

Understanding and Counteracting the Weaponization of the Web

Emiliano De Cristofaro
emilianodc.com



WARNING

CONTENT IN THIS TALK IS
OFFENSIVE
AND *UNCENSORED*



The Web is weaponized
in many ways...



The Web is weaponized in many ways...

Cyberbullying

Cyberaggressio
n

Coordinated
Hate Campaigns

Radicalization

Misogyny



The Web is weaponized in many ways...

Cyberbullying

Cyberaggression

Coordinated
Hate Campaigns

Radicalization

Misogyny

Mis/Disinformation

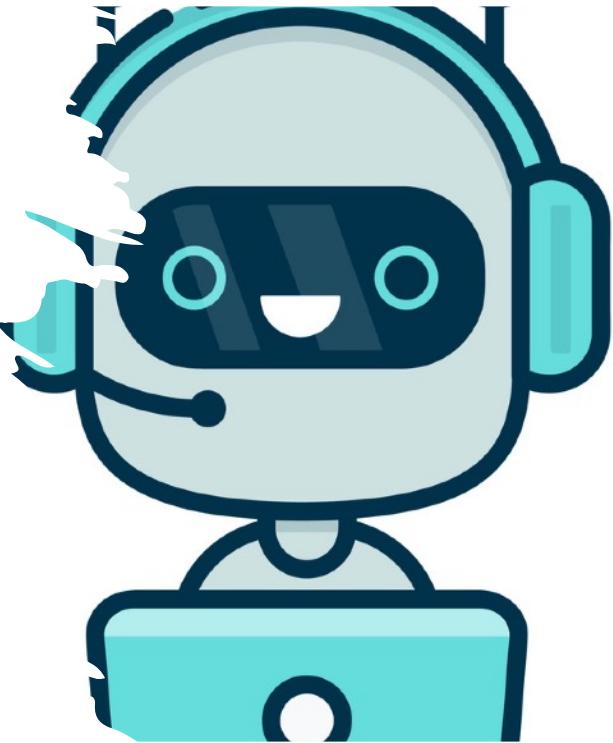
Propaganda

Intentionally Sowing
Discord

Conspiracy Theories

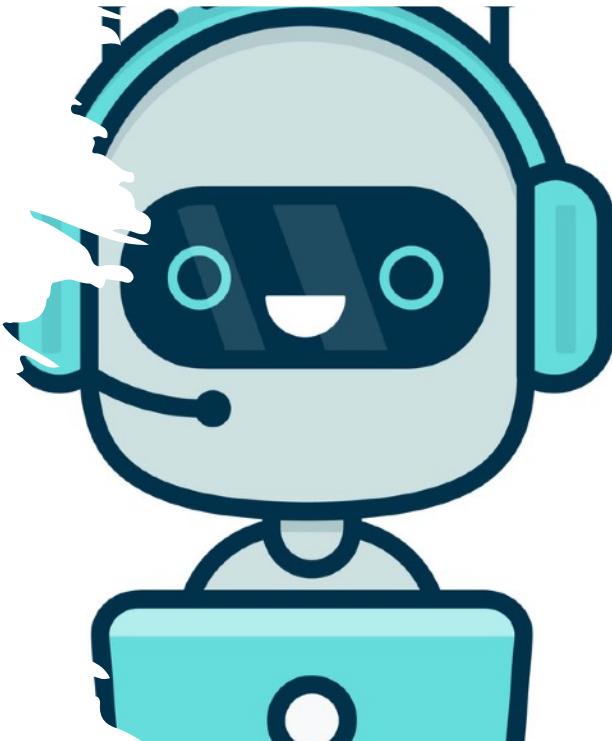
Election
Interference

What can we do?



What can we do?

We have experience with **mitigating** unwanted activity on social networks!



What can we do?

We have experience with **mitigating** unwanted activity on social networks!

For instance, we can detect bot activity in social media:

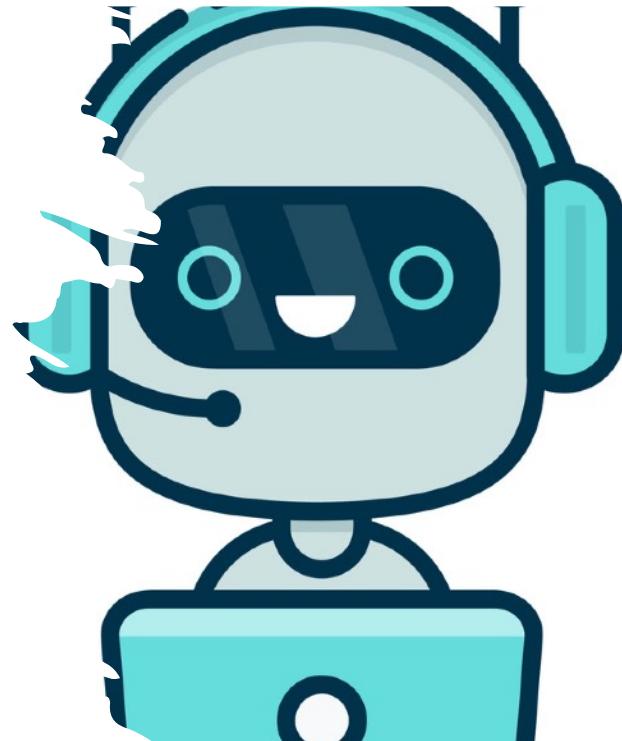


What can we do?

We have experience with **mitigating unwanted activity** on social networks!

For instance, we can detect **bot activity** in social media:

- It's large-scale, synchronized, etc.



What can we do?

We have experience with **mitigating unwanted activity** on social networks!

For instance, we can detect **bot activity** in social media:

- It's large-scale, synchronized, etc.
- We can build classifiers based on recognizable patterns (SynchroTrap, EvilCohort, Botometer, ...)



What can we do? Really.



What can we do? Really.

What about human activity?



What can we do? Really.

What about **human activity**?

- Human activity is **less coordinated**



What can we do? Really.

What about **human activity**?

- Human activity is **less** coordinated
- Characteristic traits stand out less



What can we do? Really.

What about **human activity**?

- Human activity is **less coordinated**
- Characteristic traits stand out less
- We have a **loose synchronization**, common talking points, etc.



What can we do? Really.

What about **human activity**?

- Human activity is **less coordinated**
- Characteristic traits stand out less
- We have a **loose synchronization**, common talking points, etc.

And, we can't take the fight on merely economic grounds



What can we do? Really.

What about **human activity**?

- Human activity is **less coordinated**
- Characteristic traits stand out less
- We have a **loose synchronization**, common talking points, etc.

And, we can't take the fight on merely economic grounds

- Like for spam, fraud, etc.



What can we do? Really.

What about **human activity**?

- Human activity is **less coordinated**
- Characteristic traits stand out less
- We have a **loose synchronization**, common talking points, etc.

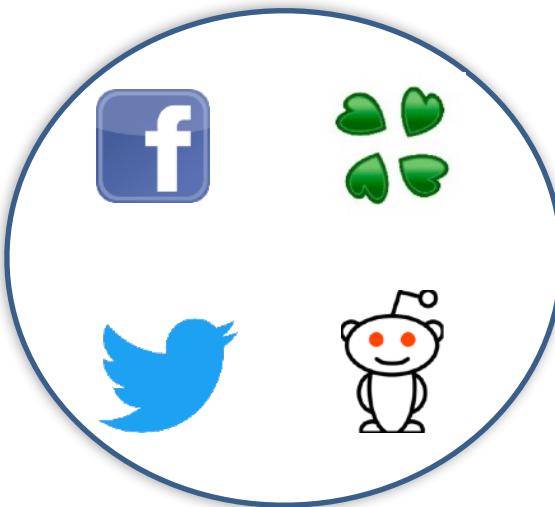
And, we can't take the fight on merely economic grounds

- Like for spam, fraud, etc.
- State-level adversaries have deep pockets!

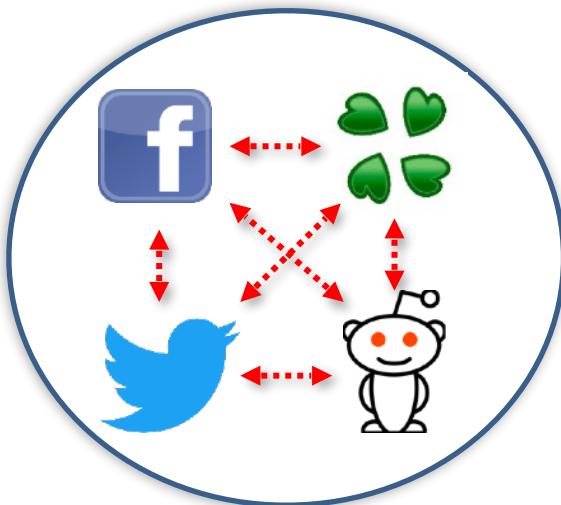


Online services do not exist in a vacuum

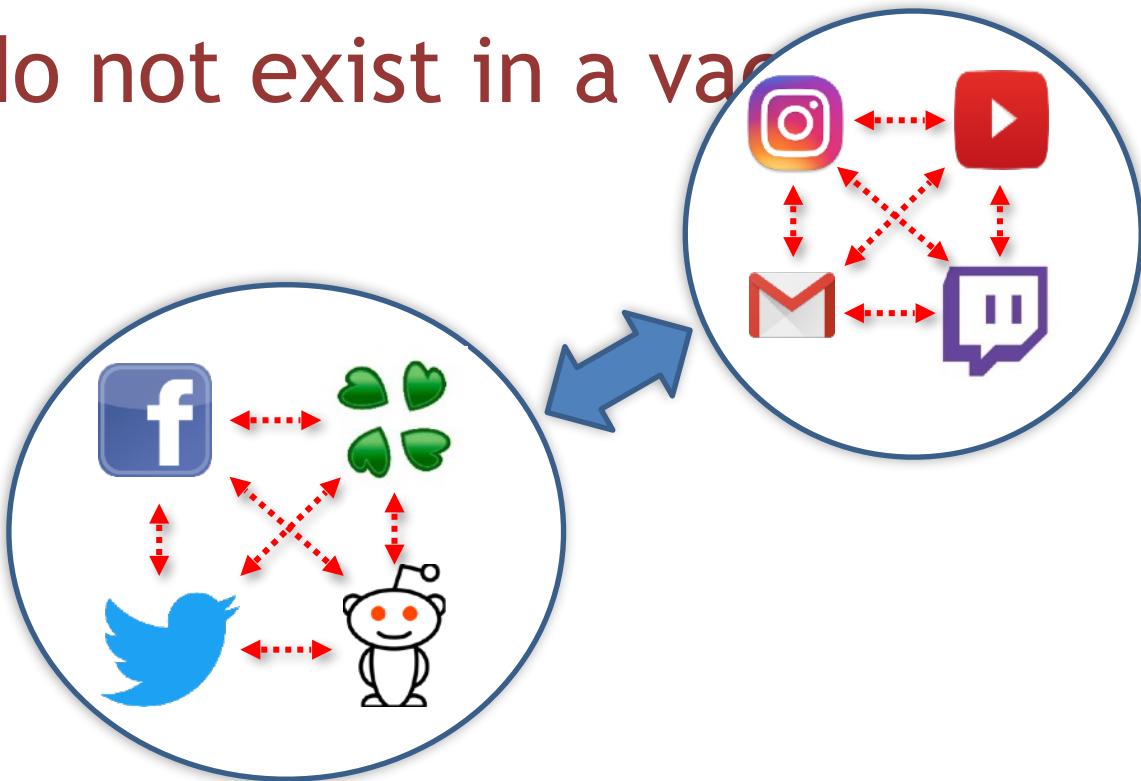
Online services do not exist in a vacuum



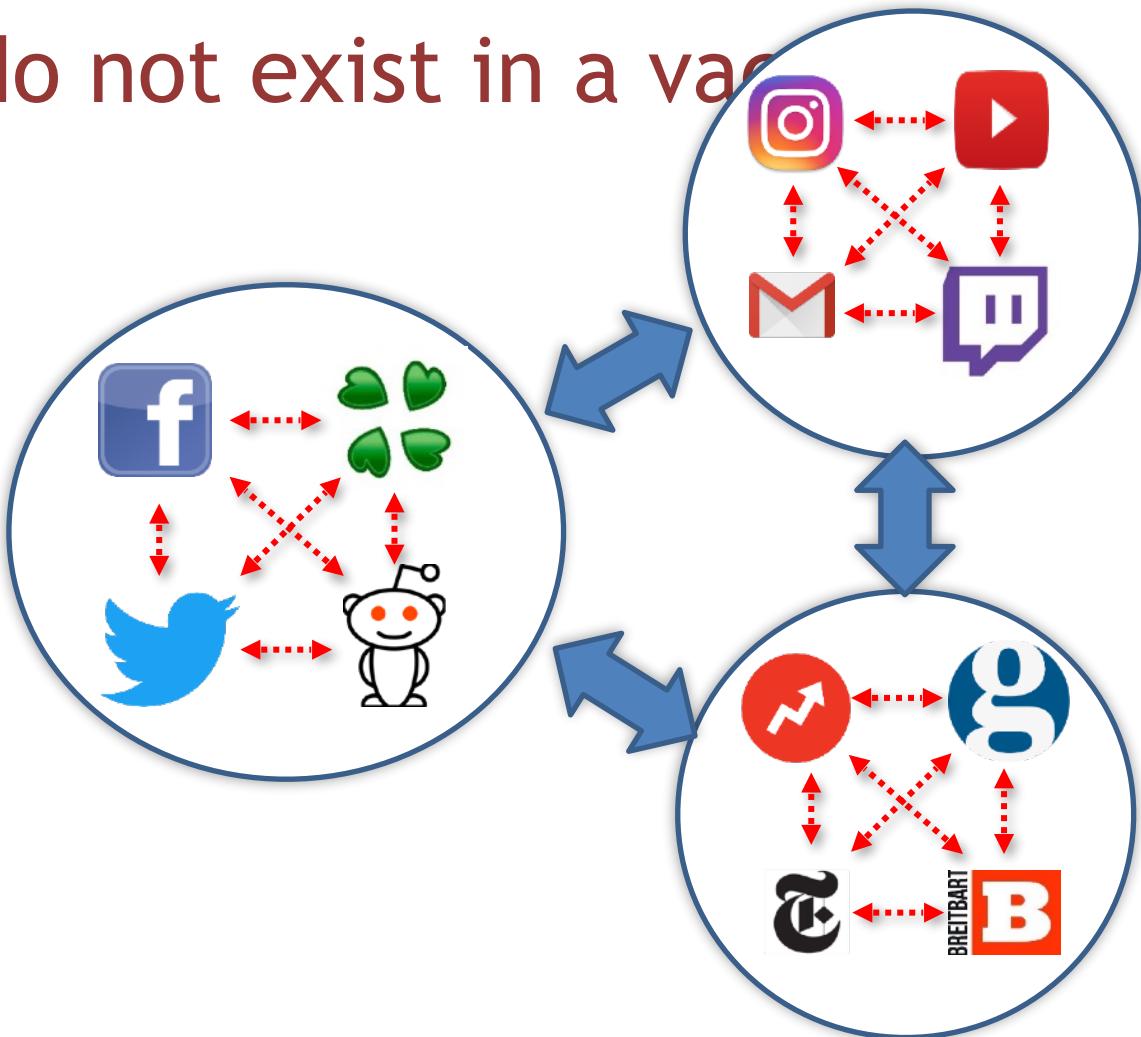
Online services do not exist in a vacuum



