

# Socially Influence Campaigns: The Coordination of Events Using Bots and Misinformation

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The CMU centers for:  
Informed DEMocracy And Social cybersecurity  
Computational Analysis of Social and Organizational Systems



Carnegie Mellon University



6/25/2021

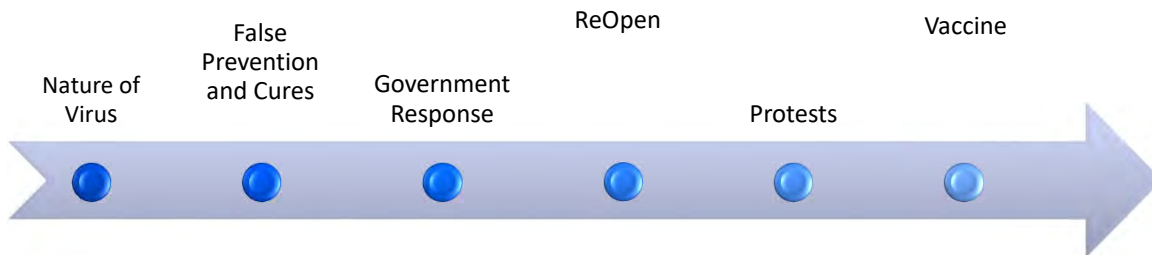
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## Disinfodemic

- More mis/dis-information than previously
- Increasingly political in nature
- Much is state-sponsored Anti-US
- Increasingly Partisan flavor

*Social Media is so infected that banning a story or actor on one platform has limited effect*



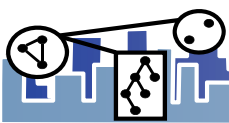
Conspiracy theories through out and getting stronger and associating new events

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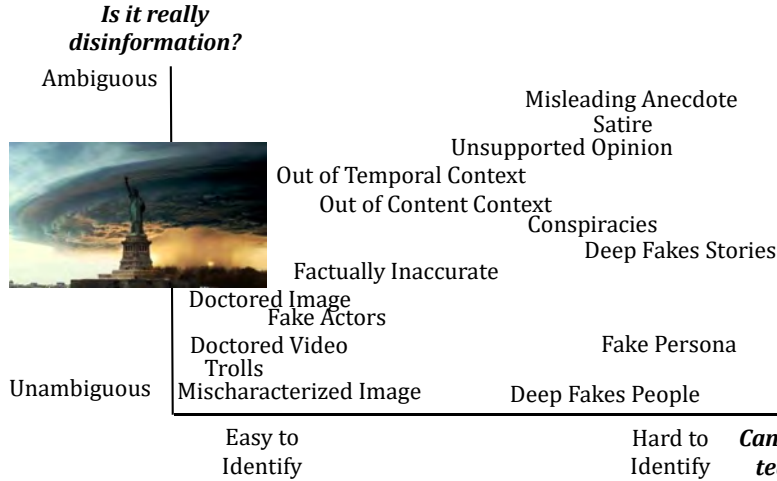
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# Disinformation has Many Faces





- Inaccurate facts are not the dominant problem
- Deep fakes are rare and targeted often at women
- Cannot be solved by AI alone
- Bots, Trolls, Memes, Cyborgs used to conduct these campaigns
- Key problem:** the influence campaigns that build groups receptive to disinformation

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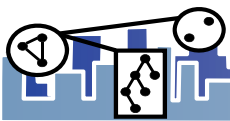


# What is Manipulatable

<p>Posts, content</p> <p>--- features of these affect, emotional cues, presence of memes, images, font, cohesiveness ...</p>	<p>Narrative</p> 
 <p>Community</p>	<p>Actors, groups</p> <p>--- features of these network structure, position of opinion leader, interaction between groups ...</p>

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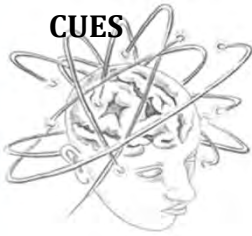
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# Tools used in Influence Campaigns



