweets 2 Quote Tweets 19 Likes



Search Twitter

Relevant people

Follow

We are groups of individuals nationwide, including doctors, scientists and engineers, supported by a strong team of lawyers headed by Michael Mansfield QC.

What's happening

Holidays · 3 hours ago

First lady Melania Trump unveils the 2020 Christmas decorations at the White House



Trending with White House Christmas, Melania Trump

Technology · Trending

DeepMind

7,520 Tweets

Trending in United States

Tornado Watch

1,346 Tweets

COVID-19 · This morning

Moderna files for approval of COVID-19 vaccine in the US and EU



Trending with Moderna

Entertainment · This morning

Super Nintendo World is set to open in 2021 in Osaka, Japan

Messages





← Tweet

Home

Explore

Notifications

Messages

Bookmarks

Lists

Profile

More

Tweet

#New #2019 #Conference - Just Released, #authors, #BrianClement, #KatieSinger, #TheodoraScarato; An expert panel discussion on About #CellPhone #Radiation and #5G #Wireless,



How Can Wireless Radiation And 5G Wireless Affect Us If ...
How Can Wireless Radiation And 5G Wireless Affect Us If We Can't See It, Feel It Or Taste It? Join the discussion wit...
youtube.com

1:20 PM · Nov 26, 2020 · Hootsuite Inc.



Search Twitter

Relevant people

Follow

Check out free - 2020 Conference. Come in person or watch live-stream. We are about unbiased, accurate, scientifically proven information on Health & living.

What's happening

Holidays · 3 hours ago
First lady Melania Trump unveils the 2020 Christmas decorations at the White House



Trending with White House Christmas, Melania Trump

Trending in United States
DeepMind

7,870 Tweets

Trending in United States
#CovidVaccine

7,602 Tweets

Trending in United States
Tornado Watch

1,549 Tweets

Twitter · Trending
ITS SNOWING

People around the US are seeing snow, and others are feeling jealous

3,077 Tweets

Show more

Messages



6 Discussion

6 Discussion

1. Percentage of conspiratory tweets is small for #5G (2.6%)
2. Main result is the workflow for finding conspiratory tweets
3. Next step: could build a workflow using fuzzy logic

6 Discussion

1. Percentage of conspiratory tweets is small for #5G (2.6%)
2. Main result is the workflow for finding conspiratory tweets
3. Next step could be a workflow using fuzzy logic for tagging tweets

6 Discussion

1. Percentage of conspiratory tweets is small for #5G (2.6%)
2. Main result is the workflow for finding conspiratory tweets
3. Next step: could build a workflow using fuzzy logic

Twitter, 5G, and conspiracy theories.....

Jupyter code and presentation found at

<https://github.com/mikipernu/5g-conspiracy-tweet-analysis>

@mikipernu