Online services do not exist in a vacuum

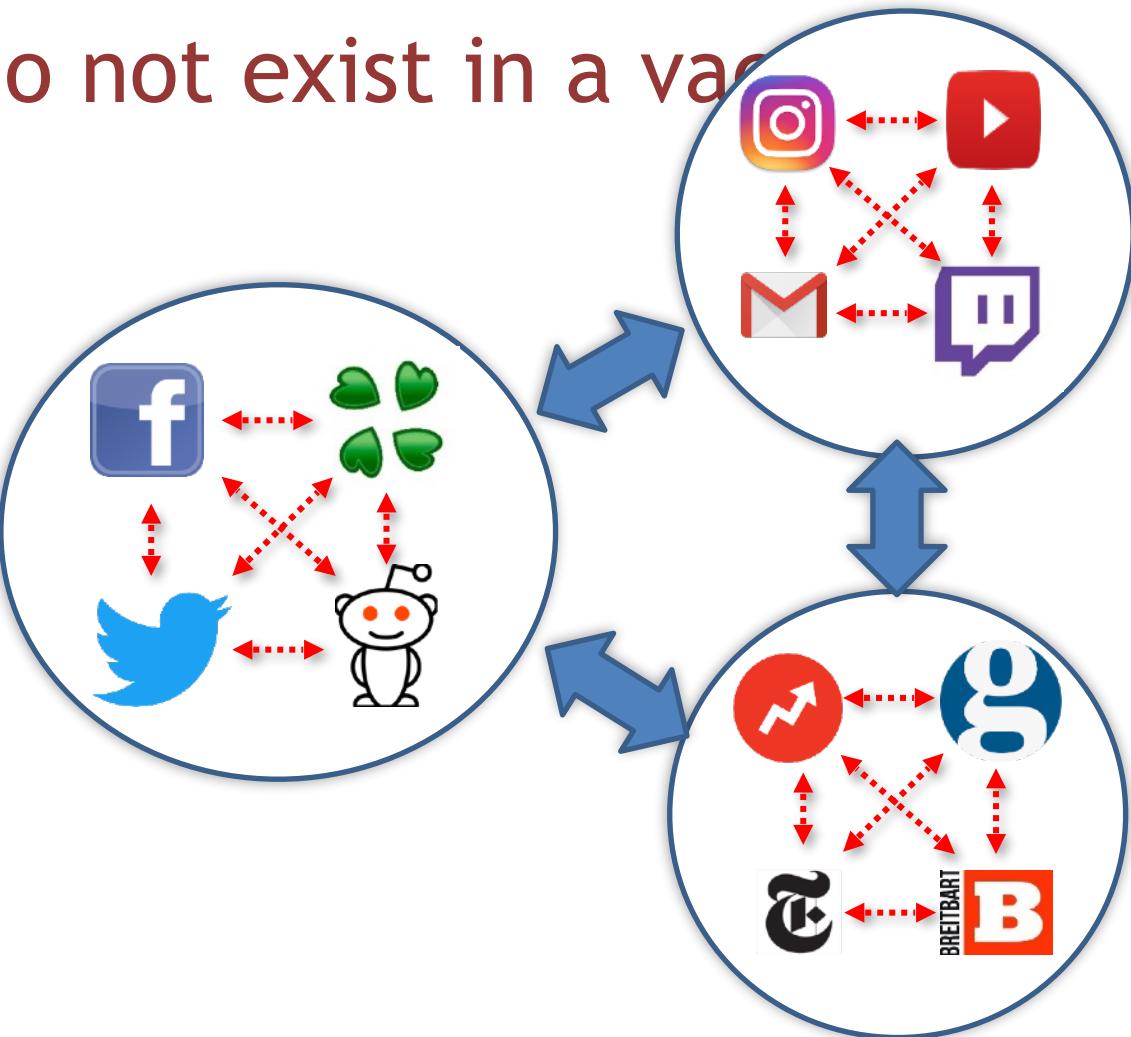


Online services do not exist in a vacuum



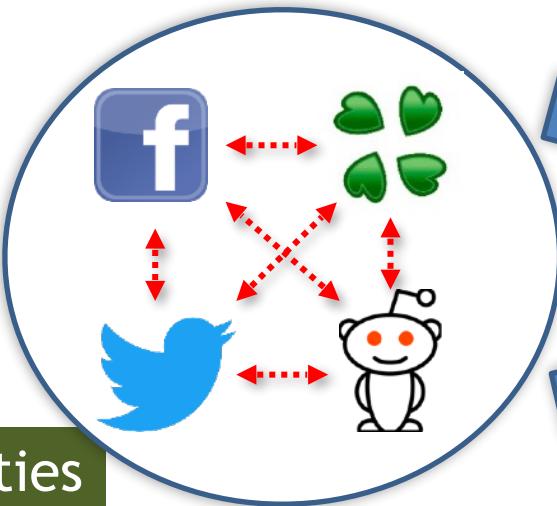
Online services do not exist in a vacuum

1. Looking at a single service at a time is not enough

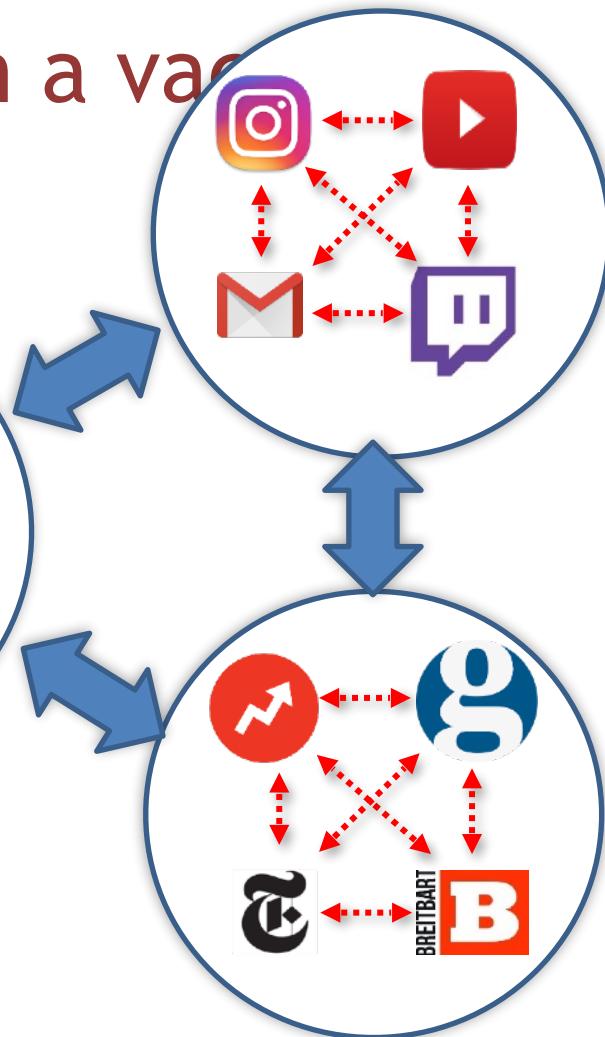


Online services do not exist in a vacuum

1. Looking at a single service at a time is not enough



2. "Fringe" web communities play a crucial role vis-à-vis information weaponization



How a racist, sexist hate mob forced Leslie Jones off Twitter

By Kristen V. Brown



FilmMagic

f

SHARE

t

TWEET

t

TUMBLR

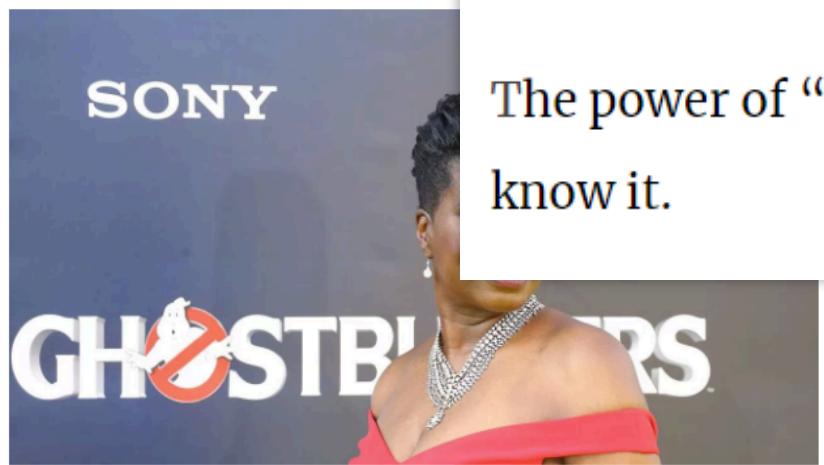
e

EMAIL

Over the past 24 hours, Leslie Jones has been inundated with racist, hateful vitriol on Twitter.

How a racist, s... mob forced Les... off Twitter

By Kristen V. Brown



FilmMagic

f SHARE t TUMBLR



TWEET



TUMBLR



EMAIL

Over the past 24 hours, Leslie Jones has been inundated with racist, hateful vitriol on Twitter.

INTERNET

8 DECEMBER 2016

Pizzagate: How a 4Chan conspiracy went mainstream

The power of “meme magic” is changing the world as we know it.

How a racist, s... mob forced Les... off Twitter

By Kristen V. Brown



FilmM

[f SHARE](#) [t TWEET](#) [t TUMBLR](#) [e EMAIL](#)

Over the past 24 hours, Leslie Jones has been inundated with racist, hateful vitriol on Twitter.

INTERNET

8 DECEMBER 2016

Pizzagate: How a 4Chan conspiracy went mainstream

How Does Online Racism Spawn Mass Shooters?

White nationalist terrorism is becoming normalized through internet forums.

BY JAMES PALMER | AUGUST 4, 2019, 6:13 PM



Anti-Muslim Hate Has Been Rampant on Reddit Since the New Zealand Shooting

And the platform doesn't seem to care.



ALI BRELAND

Reporter

[Bio](#)



[SHARE](#) [TWEET](#) [TUMBLR](#) [EMAIL](#)

Over the past 24 hours, Leslie Jones has been inundated with racist, hateful vitriol on Twitter.

an conspiracy

Racism Spawn

alized through internet forums.



Anti-Muslim Hate Has Been Rampant on Reddit Since the New Zealand Shooting

And the platform doesn't seem to care.



ALI I
Repo
Bio

CYBERSECURITY

Russia's manipulation of Twitter was far vaster than believed

By TIM STARKS, LAURENS CERULUS and MARK SCOTT | 06/05/2019 06:00 AM EDT | Updated 06/05/2019 08:13 PM EDT



Share on Facebook



Share on Twitter

f SHARE



Over the past 24 hours
hateful vitriol on Twit

Russia's infamous troll farm conducted a campaign on Twitter before the 2016 elections that was larger, more coordinated and more effective than previously known, [research](#) from cybersecurity firm Symantec out Wednesday concluded.

Heard of 4chan?

Heard of 4chan?

He

I CAN HAS
CHEEZBURGER?



He



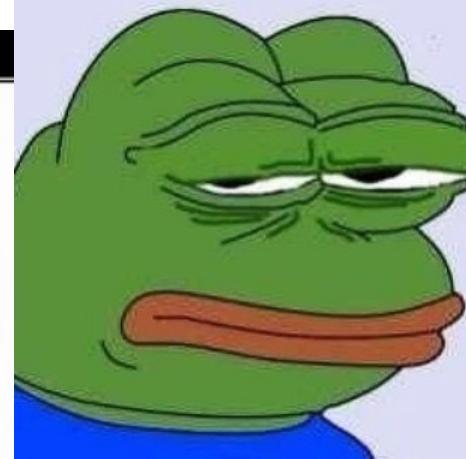
He



He



He



He



WHERE DID EVERYTHING
GO SO REICH



What is 4chan?



What is 4chan?



An **image-board** forum

Organized in boards (70 at the moment)

What is 4chan?



An **image-board forum**

Organized in boards (70 at the moment)

An “original poster” (OP) creates a new thread by making a post

Single image attached

What is 4chan?



An image-board forum

Organized in boards (70 at the moment)

An “original poster” (OP) creates a new thread by making a post

Single image attached

Other users can reply:

With or without images, possibly add references to previous posts, quote text, etc.

What is 4chan?



An image-board forum

Organized in boards

An “original post”

Single image at a time

Other users can reply

With or without moderation
etc.

Boards					filter ▼
<u>Japanese Culture</u>	<u>Interests</u>	<u>Creative</u>	<u>Other</u>	<u>Adult (NSFW)</u>	
Anime & Manga	Comics & Cartoons	Oekaki	Business & Finance	Sexy Beautiful Women	
Anime/Cute	Technology	Papercraft & Origami	Travel	Hardcore	
Anime/Wallpapers	Television & Film	Photography	Fitness	Handsome Men	
Mecha	Weapons	Food & Cooking	Paranormal	Hentai	
Cosplay & EGL	Auto	Artwork/Critique	Advice	Ecchi	
Cute/Male	Animals & Nature	Wallpapers/General	LGBT	Yuri	
Flash	Traditional Games	Literature	Pony	Hentai/Alternative	
Transportation	Sports	Music	Current News	Yaoi	
Otaku Culture	Alternative Sports	Fashion	Worksafe Requests	Torrents	
<u>Video Games</u>	Science & Math	3DCG	Very Important Posts	High Resolution	
Video Games	History & Humanities	Graphic Design	<u>Misc. (NSFW)</u>	Adult GIF	
Video Game Generals	International	Do-It-Yourself	Random	Adult Cartoons	
Pokémon	Outdoors	Worksafe GIF	ROBOT9001	Adult Requests	
Retro Games	Toys	Quests	Politically Incorrect		
			International/Random		
			Cams & Meetups		
			Shit 4chan Says		

/pol/ - Politically Incorrect Board

/pol/ - Politically Incorrect Board



Welcome to /pol/ - Politically Incorrect

Anonymous (ID: lv9eTFJC) 01/08/15(Thu)23:40:44 No.40489590 ➤ 🔒
[Reply] ►

This board is for the discussion of news, world events, political issues, and other related topics.

Off-topic and /b/-tier threads will be deleted (and possibly earn you a ban, if you persist). Unless they are quality, well thought out, well written posts, the following are examples of off-topic and/or /b/-tier threads:

>Red pill me on X. (with no extra content or input of your own)
>Are X white?
>Is X degeneracy?
>How come X girls love Y guys so much?
>If X is true, then how come Y? Checkmate Z.

The variety of threads allowed here are very flexible and we believe in freedom of speech, but we expect a high level of discourse befitting of the board. Attempts to disrupt the board will not be tolerated, nor will calls to disrupt other boards and sites.

/pol/ - Politically Incorrect Board

File: [sticky.jpg](#) (571 KB, 1600x1131)



Extremely lax moderation

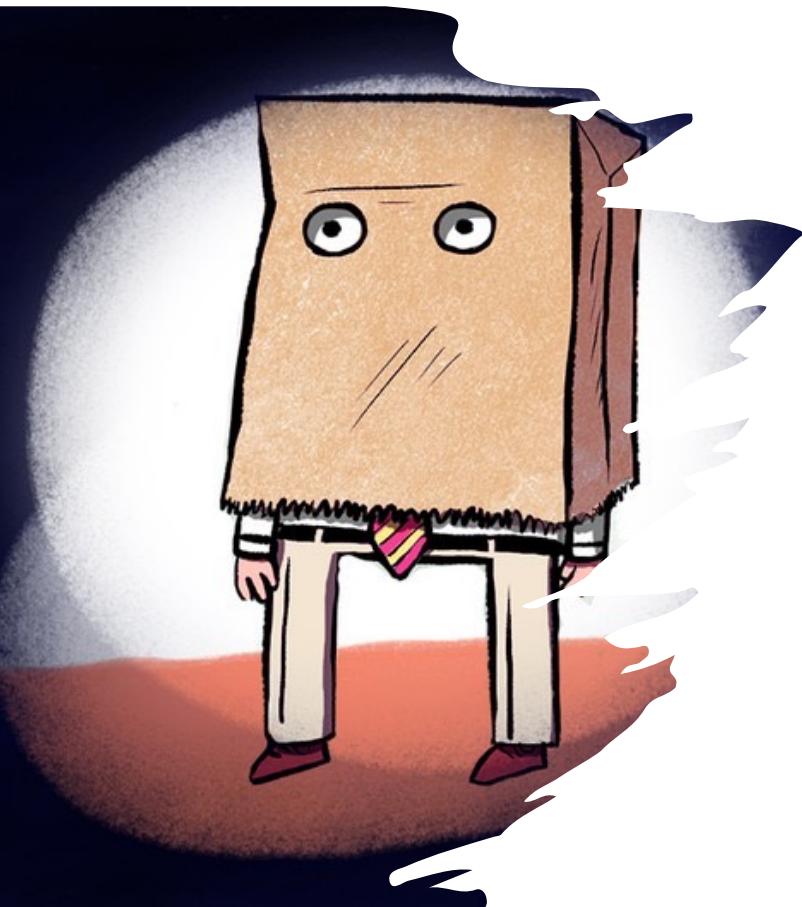
Almost anything goes

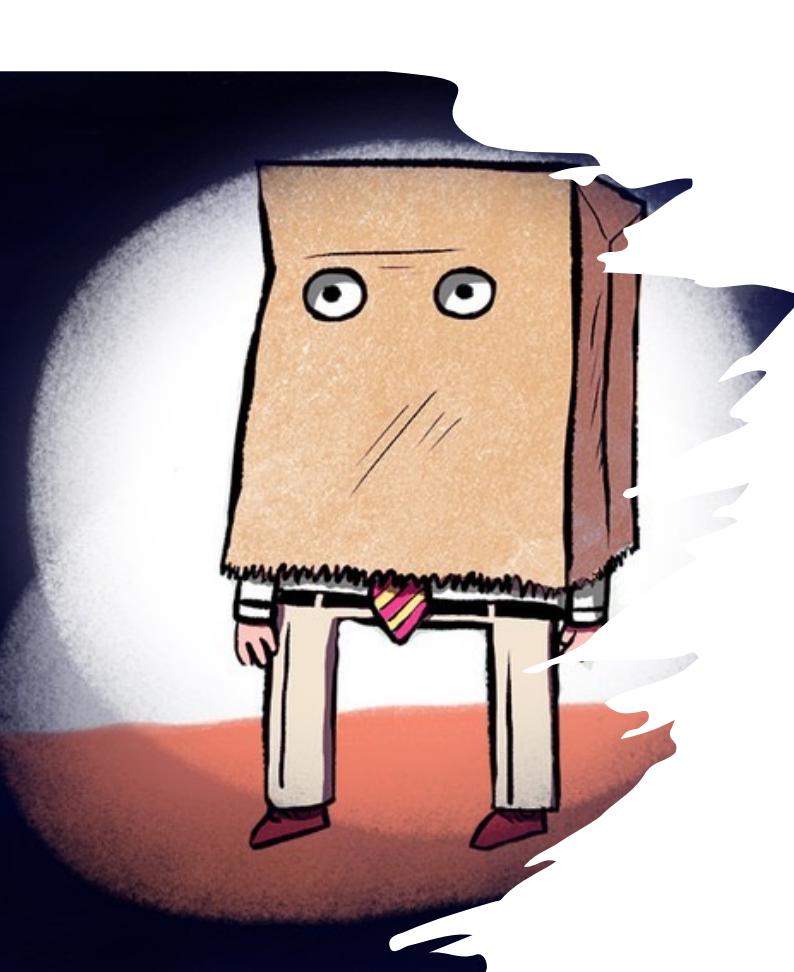
- >Red pill me on X. (with no extra context)
- >Are X white?
- >Is X degeneracy?
- >How come X girls love Y guys so much?
- >If X is true, then how come Y? Check

The variety of threads allowed here are very flexible, ranging from serious political discourse to humor. A high level of discourse befitting of the board. Attempts to disrupt other boards and sites.