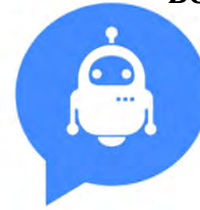
Subconscious CUES



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DEEP FAKES



BOTS



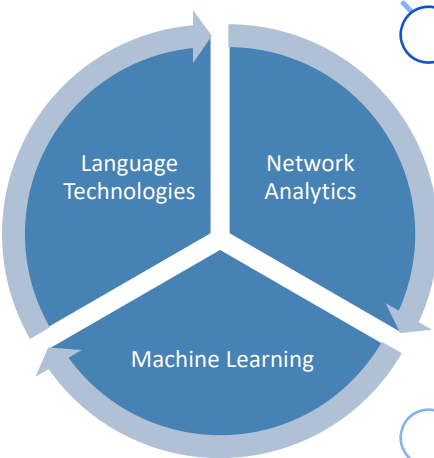
TROLLS

CYBORGS



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# Tools

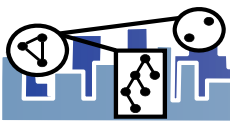


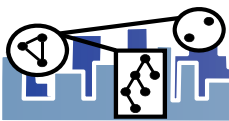
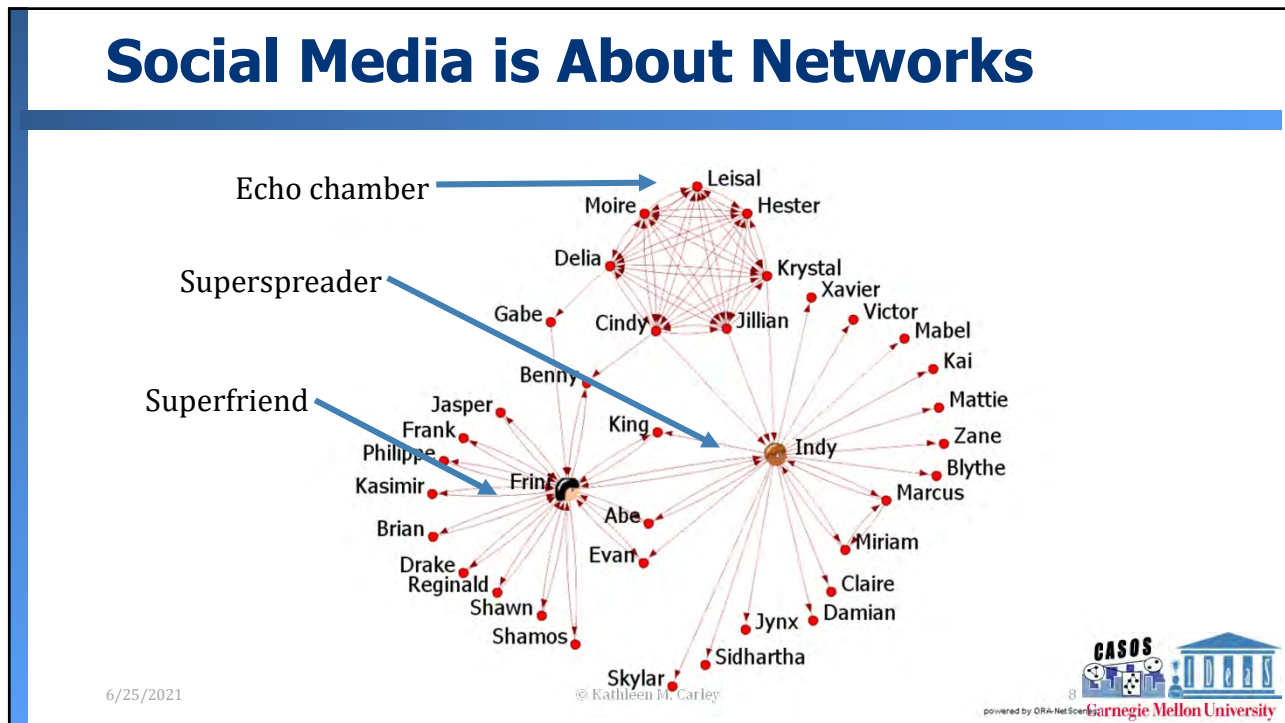
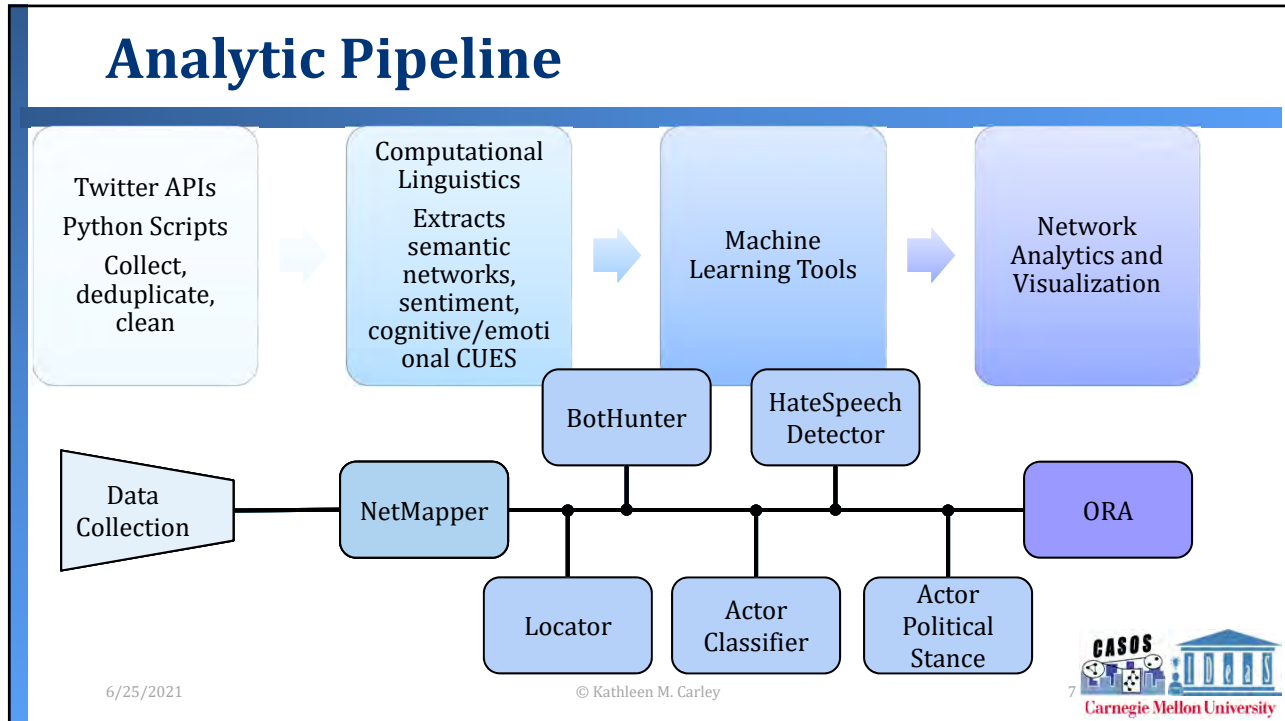
- ORA -> ORA-PRO
- AutoMap -> NetMapper
- BotHunter, TrollHunter
- MatchMe
- LocationFinder
- HateSpeech
- AgentTyper