We believe in freedom of speech, but we expect a high level of respect. Harassment, spam, and attempts to disrupt the board will not be tolerated, nor will calls to

Anonymity & Ephemerality

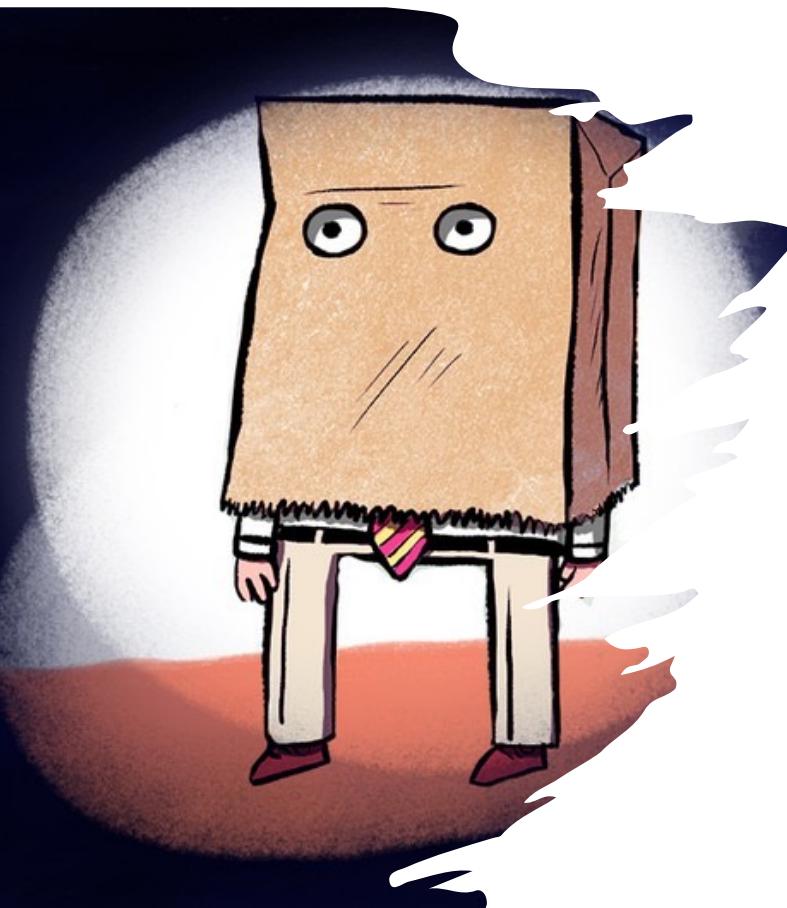




Anonymity & Ephemerality

Users do not need to register an account

Anonymity is the default (and preferred) behavior



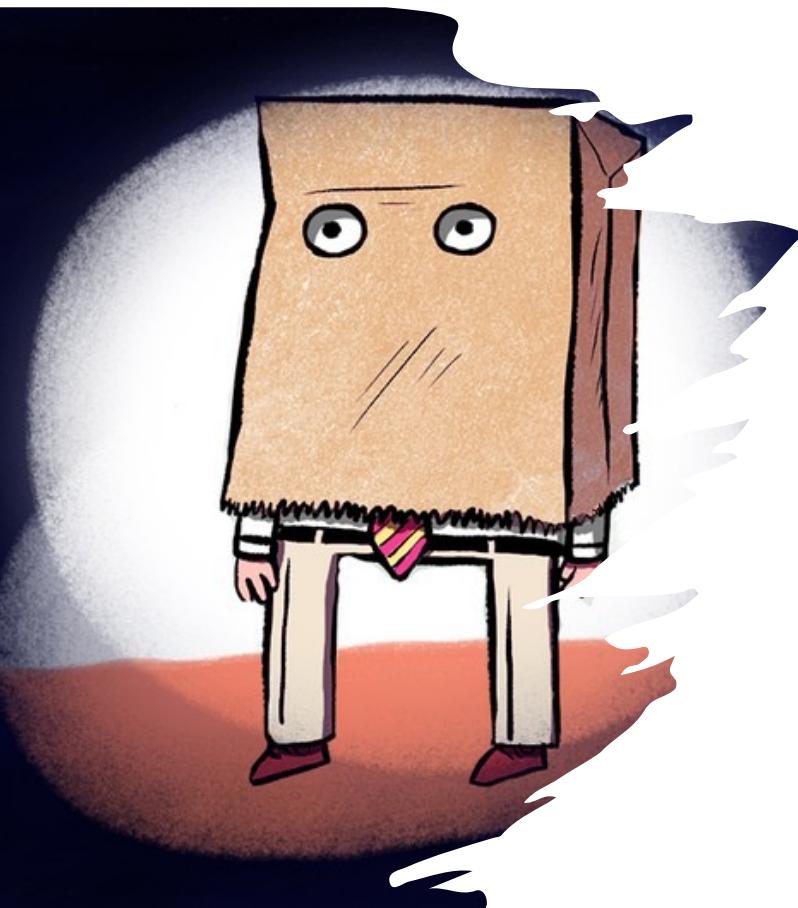
Anonymity & Ephemerality

Users do not need to register an account

Anonymity is the default (and preferred) behavior

“Some” degree of permanence and identifiability is supported

Can enter a name along with their posts (no authentication though)



Anonymity & Ephemerality

Users do not need to register an account

Anonymity is the default (and preferred) behavior

“Some” degree of permanence and identifiability is supported

Can enter a name along with their posts (no authentication though)

Threads get “archived” after a while

Actually all posts deleted after a week

Our dataset

A single newline-delimited JSON file

3.5 years worth of data

June 2016 - November 2019

~3.4 million threads from /pol/

Over 134 million posts

Augmented Data with:

Google's Perspective API

spaCy Named Entities mentioned in each post



Hate Speech?



Crowdsourced dictionary
Manually filtered a bit

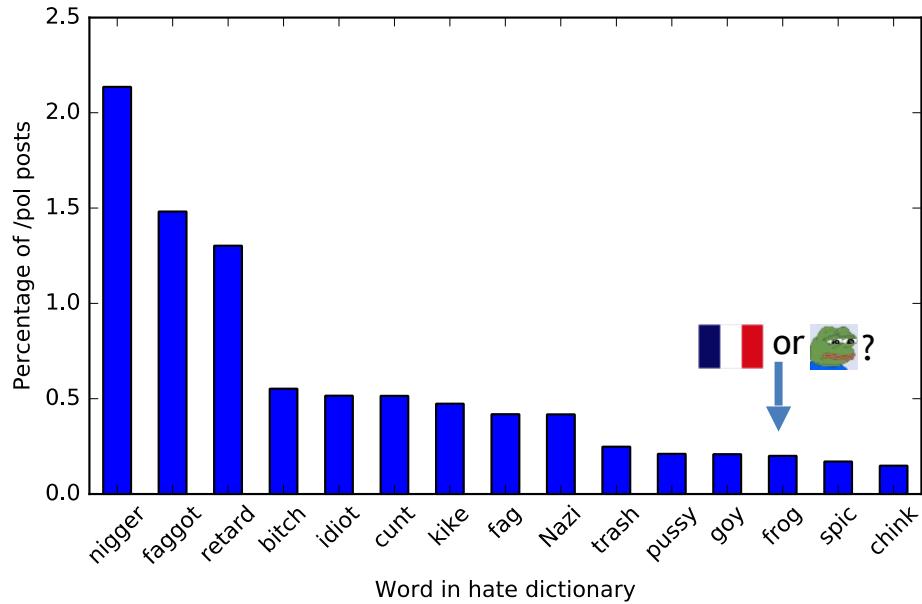
/pol/ by far most
hate speech use

/pol/ 12%

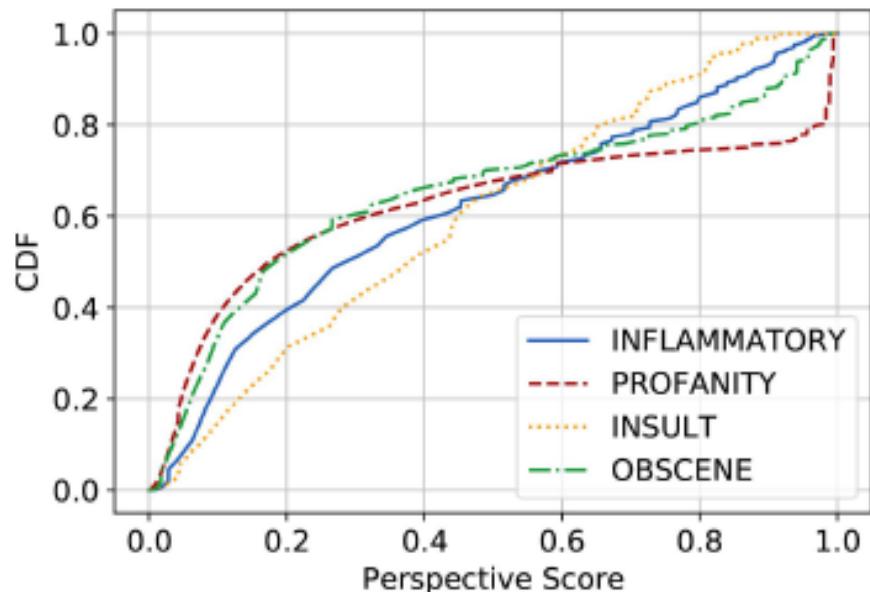
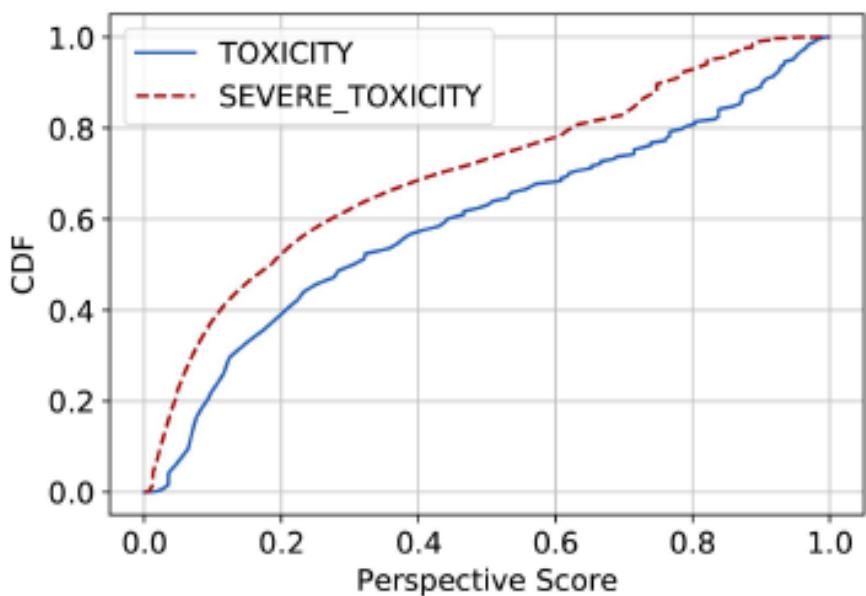
/sp/ 7.3%

/int/ 6.3%

Twitter 2.2%



Google's Perspective API



Challenges of studying fringe communities

Challenges of studying fringe communities

0. Actions not limited to the platform

Challenges of studying fringe communities

0. Actions not limited to the platform
1. Not your typical social networks (e.g., anonymous/ephemeral)

Challenges of studying fringe communities

0. Actions not limited to the platform
1. Not your typical social networks (e.g., anonymous/ephemeral)
2. Knowing what they're talking about is not easy

Challenges of studying fringe communities

0. Actions not limited to the platform
1. Not your typical social networks (e.g., anonymous/ephemeral)
2. Knowing what they're talking about is not easy
3. You might get attacked, doxxed, etc.

Coordinated hate campaigns (“raids”)



Coordinated hate campaigns (“raids”)

Someone posts a YouTube link

Maybe with a prompt like “you know what to do”

YouTube video starts getting hateful comments



Coordinated hate campaigns (“raids”)

Someone posts a YouTube link

Maybe with a prompt like “you know what to do”

YouTube video starts getting hateful comments

If raid is taking place:

Peak in YouTube comments while thread alive?

/pol/ thread and YT comments synchronized?



Raids on other platforms (e.g., YouTube)

Raids on other platforms



A Measurement Study of 4chan's Politically Incorrect Forum and Its Effects on the Web



Emiliano De Cristofaro

Subscribe

3

11,013 views

80 526

Add to Share More



Hans2k4ever 1 month ago

When will the normies learn?

Reply • 181



[View all 3 replies](#)



Jack Harper 1 month ago

mfw he accidentally redpills his whole class, they all found the memes funny even the so called "hate speech" he talks about

Reply • 13



Jack Harper 1 month ago

I guess I haven't tightened my fedora enough to be as enlightened by my own enlightenment as you sir. Carry on brave knight!

Reply • 1



Adem Adiyaman 1 month ago

23:21 "the victory of donald trump and the rise of ultra nazi people"
you dense fuck, nice brain washing

Reply • 227



[View all 16 replies](#)



Szgerle 1 month ago

Not even just your regular nazi but ULTRA NAZI!

Reply • 1



Drakewood 1 month ago

+Potato Jenova A FUCKING LEAF!

Reply • 1



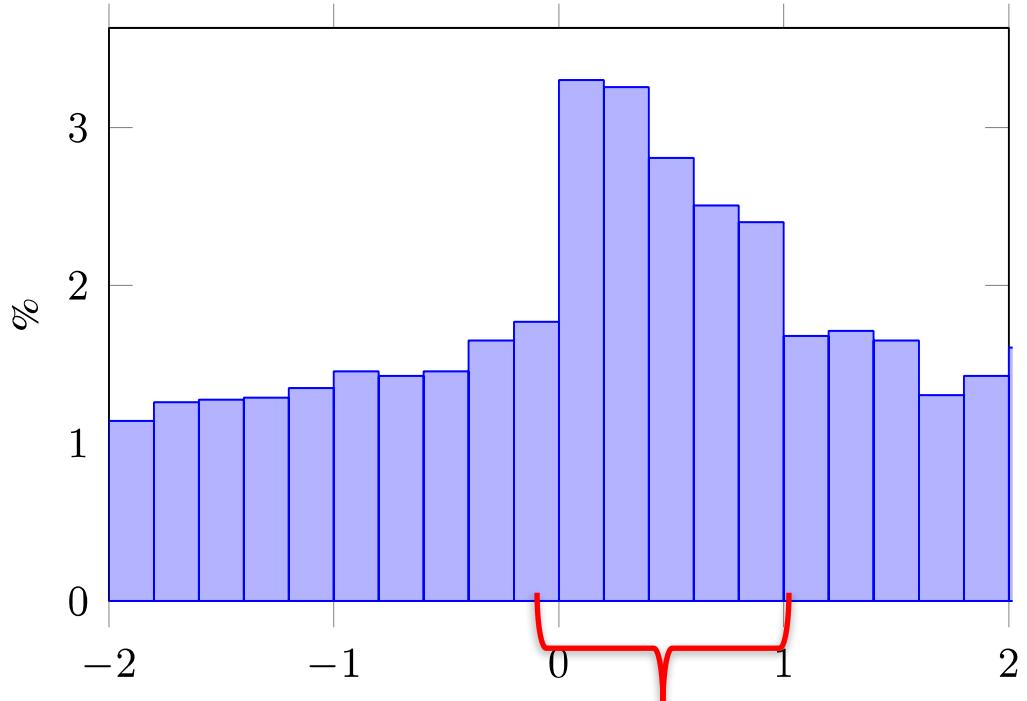
Thought Criminal 1 month ago

Holy fuck, (((they))) are actually intimidated by the powers of Kek.