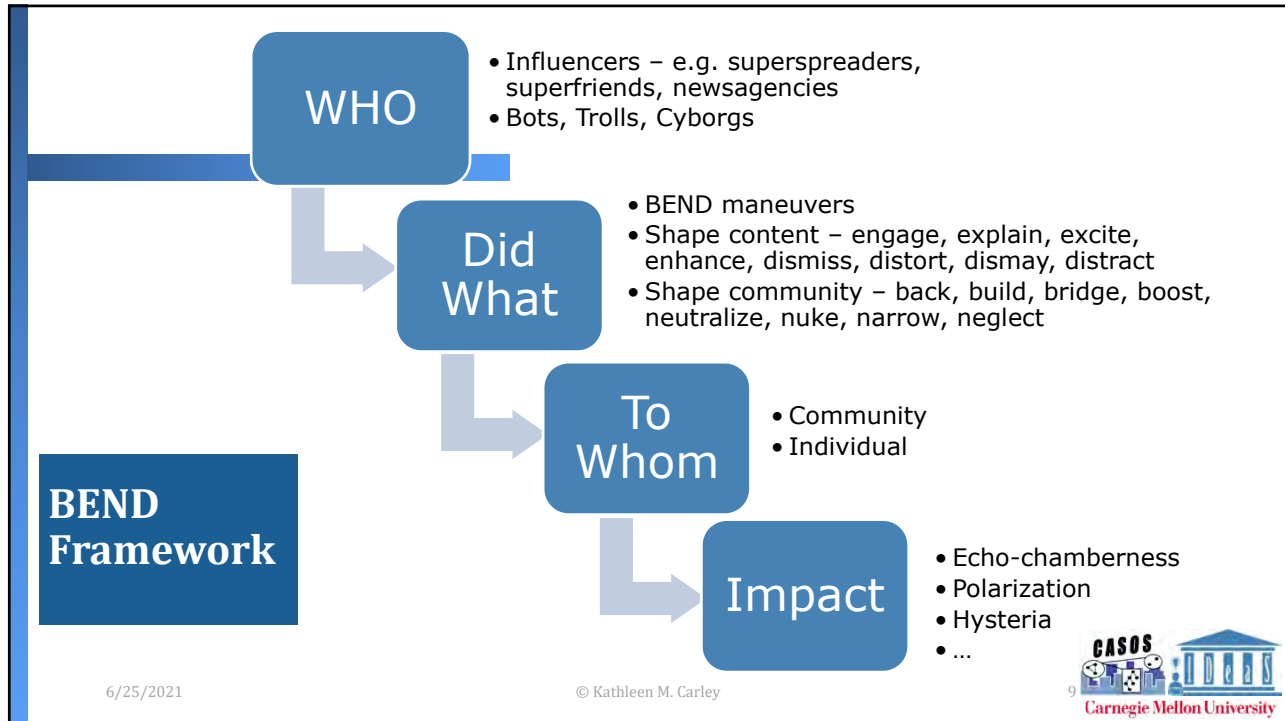
- BEND
- Stance Detection
- Trail
- Multi-level clustering
- Multi-mode clustering
- Local sentiment

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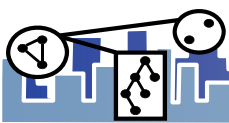


## Information Maneuvers to Manipulate Knowledge Network – manipulate discussion

<b>Engage</b>	discussion that bring up a related but relevant topic	<b>Dismiss</b>	discussion about why the topic is not important
<b>Explain</b>	discussion that provides details on or elaborates the topic	<b>Distort</b>	discussion that alters the main message of the topic
<b>Excite</b>	discussion that brings joy/happiness/cheer/enthusiasm to group	<b>Dismay</b>	discussion about a topic that will bring worry/sadness/anger to group
<b>Enhance</b>	discussion that encourages the group to continue with the topic	<b>Distract</b>	discussion about a totally different topic and irrelevant

**What is being talked about**  
**How it is being talked about**  
**The knowledge network**

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# Influence Campaigns

Phil @prettygoodphil

Excite

Trump supporters tonight



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Dismay

WHO now admits that asymptomatic transmission of COVID-19 is very rare. The claims of asymptomatic transmission was a major justification for social distancing, the lockdowns, and masks. Everything about COVID-19 hysteria has been a lie.



# Influence Campaigns

Enhance

HOW TO PROPERLY GREET SOMEONE DURING THE CORONAVIRUS OUTBREAK



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Distort

SO, HOSPITALS GET AN EXTRA \$13,000 IF THEY DIAGNOSE A DEATH AS COVID-19



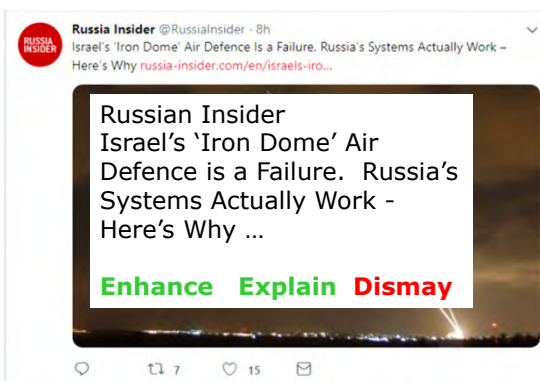
AND AN ADDITIONAL \$39,000 IF THEY USE A VENTILATOR!



**Enhance**


**Dismiss**

discussion about why the topic is important, adding information




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discussion about why the topic is not important, belittling




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## Information Maneuvers to Manipulate Social Network – manipulate structure

<b>Back</b>	actions that increase the importance of the opinion leader	<b>Neutralize</b>	actions that limit the effectiveness of opinion leader such as by reducing the number who can or do follow or reply or attend to
<b>Build</b>	actions that create a group or the appearance of a group	<b>Nuke</b>	actions that lead to a group being dismantled
<b>Bridge</b>	actions that build a connection between two or more groups	<b>Narrow</b>	actions that lead to the group becoming sequestered from other groups
<b>Boost</b>	actions that grow the size of the group or make it appear that it has grown	<b>Neglect</b>	actions that reduce the size of the group or make it appear that the group has grown smaller