Reply • 169



Activity Peaks



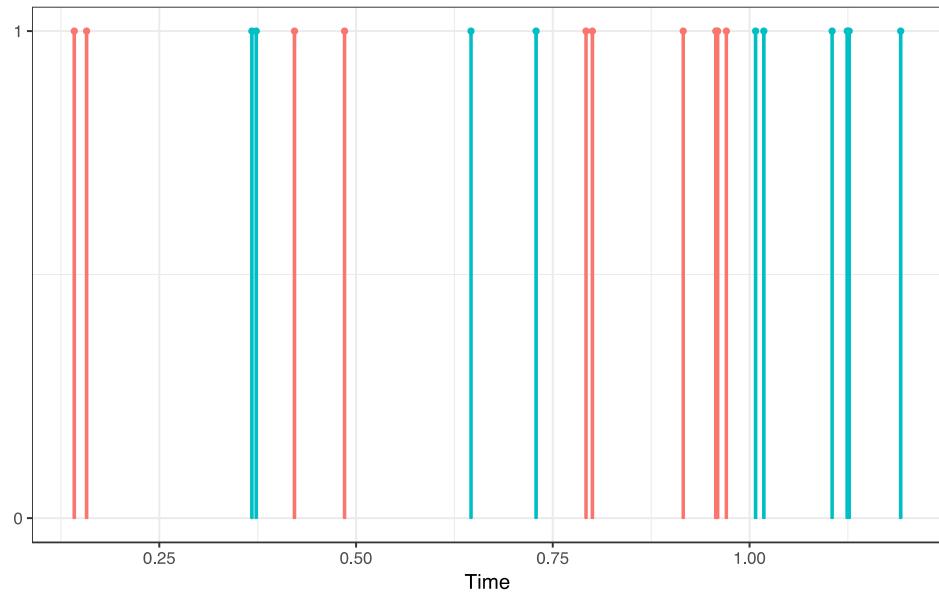
YT videos with peaks
during 4chan thread

Determined via PDF of
commenting timeseries

14% of videos see peak
commenting activity during
/pol/ thread lifetime

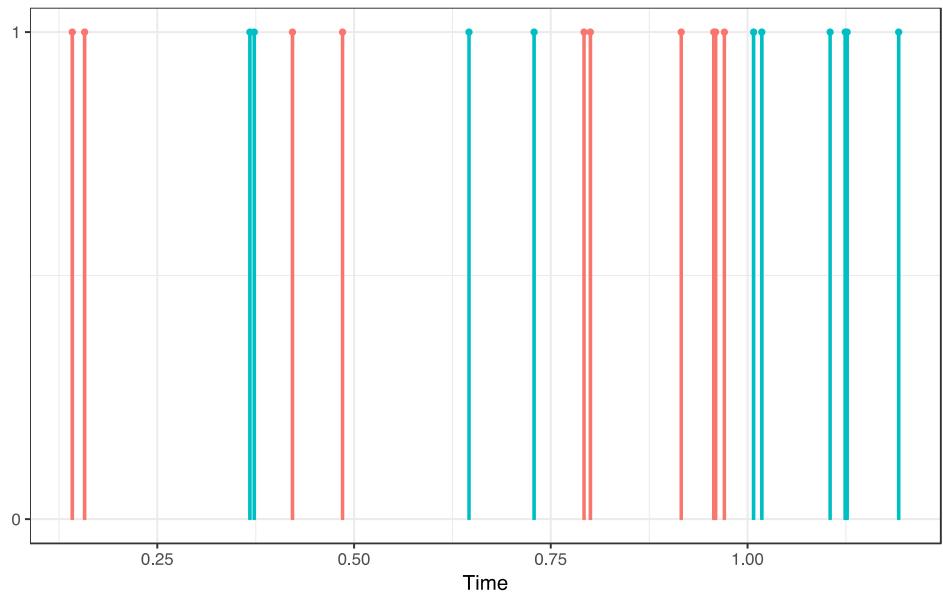
Synchronization

Synchronization

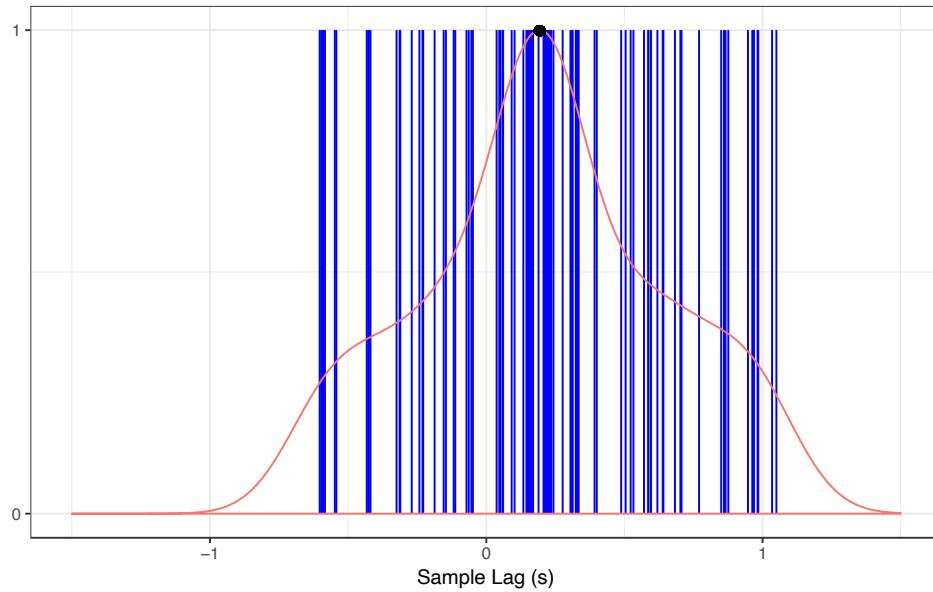


Two series, second randomly shifted from
first by 0.2s on avg

Synchronization

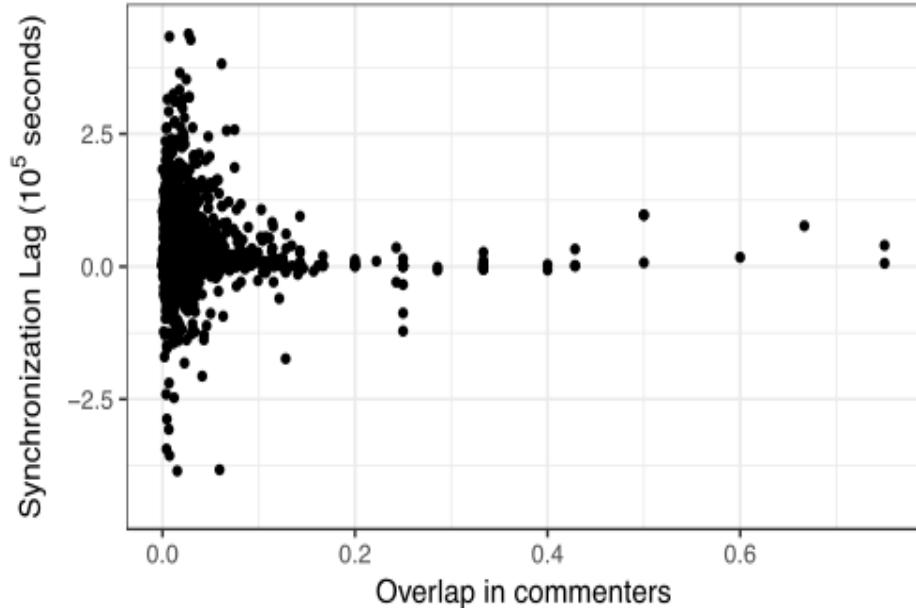
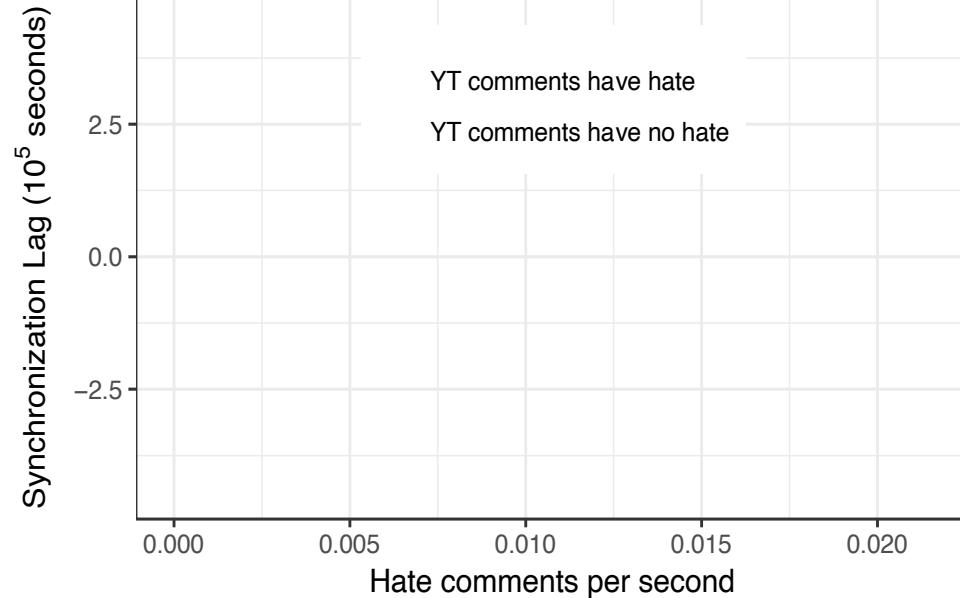


Two series, second randomly shifted from first by 0.2s on avg



Blue lines → per-sample lag
Red area → density of the lags
Peak of density curve = 0.2s

Validation



Countermeasures?



Countermeasures?

Platforms implement reactive approaches



Countermeasures?

Platforms implement reactive approaches

Mostly rely on feedbacks from the victims of
the attacks and manual checks



Countermeasures?

Platforms implement reactive approaches

Mostly rely on feedbacks from the victims of the attacks and manual checks

Moderators going through the flagged content



Countermeasures?

Platforms implement reactive approaches

Mostly rely on feedbacks from the victims of the attacks and manual checks

Moderators going through the flagged content

They rarely use fully automated checks to avoid FP



Countermeasures?

Platforms implement reactive approaches

Mostly rely on feedbacks from the victims of the attacks and manual checks

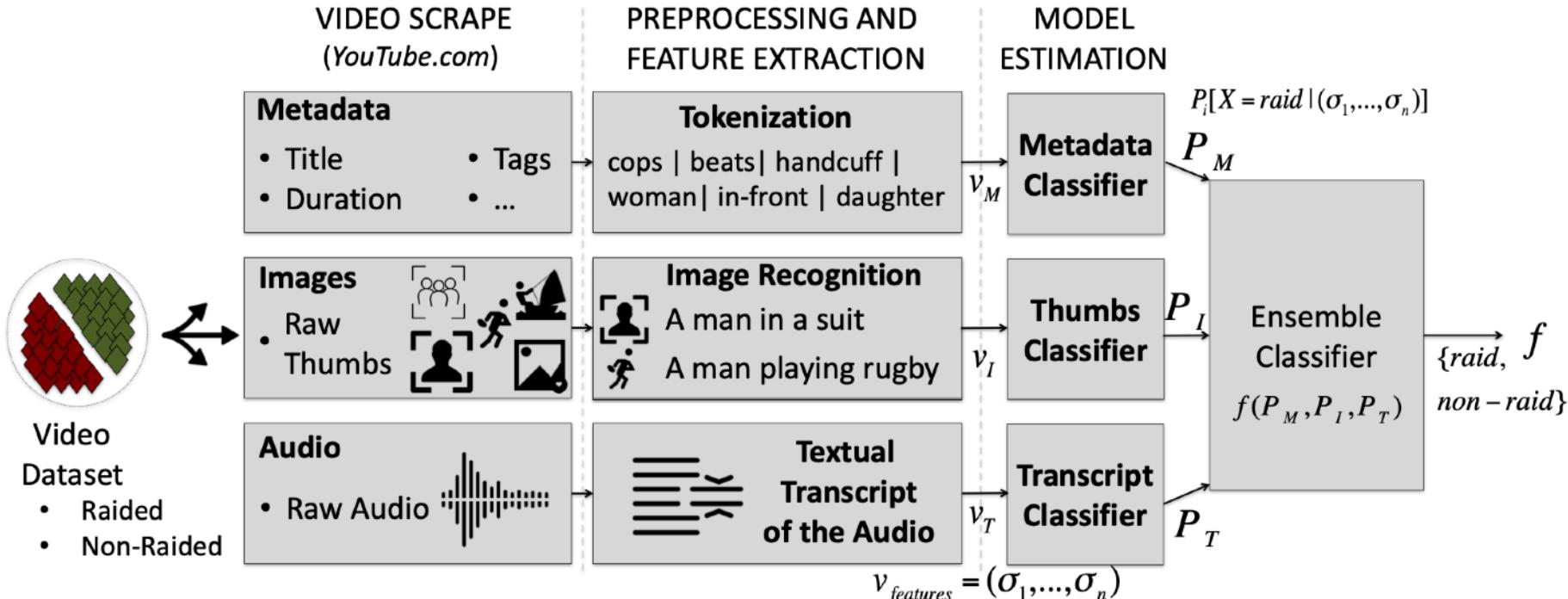
Moderators going through the flagged content