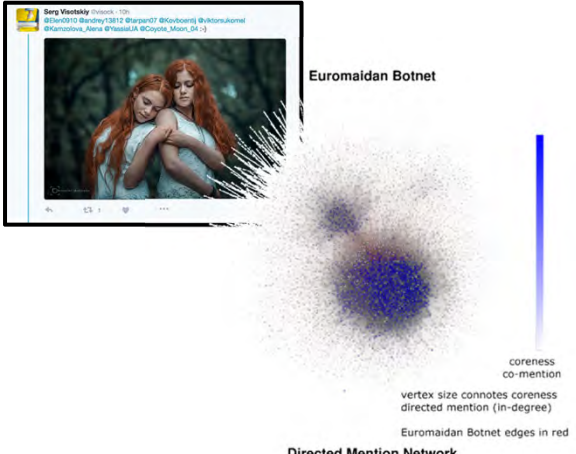
**Who is talking to whom**  
**Who are the leaders**  
**The social network**





## Build

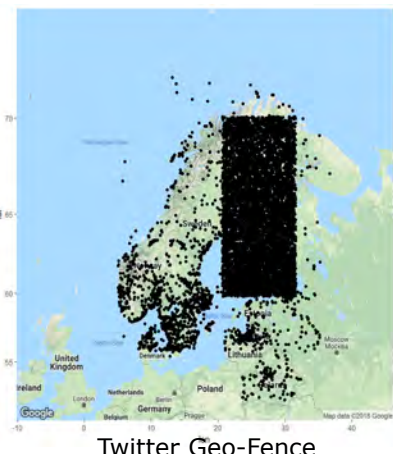
## Nuke



**Euromaidan Botnet**

vertex size connotes coreness  
directed mention (in-degree)  
Euromaidan Botnet edges in red


**Directed Mention Network**



**Twitter Geo-Fence**

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## Community Campaigns

### Bridge

### Distort





**Phyllis Camera**  
@CameraPhyllis

Apparently CDC has revised the CV numbers and the 55k alleged CV deaths were actually flu! I can't believe they are admitting it, but it is officially on CDC website.

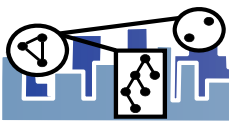
[cdc.gov/nchs/data/health...](https://cdc.gov/nchs/data/health...)

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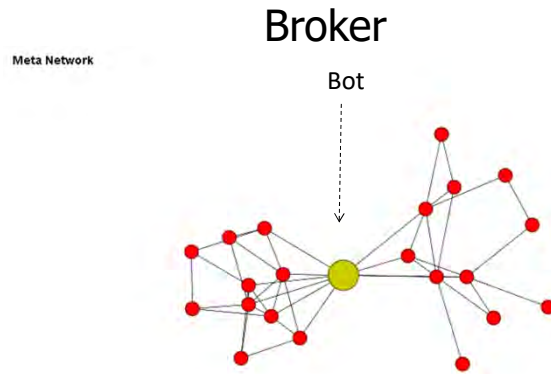
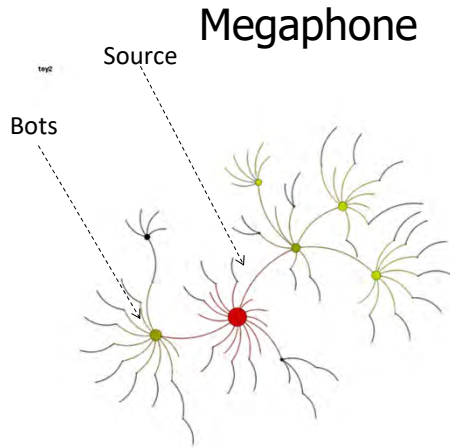


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# Bots can be Megaphones or Brokers



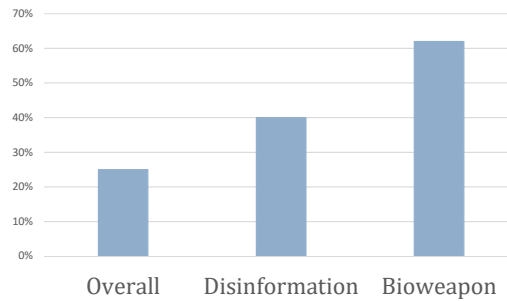
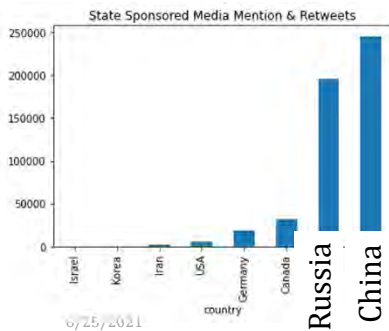
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# Bots are Influential: promote conspiracies and foreign state disinformation

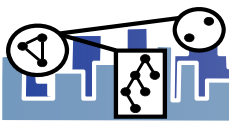
*It's not the number of bots it's where they are positioned in the social network*



The more lethal or conspiracy like the disinformation the more it is spread and the more bots are involved in the spread  
 In top 50 users who promote these state sponsored accounts 94% are bot

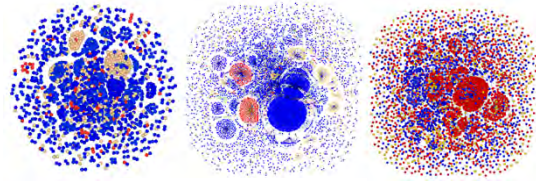
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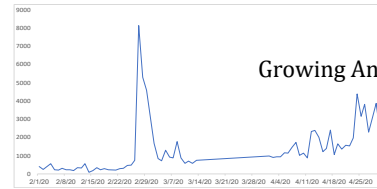


# Disinformation Breeds Intolerance

- Disinformation used to foster hate leading to “hate groups” forming as the pandemic raged
- Disinformation is breeding an anti-science movement
- In US hate speech associated with ethnic groups and nationalities
- In US bots used to link together two or more hate groups
- Bots promote anti-science rhetoric



Emerging Hate Groups



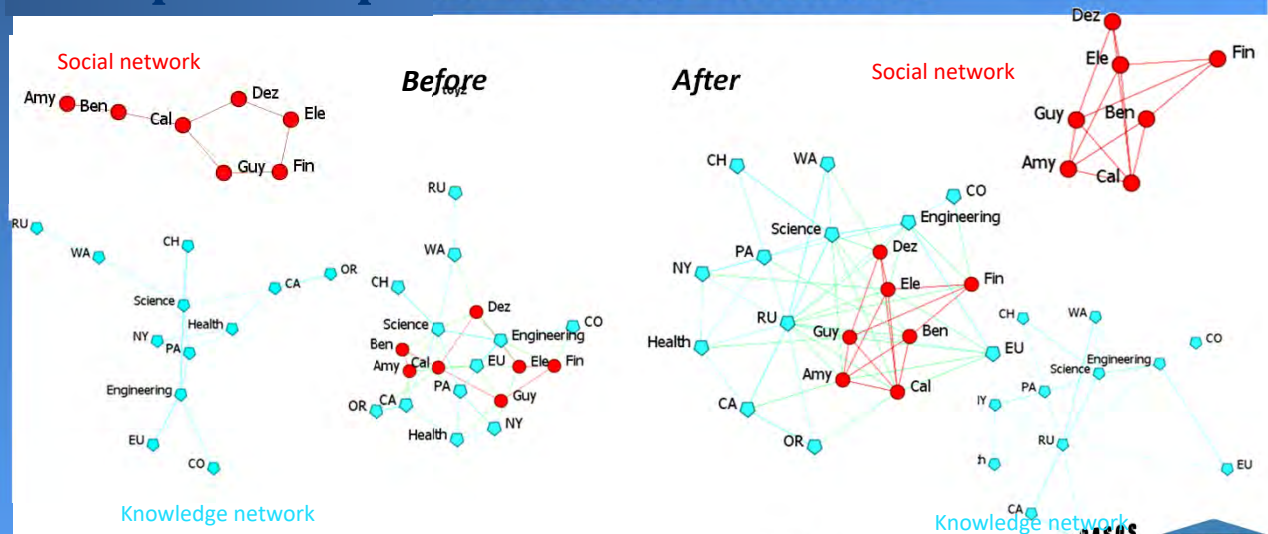
Growing Anti-Science Stance

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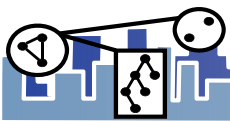


# A Successful Influence Campaign Can Turn a Topic Group into an Echo Chamber



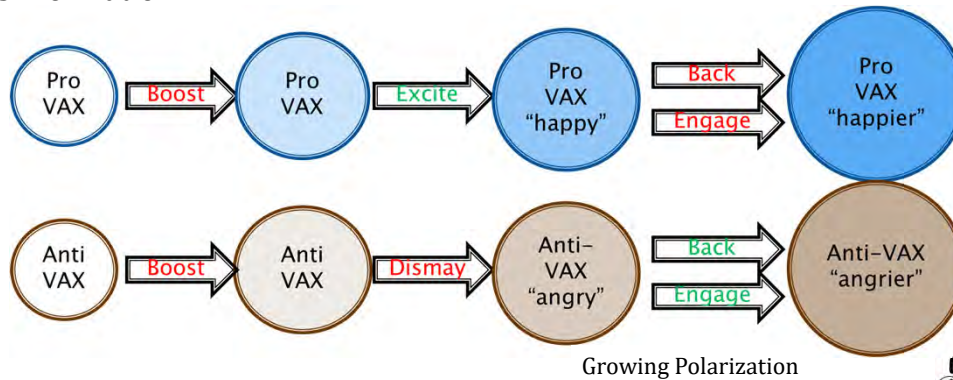
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## The Anatomy of a Polarization Campaign