They rarely use fully automated checks to avoid FP

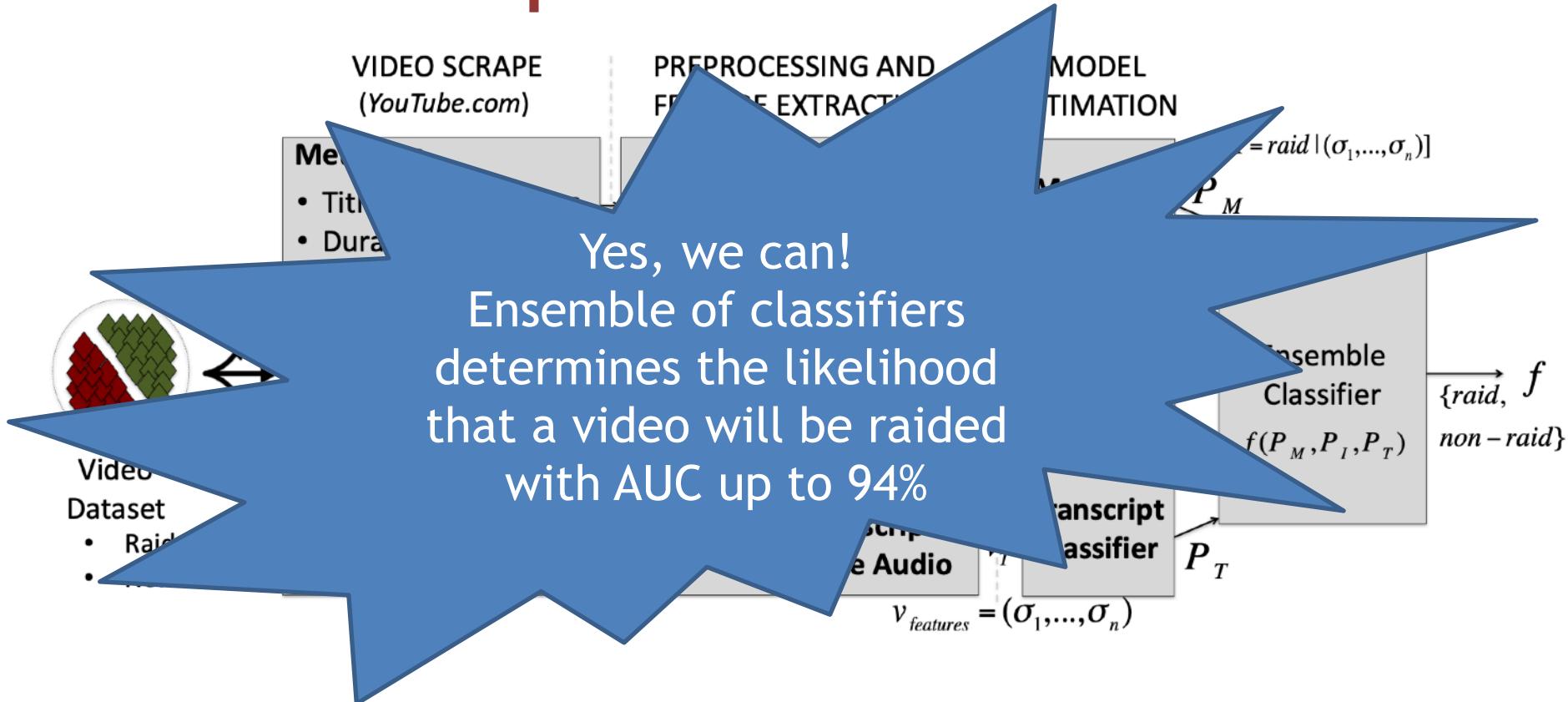
Inherently slow



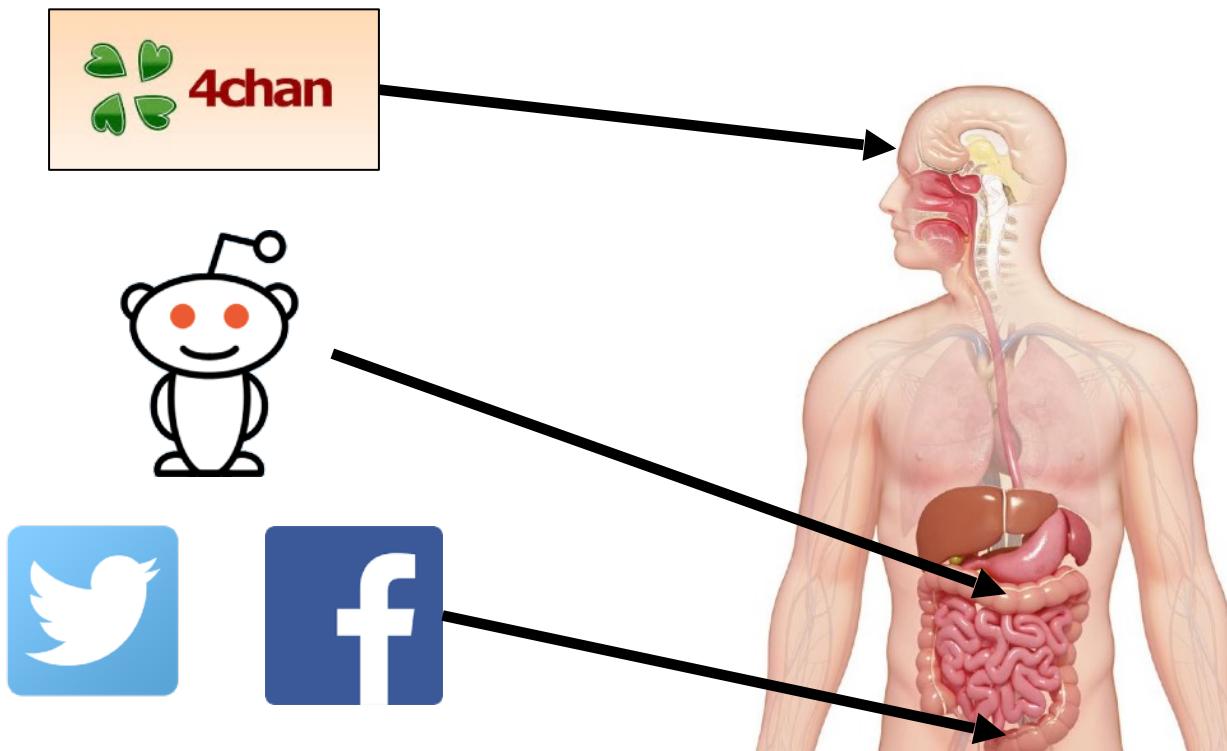
But... can we predict?



But... can we predict?



How do communities influence each other?



The Pizzagate Conspiracy Theory

The saga of 'Pizzagate': The fake story that shows how conspiracy theories spread



By BBC Trending
What's popular and why

⌚ 2 December 2016



The Pizzagate Conspiracy Theory

The saga of 'Pizzagate': The fake story that shows how conspiracy theories spread



By BBC Trending
What's popular and why

⌚ 2 December 2016

Share



Data
Provider

The Pizzagate Conspiracy Theory

The saga of 'Pizzagate': The fake story that shows how conspiracy theories spread



By BBC Trending
What's popular and why

⌚ 2 December 2016



Data Provider



Theory Generator

The Pizzagate Conspiracy Theory

The saga of 'Pizzagate': The fake story that shows how conspiracy theories spread



By BBC Trending
What's popular and why

⌚ 2 December 2016



Data Provider



Theory Generator



Theory Incubators &
Gateway to mainstream
“world”

The Pizzagate Conspiracy Theory

The saga of 'Pizzagate': The fake story that shows how conspiracy theories spread



By BBC Trending
What's popular and why

⌚ 2 December 2016

f t m Share



Data Provider



Theory Generator



Theory Incubators &
Gateway to mainstream
“world”



Large-scale
Disseminator

Idea...

Idea...

Study the appearance of alternative and mainstream news URLs
within the platforms

Idea...

Study the appearance of alternative and mainstream news URLs within the platforms

Build a sequence of appearance for each URL according to the timestamps

Idea...

Study the appearance of alternative and mainstream news URLs within the platforms

Build a sequence of appearance for each URL according to the timestamps



Idea...

Study the appearance of alternative and mainstream news URLs within the platforms

Build a sequence of appearance for each URL according to the timestamps



Build a graph with the sequences

Quantify Influence? Hawkes Processes!



Quantify Influence? Hawkes Processes!

Assume K processes

Each with a rate of events (i.e., posting of a URL),
called the *background rate*



Quantify Influence? Hawkes Processes!

Assume K processes

Each with a rate of events (i.e., posting of a URL),
called the *background rate*

An event can cause **impulse responses**

Increases rates of other processes for a period of time



Quantify Influence? Hawkes Processes!

Assume K processes

Each with a rate of events (i.e., posting of a URL),
called the *background rate*

An event can cause **impulse responses**

Increases rates of other processes for a period of time

Confidence about the number of events
caused by another event on the source
process (weight)

Reveals causal relationships



For Our Purposes...

Hawkes model with 8 processes

One for each platform/community

Distinct model for each URL

Fit each model with Gibbs sampling

Calculate the percentage of events created because of events happened in each of the other processes

How Communities Influence Each Other?

Twitter top influencers for alternative URLs

- /r/The_Donald (2.72%)
- /pol/ (1.96%)
- /r/politics (1.1%)

Twitter top influencers for mainstream URLs

- /r/politics (4.29%)
- /pol/ (3.01%)
- /r/The_Donald (2.97%)

How Communities Influence Each Other?

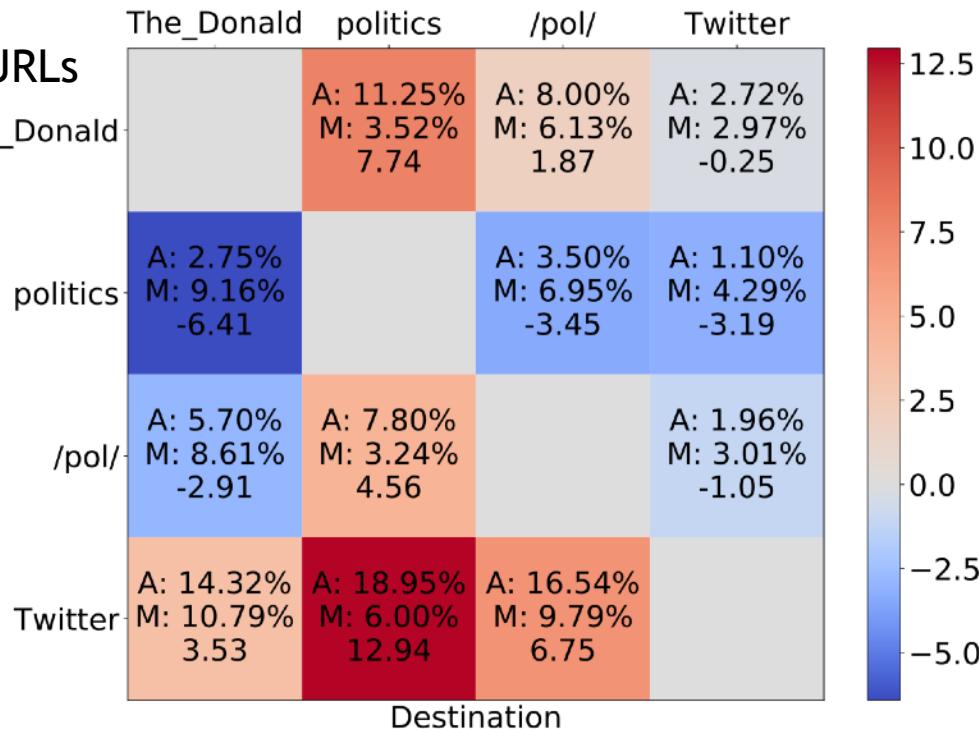
Twitter top influencers for alternative URLs

- /r/The_Donald (2.72%)
- /pol/ (1.96%)
- /r/politics (1.1%)

Twitter top influencers for mainstream URLs

- /r/politics (4.29%)
- /pol/ (3.01%)
- /r/The_Donald (2.97%)

Source



How Communities Influence Each Other?

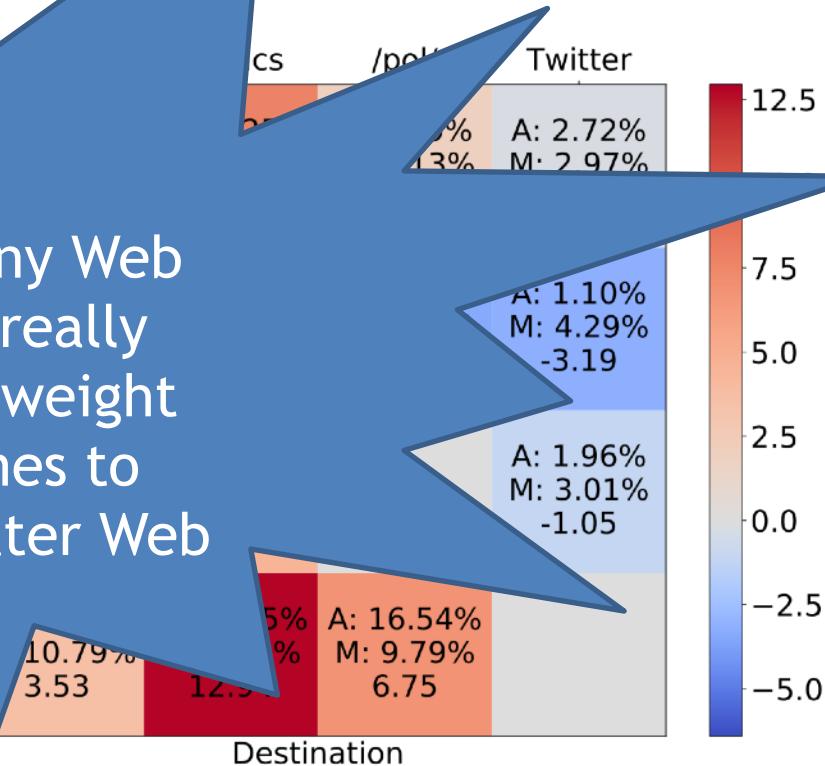
Twitter top influencers for alternative news

- /r/The_Donald (1.96%)
- /pol/ (1.96%)

Twitter top influencers for alt-right

- /r/TrumpSupporters (1.96%)
- /r/Realdonaldtrump (1.96%)

These seemingly tiny Web communities can really punch above their weight class when it comes to influencing the greater Web



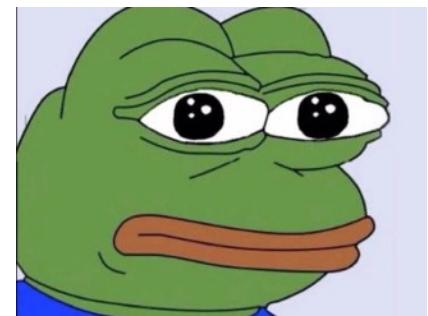




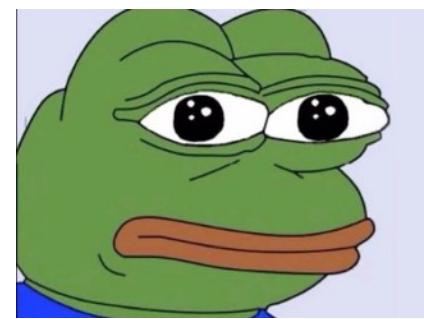
imgflip.com

Memes are fun!

Not always though...



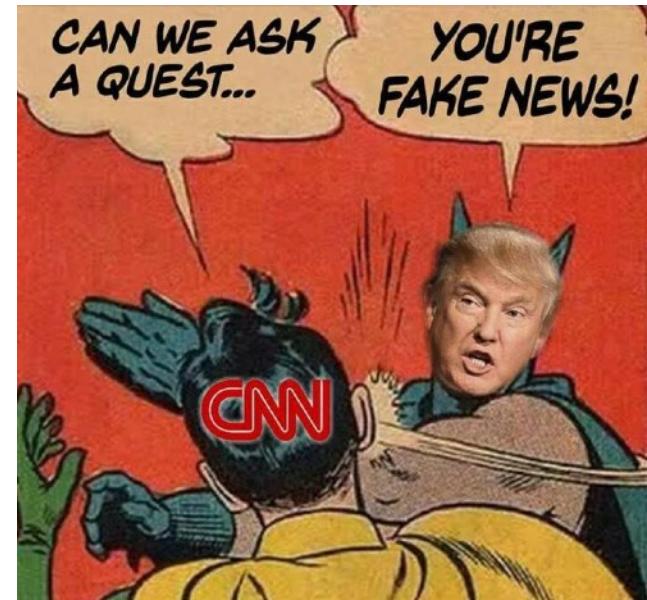
Not always though...



Not always though...



Not always though...



Memes in politics

[US midterms 2018](#) [Business](#) [Tech](#) [Science](#)

Annotated: the Trump memes stuck to Cesar Sayoc's van

The vehicle seized by law enforcement in Florida was covered in strange propaganda



▲ Cesar Sayoc's van is seen in Boca Raton, Florida, on 18 October 2018 in this picture obtained from social media.
Photograph: Social Media/Ed Kennedy via Reuters

most viewed in US



Pittsburgh synagogue shooting: suspect held after at least four killed



'I bet \$500 they are lying': Trump fans sceptical about pipe bomb arrest



'Why is that racist?' Trump greets young black leaders with freewheeling rant



Barack Obama takes aim at Donald Trump for 'making stuff up'



Muncy hits walk-off homer as Dodgers win longest ever World Series game



US midterms 2018 Business Tech Science

Annotated
to Cesar Sayoc

Trump m

Memes have become a popular,
and seemingly effective,
method to transmit ideology.

Memes have been weaponized



▲ Cesar Sayoc's van is seen in Boca Raton, Florida, on 18 October 2018 in this picture obtained from social media.
Photograph: Social Media/Ed Kennedy via Reuters

post via

gh synagogue

sceptical about
ist

young black leaders
wheeling rant

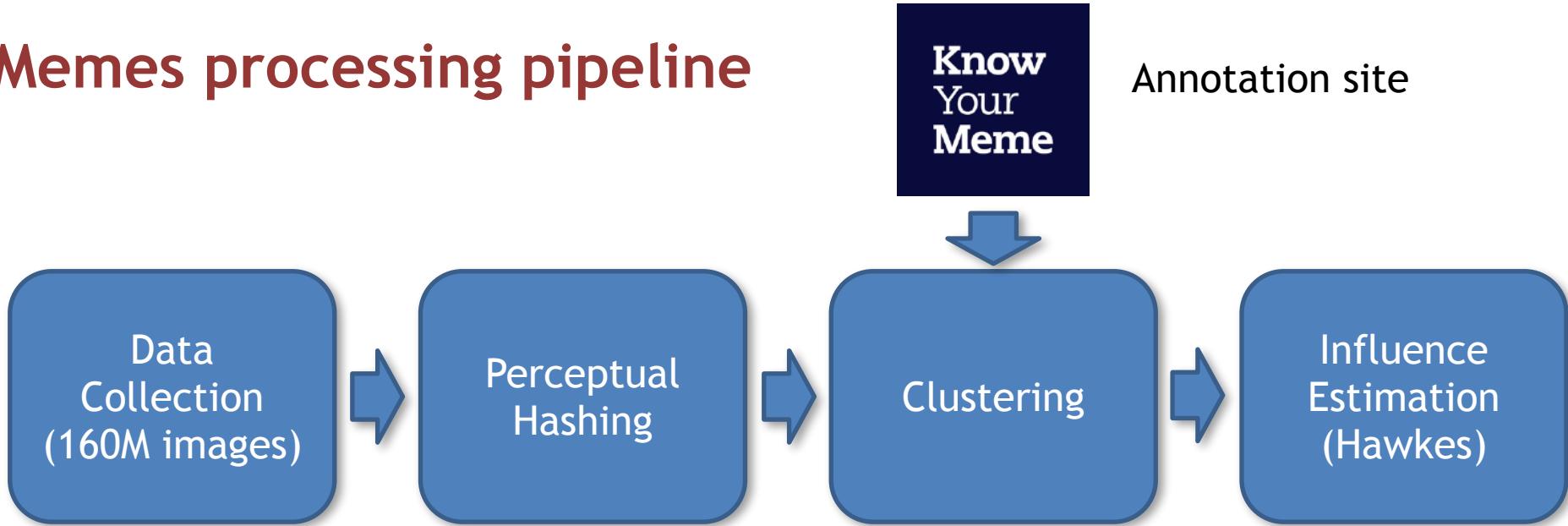


Donald Trump calling
stuff up'



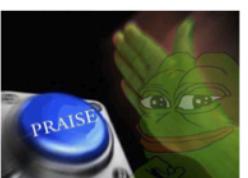
Muncy hits walk-off homer as
Dodgers win longest ever
World Series game

Memes processing pipeline



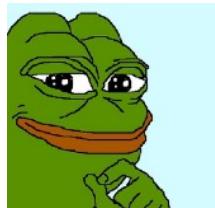
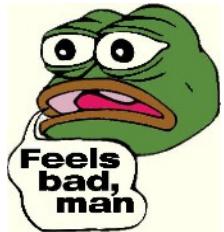
Code for our analysis pipeline (and data) available
at [https://github.com/memespaper/
memes_pipeline](https://github.com/memespaper/memes_pipeline)

Examples of clusters

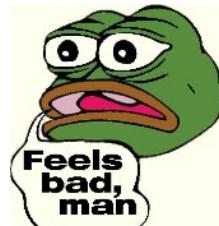


Top memes per social network

4chan (/pol/)



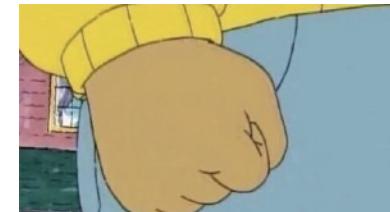
Reddit

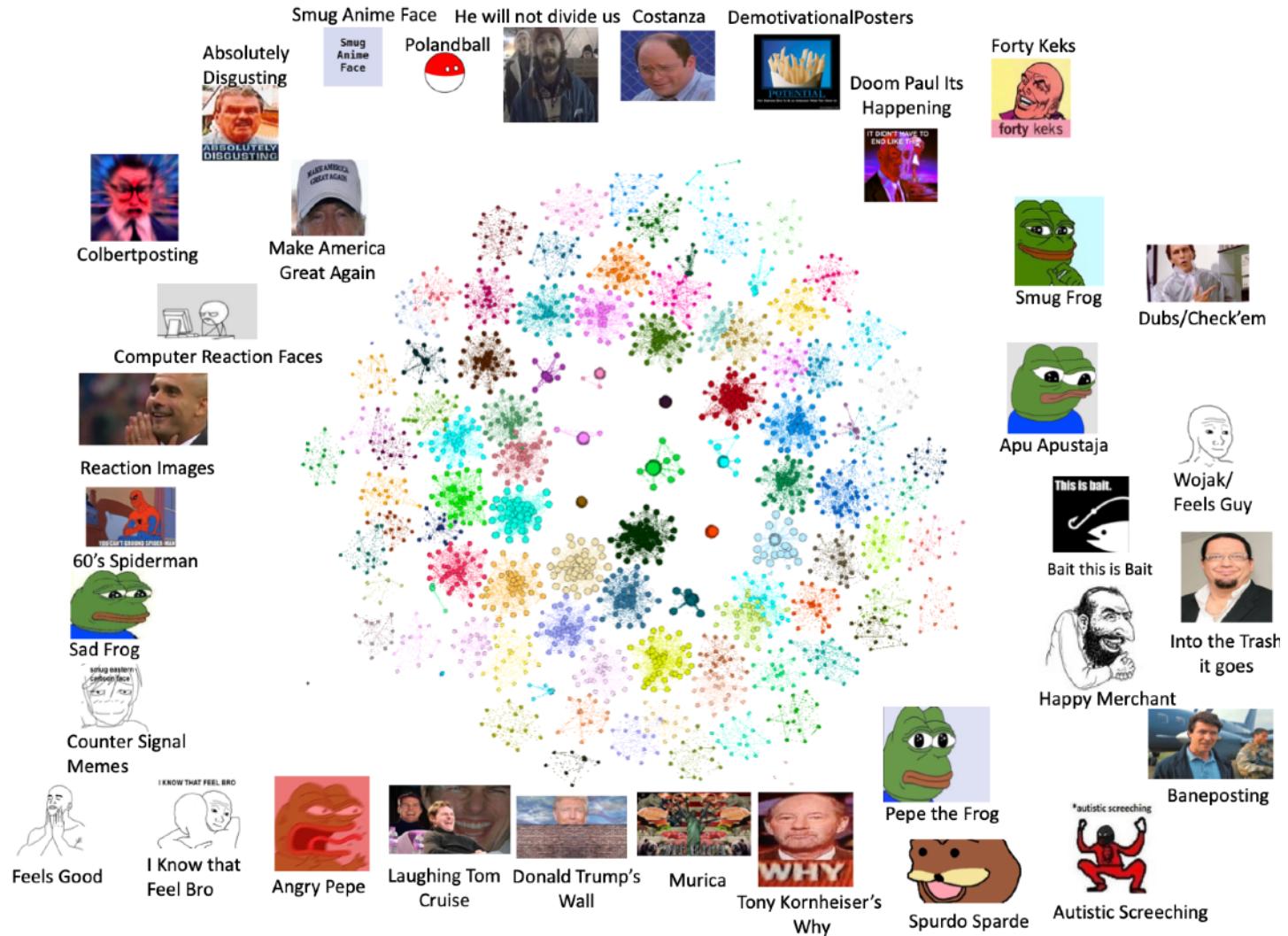


Gab

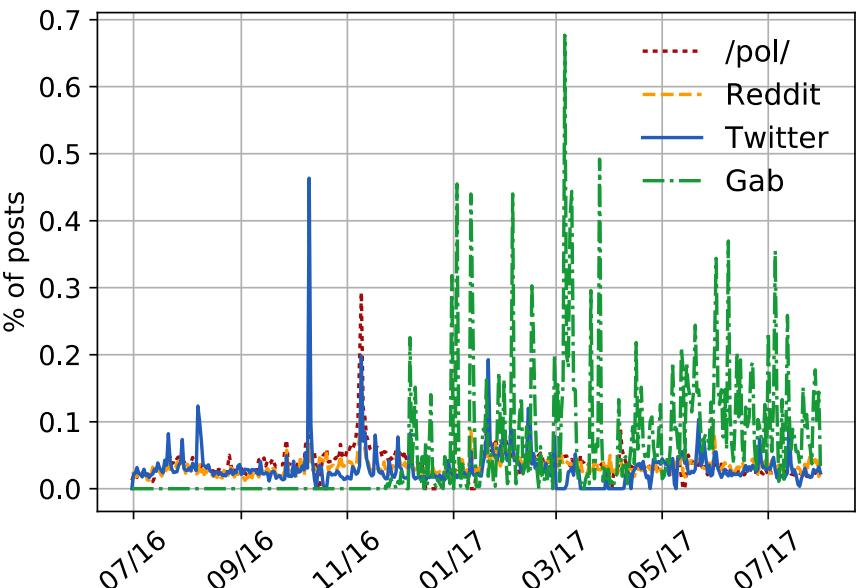


Twitter

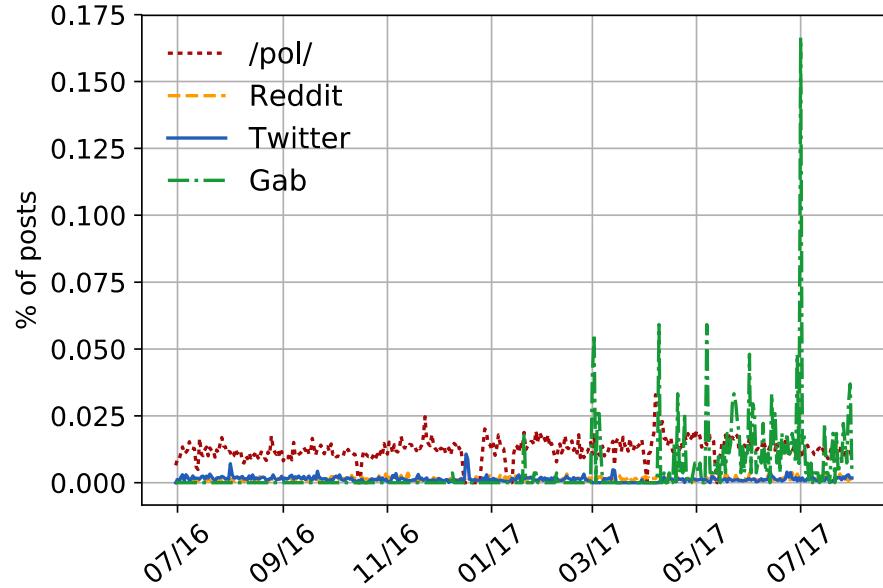




How are memes shared over time?

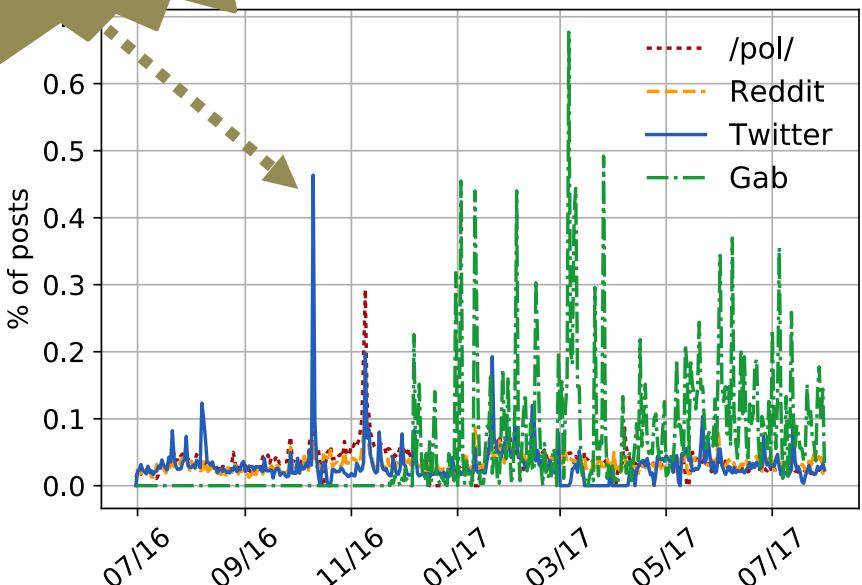


Political Memes

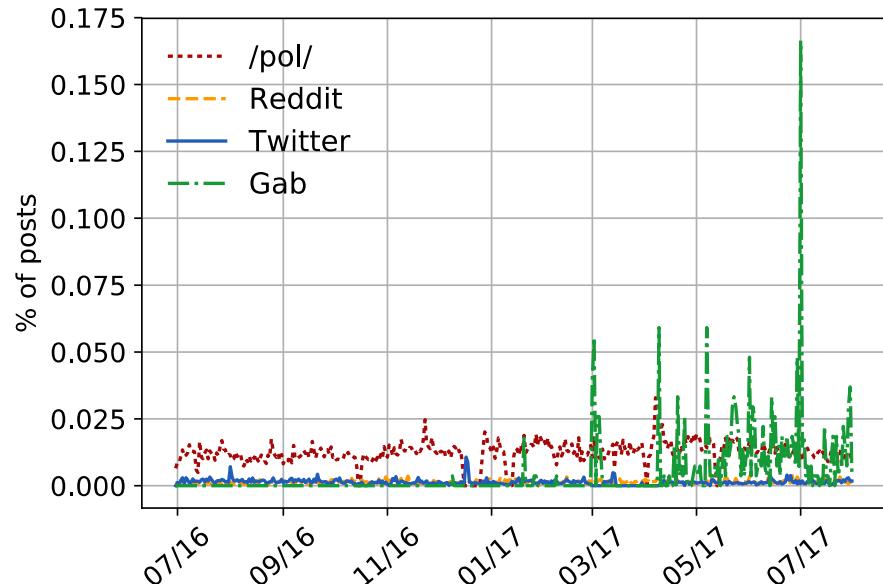


Racist Memes

How are memes shared over time?



Political Memes

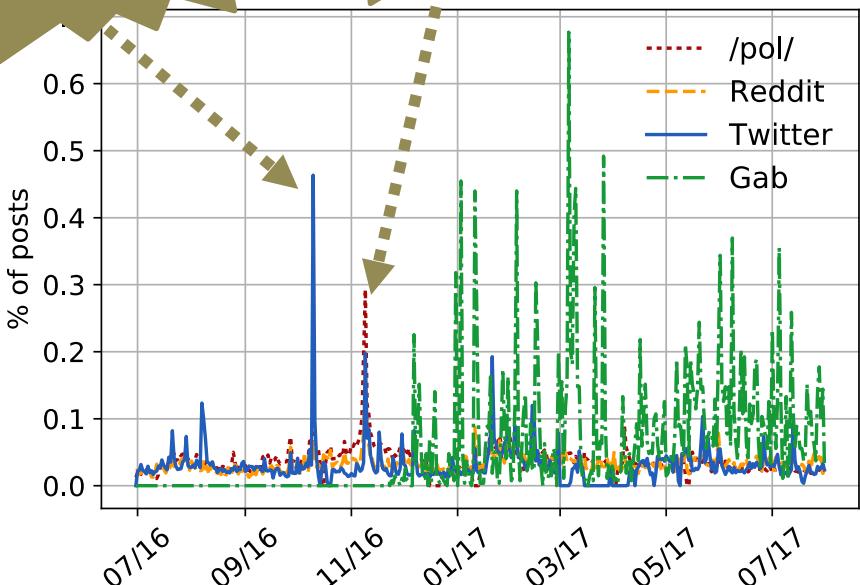


Racist Memes

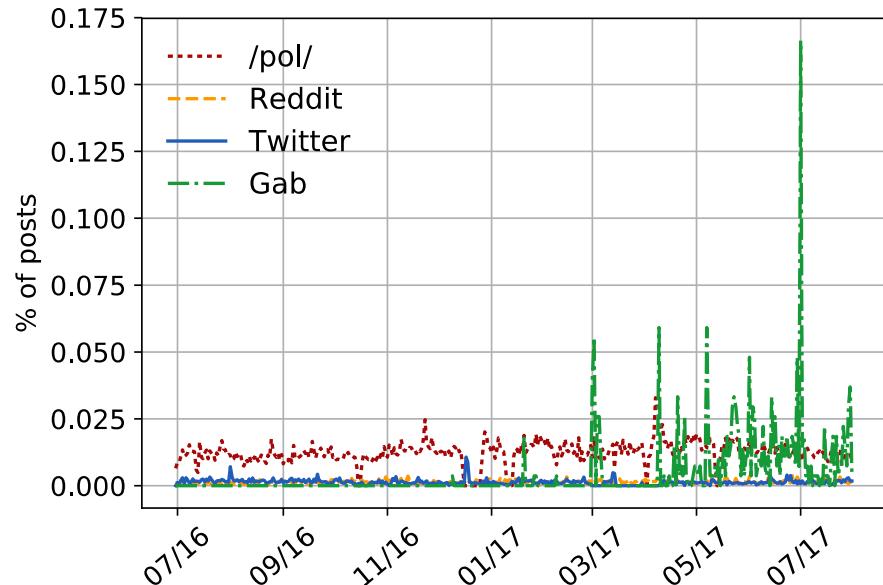
How are memes shared over time?