Bots, Trolls & Cyborgs join pro and con groups, increase within group ties, and support spreading messages for that group leaving them vulnerable to disinformation



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## Bots are Dominating the Reopen America discussion

- Open America
  - At the 75% level (very likely to be bots)
  - 30% of accounts are botlike and they generate 34% of the tweets
- Gridlock
  - At the 75% level (very likely to be bots)
  - 30% of accounts are botlike and they generate 40% of the tweets
  - 96% of all tweets from these botlike accounts are retweets
- In general
  - surge of attacks on science, particularly medical experts

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# Conspiracies and Reopen America

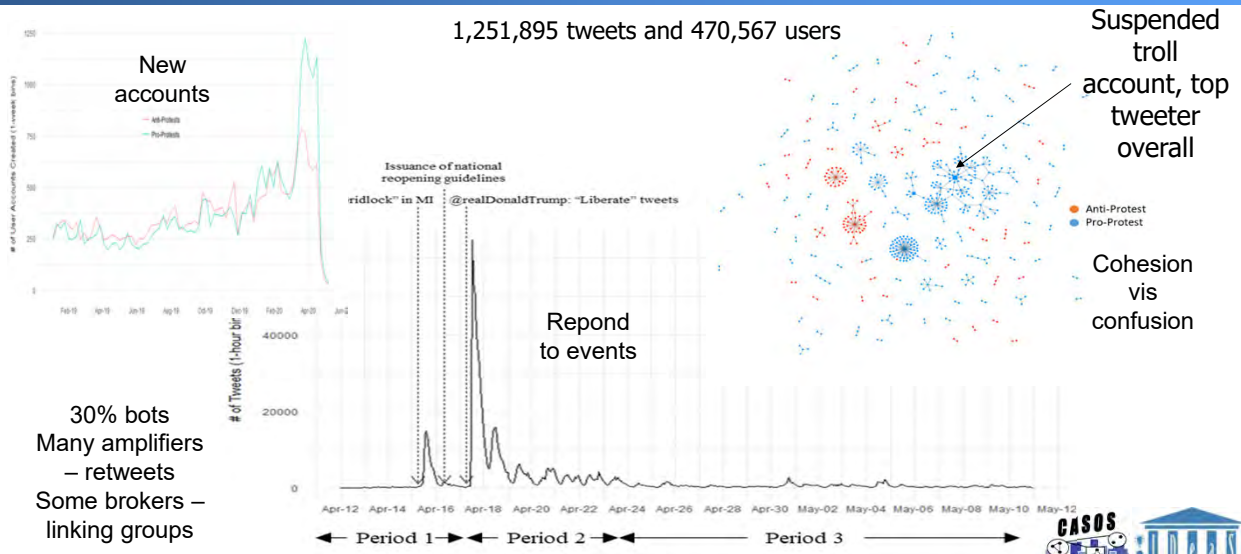
- ❑ Some reopen America Tweets refer to conspiracy theories
- ❑ Illustrative conspiracy theories
  - ❑ Covid-19 is a hoax
  - ❑ Hospitals are empty not overwhelmed
  - ❑ Coronavirus is a lie, it was caused by 5G and the goal is to implant the entire population with microchips
  - ❑ Hospitals moving around mannequins as part of the covid coverup
  - ❑ The pandemic is a plandemic
- ❑ Many of the messages are antivax, antifacemask
- ❑ Use this disinformation to distort people's understanding of the constitution

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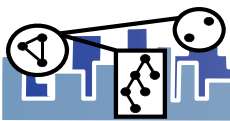


# Timeline for Operation Gridlock



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# Pro and Anti Protest Group Differences

## PRO RE-OPEN

- More centralized
- More consistent messaging
- Focused troll/bot/booster activity
- Many new accounts, MAGA, QANON,
- Pro-TRUMP, anti-facemask/vaccine
- Promote/read thegatewaypundit.com, Breitbart.com, you.tube, foxnews.com, facebook.com