2nd US
presidential
debate

2016 US
elections

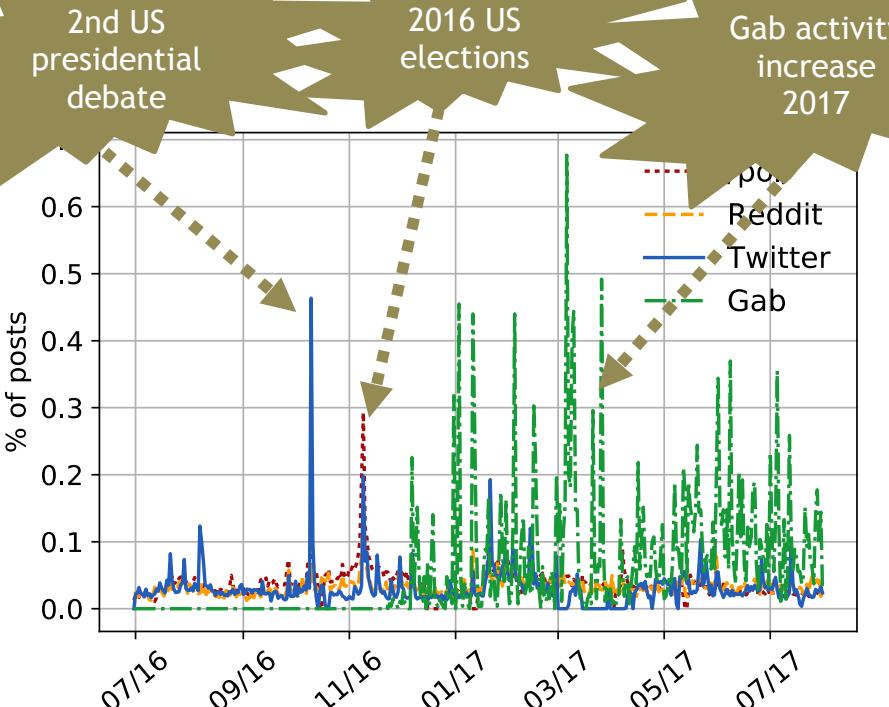


Political Memes

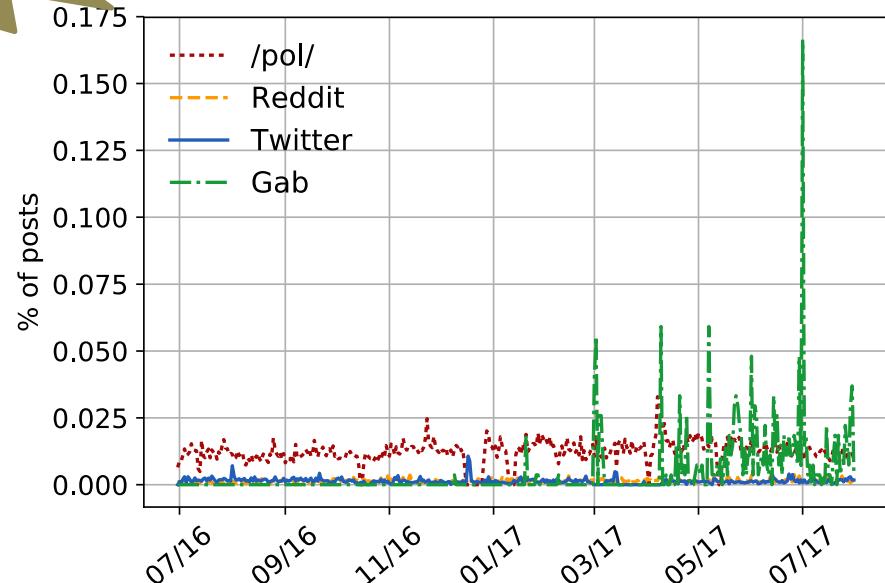


Racist Memes

How are memes shared over time?



Political Memes



Racist Memes

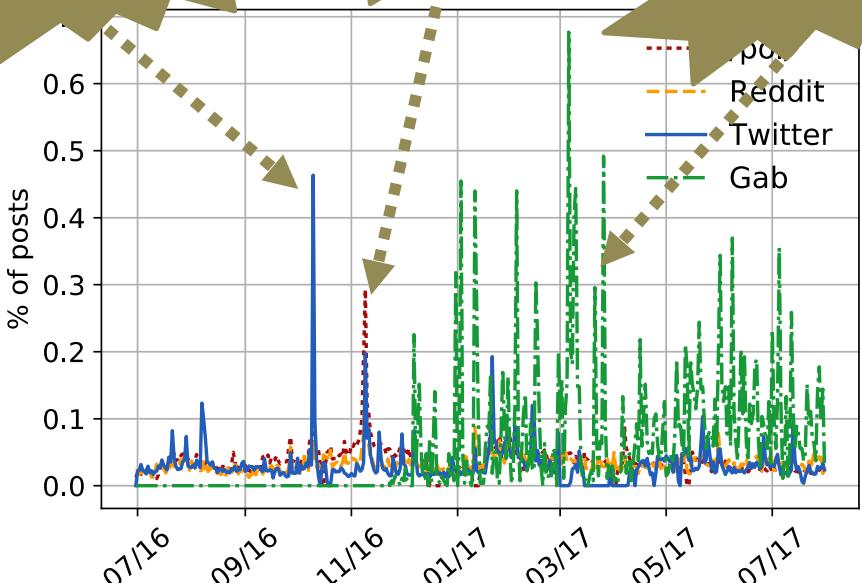
How are memes shared over time?

2nd US presidential debate

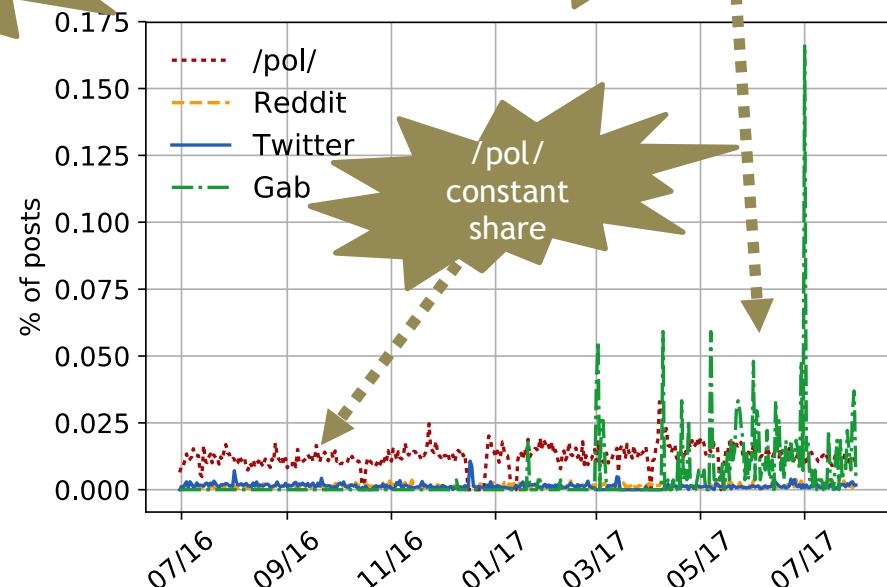
2016 US elections

Gab activity increase 2017

Gab activity increase in 2017



Political Memes



Racist Memes

Communities' influence (racist memes)

/pol/ is most influential in terms of spreading racist memes

	/pol/	Reddit	Twitter	Gab	T_D
/pol/	R: 99.44% NR: 97.12%*	R: 6.89% NR: 3.95%*	R: 3.94% NR: 2.93%*	R: 18.93% NR: 12.91%	R: 14.17% NR: 16.41%*
Source	Reddit	Twitter	Gab	T_D	
Twitter	R: 0.29% NR: 1.28%*	R: 88.95% NR: 90.87%*	R: 2.79% NR: 4.64%*	R: 1.25% NR: 9.42%	R: 9.84% NR: 9.02%*
Gab	R: 0.15% NR: 0.79%	R: 1.75% NR: 2.85%*	R: 92.95% NR: 90.96%*	R: 0.66% NR: 8.16%	R: 1.37% NR: 3.66%*
Gab	R: 0.04% NR: 0.09%	R: 0.65% NR: 0.16%	R: 0.10% NR: 0.20%	R: 76.67% NR: 59.72%	R: 0.08% NR: 0.58%
T_D	R: 0.07% NR: 0.73%*	R: 1.75% NR: 2.18%*	R: 0.23% NR: 1.27%*	R: 2.49% NR: 9.79%	R: 74.53% NR: 70.32%*
			Destination		

Communities' efficiency (racist memes)

If we look at the influence normalized to the number of memes posted, the The_Donald is most efficient in terms of disseminating memes

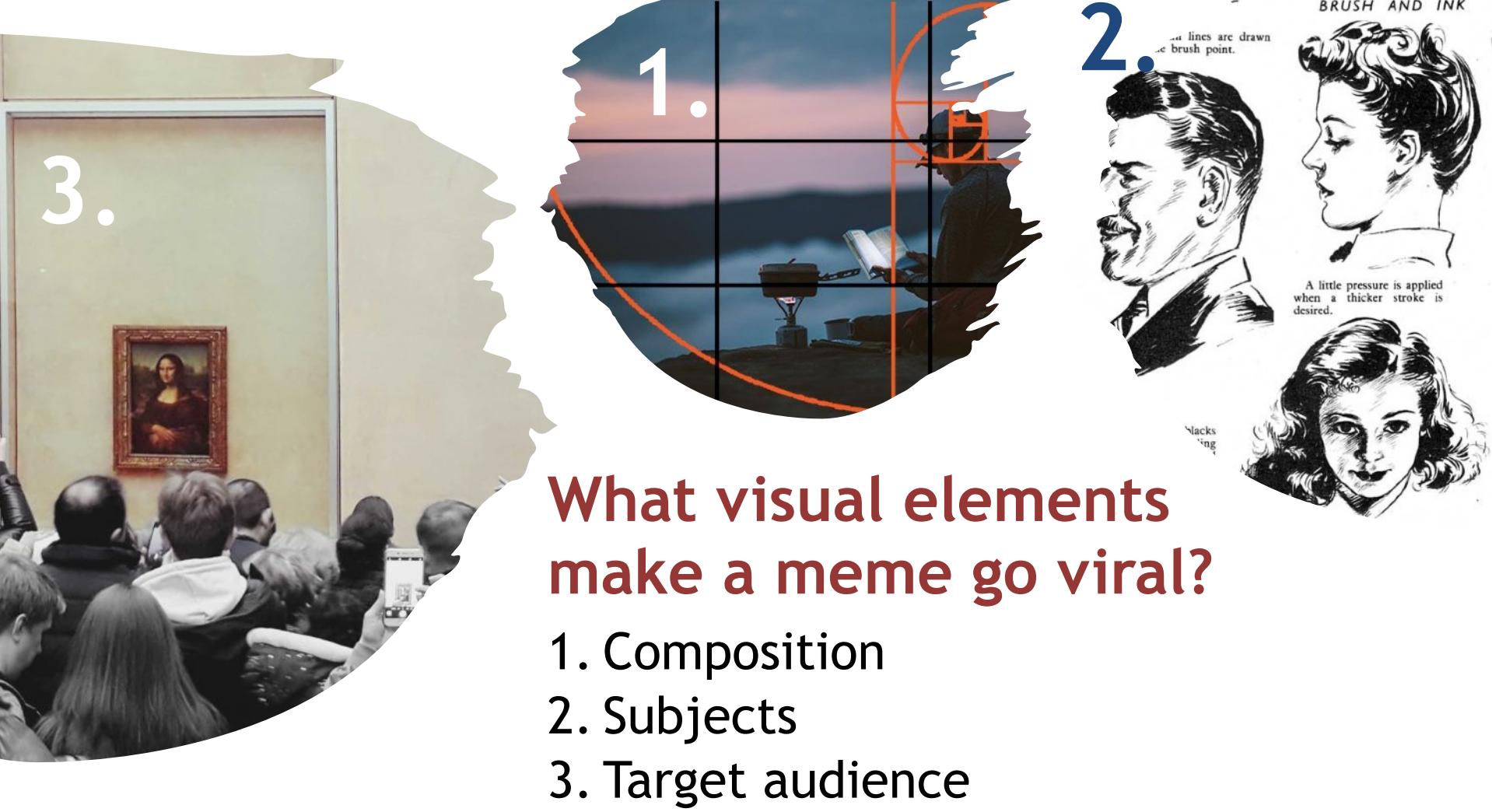
		/pol/	Reddit	Twitter	Gab	T_D	Total Ext
Source	/pol/	R: 99.4 NR: 97.1*	R: 0.5 NR: 1.5*	R: 0.3 NR: 1.4*	R: 0.2 NR: 0.4	R: 0.1 NR: 0.9*	R: 1.1 NR: 4.2
	Reddit	R: 4.2 NR: 3.3*	R: 89.0 NR: 90.9*	R: 2.7 NR: 5.7*	R: 0.2 NR: 0.7	R: 1.4 NR: 1.3*	R: 8.5 NR: 11.1
	Twitter	R: 2.2 NR: 1.7	R: 1.8 NR: 2.3*	R: 92.9 NR: 91.0*	R: 0.1 NR: 0.5	R: 0.2 NR: 0.4*	R: 4.4 NR: 4.9
	Gab	R: 4.5 NR: 3.0	R: 4.9 NR: 2.0	R: 0.7 NR: 3.2	R: 76.7 NR: 59.7	R: 0.1 NR: 1.1	R: 10.3 NR: 9.3
	T_D	R: 7.5 NR: 13.6*	R: 12.1 NR: 15.5*	R: 1.5 NR: 11.1*	R: 2.3 NR: 5.3	R: 74.5 NR: 70.3*	R: 23.4 NR: 45.6

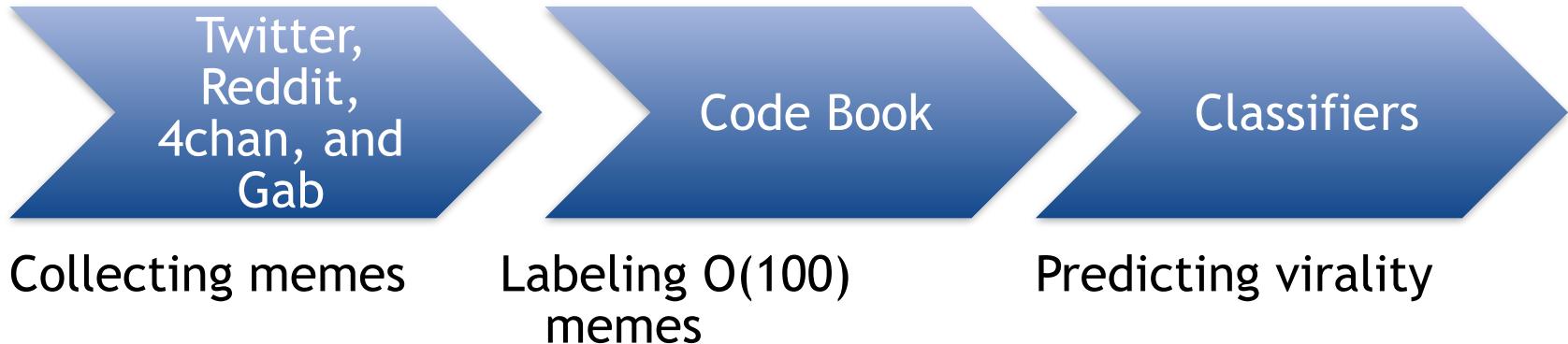
What is a meme anyway?

It should meet two conditions:

1. Shared by more than one user on social media
2. Present at least one variation on social media







i) A viral meme.

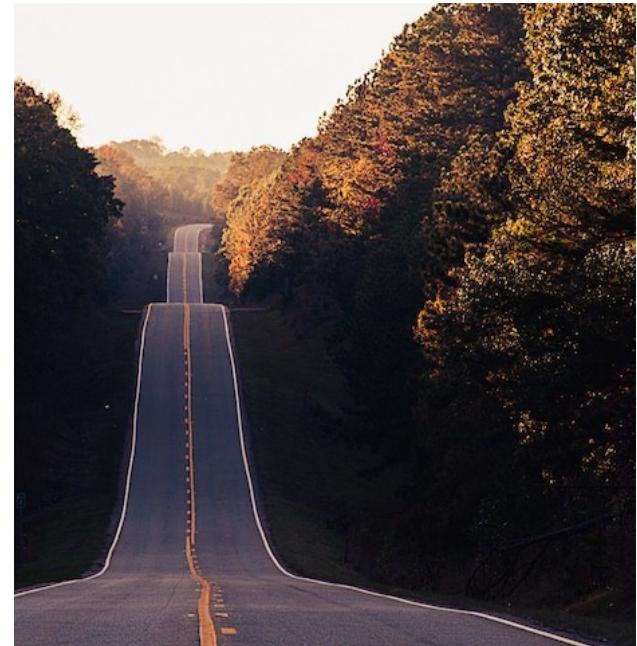


ii) A non-viral meme

TL;DR

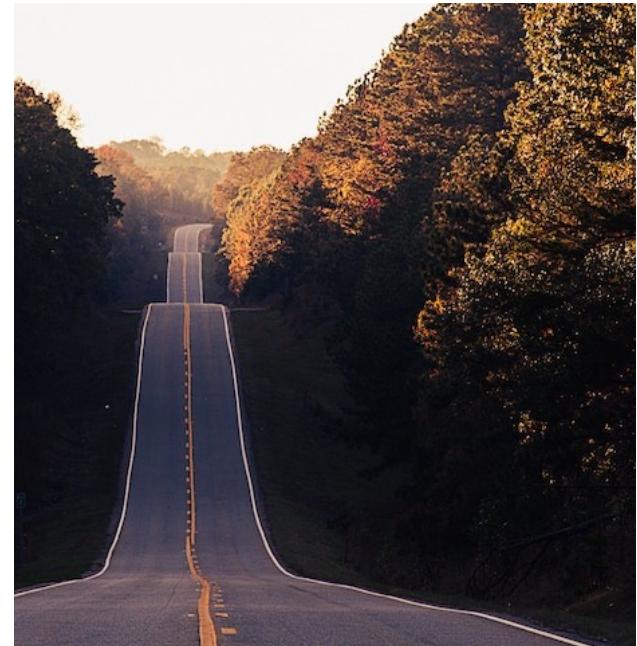
- Composition and subject matters. A close-up scale, contain characters, and include positive or negative emotions may go viral
- Random Forest achieves 0.866 Area Under the Curve (AUC), which can distinguish viral and non-viral memes from both fringe and mainstream platforms, such as Twitter and Reddit
- See: <https://arxiv.org/pdf/2101.06535.pdf>

Moving Forward



Moving Forward

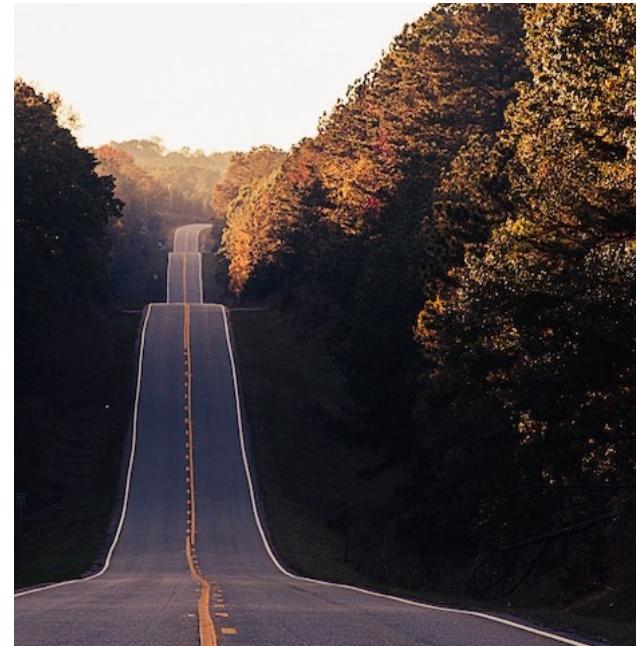
There are still many problems remaining
in the broad space



Moving Forward

There are still many problems remaining in the broad space

We have made a lot of progress into gaining a quantitative understanding



Moving Forward

There are still many problems remaining in the broad space

We have made a lot of progress into gaining a quantitative understanding

We now need to deploy **proactive systems in production**

Real time detection

Actively fight weaponized information

Policy

Accountability



Risks

Risks

We've spent a lot of time trying to measure jerks on the Web
They are turning a really powerful technology into a cesspool

Risks

We've spent a lot of time trying to measure jerks on the Web
They are turning a really powerful technology into a cesspool

As researchers, our goal is to share what we learn
We write papers; sometimes people even read them!

Risks

We've spent a lot of time trying to measure jerks on the Web
They are turning a really powerful technology into a cesspool

As researchers, our goal is to share what we learn
We write papers; sometimes people even read them!

Risks

We've spent a lot of time trying to measure jerks on the Web
They are turning a really powerful technology into a cesspool

As researchers, our goal is to share what we learn
We write papers; sometimes people even read them!

Unfortunately, this can attract some unwanted attention...

File: [Cucks.png](#) (209 KB, 1181x535)



■ The Cuckademics, A Study Anonymous (ID: zw8wNrfR) 10/13/16(Thu)06:18:21 No.92700473 ▶

Jeremy Blackburn

>his work on the contagious aspects of cheating and understanding and learning about cyberbullying/toxic behavior in online games represent the largest scale studies of such behavior, providing insite useful not just for the gaming community, but in understanding anti-social behavior in the real-world as well.
<http://www.tid.es/research/researchers/j-blackburn>

Gianluca Stringhini

>Twitter Cuck e.g. "But #brexit has nothing to do with xenophobia, right?"
>Retweets Hillary
https://twitter.com/gianluca_string

Riginos Samaras

>actually seems ok and quite attractive so ill give him a pass

Ilias Leontiadis

>bizarre that they would include this guy because his papers are all related to internet privacy and ad revenue.
>Oh wait... Two factors that may have an influence on such interactions are cultural differences between individuals in highly multicultural workplaces, and the layout and physical spaces of the workplace itself. In this work, we investigate how these two factors may facilitate or hinder inter-group interactions in the workplace.
<http://www.tid.es/research/researchers/ilias-leontiadis>

■ Anonymous (ID: zw8wNrfR) 10/13/16(Thu)06:18:40 No.92700514 ▶

Nicolas Kourtellis

>Just a henchman

Emiliano De Cristofaro

>globalist
>Italian national Dr Emiliano De Cristofaro, a senior lecturer in computer science at University College London, criticised the comments.
>"Quite frankly, I am very upset. It inherently discriminates against a portion of the population living in this country, making us feel like second-class individuals. Nobody should be used as a negotiating chip, let alone people who are working hard, paying taxes and strongly contributing to the country," he said.
>"I also fear that statements like this will further encourage hate crime, discrimination and racism against EU citizens."
<https://inews.co.uk/essentials/news/politics/eu-citizens-living-uk-express-upset-liam-fox-describes-negotiating-card/>

Jeremiah Onaolapo

>Just a henchman but...

>Recent or forthcoming papers: "What Happens After You Are Pwned: Understanding The Use Of Leaked Webmail Credentials In The Wild."
>In that paper: "We leaked 100 honey accounts on paste sites, underground forums, and virtual machines infected with malware, and provided detailed statistics of the activity of cybercriminals on the accounts, together with a taxonomy of the criminals. Our findings help the research community to get a better understanding of the ecosystem of stolen online accounts, and potentially help researchers to develop better detection systems against this malicious activity."
<http://www0.cs.ucl.ac.uk/staff/J.Onaolapo/papers/imc16gmail.pdf>

Gabriel Emile Hine

>no juice

In conclusion my research indicates that the three most responsible Jews for this vicious hate crime against our culture are:

>Jeremy Blackburn
https://twitter.com/jblackb?ref_src=twsrc%5Egoogle%7Ctwcamp%5Esecp%7Ctgr%5Eauthor
>Emiliano De Cristofaro
https://twitter.com/emilianodc_
>Gianluca Stringhini
https://twitter.com/gianluca_string



Shining a light on the dark corners of the web

Cybercrime researcher Gianluca Stringhini explains how he studies hate speech and fake news on the underground network 4chan.

Daniel Cressey

09 June 2017



Rights & Permissions



[E-alert](#) [RSS](#) [Facebook](#) [Twitter](#)

Germany focus



The secret to Germany's scientific excellence

With a national election this month, Germany proves that foresight and stability can power research.

Recent

Read

Commented

1. Deadly Mexico earthquake had unusual cause

Nature | 08 September 2017

2. Geneticists pan paper that claims to predict a person's face from their DNA

Nature | 08 September 2017

3. South Korean researchers lobby government to lift human-embryo restrictions

Nature | 08 September 2017





Shining a light on the dark corners of the web

Cybercrime researcher Gianluca Stringhini explains how he studies hate speech and fake

Anonymous (ID: 0alkdjN4) 06/10/17(Sat)02:11:32 No.129265175 ► [>>129270300](#)

File: [BEAVERRS.png](#) (26 KB, 126x105)



[>>129263649](#)



ic excellence

Germany proves
er research.

Commented

had unusual

laims to predict
NA

Nature | 06 September 2017

3. South Korean researchers lobby
government to lift human-embryo
restrictions

Nature | 08 September 2017



natur

Home | News & Comm

News & Comment >

NATURE | NEWS: Q&

Shining a lig

Cybercrime research

Anonymous (ID: 0alkdjN4

File: [BEAVERRS.png](#) (26 KB,



hello i am
italian

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>

>



nature
briefing





natur

Home | News & Comm

News & Comment > N

NATURE | NEWS: Q&

Shining a lig

Cybercrime research

Anonymous (ID: 0alkdjN4

File: BEAVERRS.png (26 KB)

hello i am
italian

From what we could determine, this image was produced by Daily Stormer users...

A literal, non-satirical neo-Nazi community

MOSHE P.I.

The Cyberhate Investigator

nature
briefing



Provided inspiration for new memes



Figure 29: A very comfy Savvas Zannettou

Kek, Cucks, and God Emperor Trump: A Measurement Study of 4chan's Politically Incorrect Forum and Its Effects on the Web*

Gabriel Emile Hine[†], Jeremiah Onaolapo[†], Emiliano De Cristofaro[†], Nicolas Kourtellis[#],
Ilias Leontiadis[#], Riginos Samaras^{*}, Gianluca Stringhini[†], Jeremy Blackburn[#]

Kek, Cucks, and God Emperor Trump: A Measurement Study of 4chan's Politically Incorrect Forum and Its Effects on the Web*

“You Know What to Do”: Proactive Detection of YouTube Videos Targeted by Coordinated Hate Attacks*

Enrico Mariconti

UCL

e.mariconti@ucl.ac.uk

Guillermo Suarez-Tangil

King’s College London

guillermo.suarez-tangil@kcl.ac.uk

Jeremy Blackburn

Binghamton University

blackburn@cs.binghamton.edu

Emiliano De Cristofaro

UCL & Alan Turing Institute

e.dechristofaro@ucl.ac.uk

Nicolas Kourtellis

Telefonica Research

nicolas.kourtellis@telefonica.com

Ilias Leontiadis

Samsung AI

i.leontiadis@samsung.com

Kek, Cucks, and God Emperor Trump: A Measurement Study of 4chan's Politically Incorrect Forum and Its Effects on the Web*

“You Know What to Do”: Proactive Detection of YouTube Videos Targeted by Coordinated Hate Attacks*

The Web Centipede: Understanding How Web Communities Influence Each Other Through the Lens of Mainstream and Alternative News Sources

Savvas Zannettou[★], Tristan Caulfield[†], Emiliano De Cristofaro[†], Nicolas Kourtellis[‡], Ilias Leontiadis[‡], Michael Sirivianos[★], Gianluca Stringhini[†], and Jeremy Blackburn⁺

Kek, Cucks, and God Emperor Trump: A Measurement Study of 4chan's Politically Incorrect Forum and Its Effects on the Web*

“You Know What to Do”: Proactive Detection of YouTube Videos Targeted by Coordinated Hate Attacks*

The Web Centipede: Understanding How Web Communities Influence Each Other Through the Lens of Mainstream and

On the Origins of Memes by Means of Fringe Web Communities*

Savvas Zannettou*, Tristan Caulfield[†], Jeremy Blackburn[†], Emiliano De Cristofaro[‡], Michael Sirivianos*, Gianluca Stringhini^{‡◊}, and Guillermo Suarez-Tangil^{‡++}

*Cyprus University of Technology, [†]University College London

[‡]University of Alabama at Birmingham, [◊]Boston University, ⁺⁺King’s College London

“And We Will Fight For Our Race!” A Measurement Study of Genetic Testing Conversations on Reddit and 4chan*

Alexandros Mittos¹, Savvas Zannettou², Jeremy Blackburn³, and Emiliano De Cristofaro¹

¹University College London ²Cyprus University of Technology ³Binghamton University

“And We Will Fight For Our Race!” A Measurement Study of Genetic Testing Conversations on Reddit and 4chan*

Detecting Cyberbullying and Cyberaggression in Social Media*

Despoina Chatzakou¹, Ilias Leontiadis², Jeremy Blackburn³, Emilio De Cristofaro⁴,
Gianluca Stringhini⁵, Athena Vakali⁶, and Nicolas Kourtellis⁷

¹Center for Research and Technology Hellas, ²Samsung AI, ³SUNY Binghamton,

⁴UCL, ⁵Boston University, ⁶Aristotle University of Thessaloniki, ⁷Telefonica Research

“And We Will Fight For Our Race!” A Measurement Study of Genetic Testing Conversations on Reddit and 4chan*

Detecting Cyberbullying and Cyberaggression in Social Media*

Disinformation Warfare: Understanding State-Sponsored Trolls on Twitter and Their Influence on the Web*

Savvas Zannettou¹, Tristan Caulfield², Emiliano De Cristofaro²,
Michael Sirivianos¹, Gianluca Stringhini³, Jeremy Blackburn⁴

¹Cyprus University of Technology, ²University College London, ³Boston University, ⁴University of Alabama at Birmingham

“And We Will Fight For Our Race!” A Measurement Study of Genetic Testing Conversations on Reddit and 4chan*

Detecting Cyberbullying and Cyberaggression in Social Media*

Disinformation Warfare: Understanding State-Sponsored Trolls on Twitter and Their Influence on the Web*

Characterizing the Use of Images in State-Sponsored Information Warfare Operations by Russian Trolls on Twitter*

Savvas Zannettou¹, Tristan Caulfield², Barry Bradlyn³,
Emiliano De Cristofaro², Gianluca Stringhini⁴, and Jeremy Blackburn⁵

Understanding the Use of Fauxtography on Social Media

Yuping Wang[♦], Fatemeh Tahmasbi[♦], Jeremy Blackburn[♦], Barry Bradlyn[♦],
Emiliano De Cristofaro[♥], David Magerman[◊], Savvas Zannettou[★], and Gianluca Stringhini[♣]

[♦]Boston University, [♦]Binghamton University, [♣]University of Illinois at Urbana–Champaign,

[♥]University College London, [◊]Differential Venture Partners, [★]Max Planck Institute for Informatics

Understanding the Use of Fauxtography on Social Media

The Evolution of the Manosphere Across the Web*

Manoel Horta Ribeiro[♦], Jeremy Blackburn[◊], Barry Bradlyn[◊], Emiliano De Cristofaro[◊]
Gianluca Stringhini[♦], Summer Long[◊], Stephanie Greenberg[◊], Savvas Zannettou[♦]

[♦]EPFL, [◊]Binghamton University, [◊]University of Illinois at Urbana-Champaign

[◊]University College London, [♦]Boston University, [♦]Max Planck Institute for Informatics
– iDRAMA Lab –

manoel.hortaribeiro@epfl.ch, {jblackbu, slong12, sgreenb8}@binghamton.edu,
bbradlyn@illinois.edu, gian@bu.edu, e.dechristofaro@ucl.ac.uk, szannett@mpi-inf.mpg.de

Understanding the Use of Fauxtography on Social Media

The Evolution of the Manosphere Across the Web*

Dissecting the Meme Magic: Understanding Indicators of Virality in Image Memes*

Chen Ling[†], Ihab AbuHilal[‡], Jeremy Blackburn[‡], Emiliano De Cristofaro[⊕],
Savvas Zannettou[◊], and Gianluca Stringhini[†]

[†]Boston University, [‡]Binghamton University, [⊕]University College London, [◊]Max Planck Institute for Informatics
ccling@bu.edu, iabuhil1@binghamton.edu, jblackbu@binghamton.edu,
e.dechristofaro@ucl.ac.uk, szannett@mpi-inf.mpg.de, gian@bu.edu

Understanding the Use of Fauxtography on Social Media

The Evolution of the Manosphere Across the Web*

Dissecting the Meme Magic: Understanding Indicators of Virality in Image Memes*

“Is it a Qoincidence?”: A First Step Towards Understanding and Characterizing the QAnon Movement on Voat.co

Antonis Papasavva¹, Jeremy Blackburn² Gianluca Stringhini³, Savvas Zannettou⁴,
and Emiliano De Cristofaro¹

¹University College London, ²Binghamton University, ³Boston University, ⁴Max Planck Institute for Informatics
antonis.papasavva@ucl.ac.uk, jblackbu@binghamton.edu, gian@bu.edu, szannett@mpi-inf.mpg.de, e.dechristofaro@ucl.ac.uk

Thank you!