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## ANTI RE-OPEN

- Decentralized
- Inconsistent messaging
- Widespread role of verified accounts
- Reactive
- More successful in pushing message beyond group
- Bots acting in diverse manners
- Pro-facemask/vaccines
- Promote/read nbcnews.com, Washingtonpost.com, Rawstory.com, CNN.com, thenation.com

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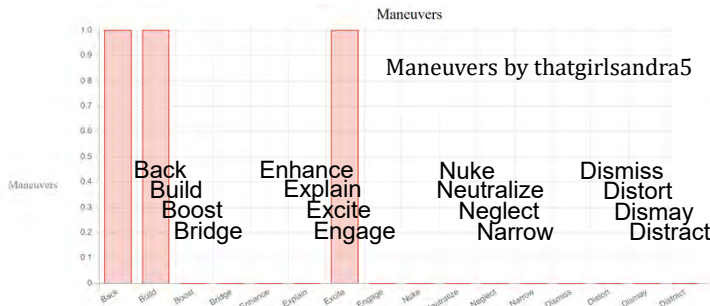
	Pro-Protest	Anti-Protest
# of tweets	431,045	721,452
% original tweets	3.10%	3.10%
% retweets	91.90%	92.40%
% comments (replies and quotes)	5.00%	4.50%
# of users	131,470	264,306
% verified users	0.32%	1.26%
% news orgs	0.01%	0.04%
% default profiles*	9.25%	5.16%
% suspended accounts*	0.83%	0.27%



## Topic oriented community

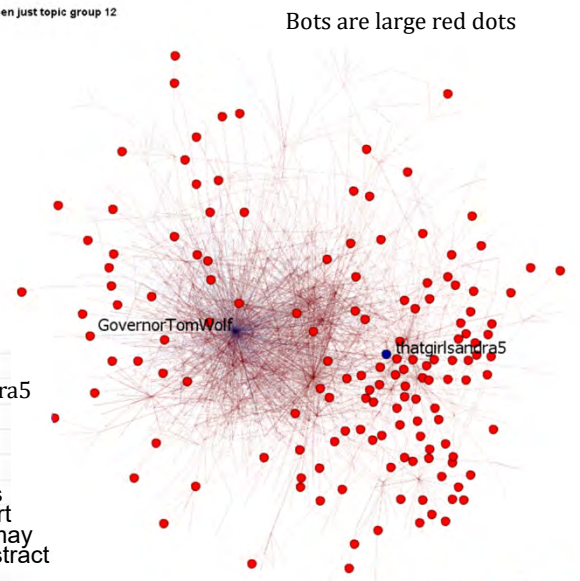
Twitter JSON Before\_period reopen just topic group 12

- Echochamberness 0.99216646
- Red dots and thatgirlsandra5 are bots
- Bots are attacking Gov Wolf
- Bots are pushing reopen

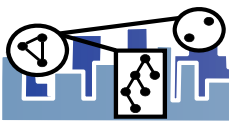


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Bots are large red dots





# What Rights?



**Legitimate concern**



**Build and Bridge**



**Rhetorical shift to Rights**



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# Social Cybersecurity

- ❑ the science to characterize, understand, and forecast cyber-mediated changes in human behavior, social, cultural and political outcomes

*and*

- ❑ the engineering to build the cyber-infrastructure needed for society to persist in its essential character in a cyber-mediated information environment under changing conditions, actual or imminent social cyber-threats

Cybersecurity

Hacking Machines

Data denial, capture and destruction


**Social Cybersecurity**

**Hacking People**

**Capturing hearts and minds**

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## For More Information

- ❑ Director Kathleen M. Carley - [kathleen.carley@cs.cmu.edu](mailto:kathleen.carley@cs.cmu.edu)
  - ❑ <http://www.casos.cs.cmu.edu/bios/carley/carley.html>
- ❑ IDeaS website - <https://www.cmu.edu/ideas-social-cybersecurity/>
- ❑ CASOS website - <http://www.casos.cs.cmu.edu/>
- ❑ Social Cybersecurity Working Group - <http://social-cybersecurity.org>
- ❑ Facebook: [@IDEasCMU](https://www.facebook.com/IDEasCMU)
- ❑ Twitter: [@IDeaSCMU](https://twitter.com/IDeaSCMU)
- ❑ YouTube: [IDEaS Center](https://www.youtube.com/IDEaS%20Center)
- ❑ Ask to be on our Email-Distro Lists

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