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

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

Nature of Virus
False Prevention and Cures
Government Response
ReOpen
Protests
Vaccine

Conspiracy theories throughout and getting stronger and associating new events.
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

<table>
<thead>
<tr>
<th>Is it really disinformation?</th>
<th>Can human-machine teaming identify?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambiguous</td>
<td>Misleading Anecdote</td>
</tr>
<tr>
<td></td>
<td>Satire</td>
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<tr>
<td></td>
<td>Unsupported Opinion</td>
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<tr>
<td></td>
<td>Out of Temporal Context</td>
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<td></td>
<td>Out of Content Context</td>
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<tr>
<td></td>
<td>Conspiracies</td>
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<td></td>
<td>Deep Fakes Stories</td>
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<tr>
<td>Unambiguous</td>
<td>Doctored Image</td>
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<tr>
<td></td>
<td>Fake Actors</td>
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<tr>
<td></td>
<td>Doctored Video</td>
</tr>
<tr>
<td></td>
<td>Trolls</td>
</tr>
<tr>
<td></td>
<td>Mischaracterized Image</td>
</tr>
<tr>
<td></td>
<td>Easy to Identify</td>
</tr>
<tr>
<td></td>
<td>Hard to Identify</td>
</tr>
</tbody>
</table>

What is Manipulatable

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

- Community

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Tools used in Influence Campaigns

Subconscious CUES

DOCTORED VIDEOS & IMAGES

BOTS

CYBORGS

Deep Fakes

Trolls

Subconscious CUES

DOCTORED VIDEOS & IMAGES

BOTS

CYBORGS

Deep Fakes

Trolls

Tools

Language Technologies

Network Analytics

Machine Learning

ORA -> ORA-PRO

AutoMap -> NetMapper

BotHunter, TrollHunter

MatchMe

LocationFinder

HateSpeech

AgentTyper

BEND

Stance Detection

Trail

Multi-level clustering

Multi-mode clustering

Local sentiment
Analytic Pipeline

Twitter APIs
Python Scripts
Collect, deduplicate, clean

Data Collection

Computational Linguistics
Extracts semantic networks, sentiment, cognitive/emotional CUES

NetMapper

BotHunter

HateSpeech Detector

Machine Learning Tools

Locator

Actor Classifier

Actor Political Stance

Network Analytics and Visualization

Social Media is About Networks

Echo chamber

Superspreader

Superfriend
Information Maneuvers to Manipulate Knowledge Network – manipulate discussion

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

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

HOW TO PROPERLY GREET SOMEONE DURING THE CORONAVIRUS OUTBREAK

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!
### Information Maneuvers to Manipulate Social Network – manipulate structure

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

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

Nuke

Directed Mention Network

Twitter Geo-Fence

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

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Bots can be Megaphones or Brokers

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
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

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

Before

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

- **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
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

Timeline for Operation Gridlock

- 1,251,895 tweets and 470,567 users
- 30% bots
  - Many amplifiers – retweets
  - Some brokers – linking groups
- Suspended troll account, top tweeter overall
- Cohesion vis confusion
- Respond to events
Pro and Anti Protest Group Differences

<table>
<thead>
<tr>
<th>PRO RE-OPEN</th>
<th>ANTI RE-OPEN</th>
<th>Pro-Protest</th>
<th>Anti-Protest</th>
</tr>
</thead>
<tbody>
<tr>
<td>More centralized</td>
<td>Decentralized</td>
<td>431,045</td>
<td>721,452</td>
</tr>
<tr>
<td>More consistent messaging</td>
<td>Inconsistent messaging</td>
<td>3.10%</td>
<td>3.10%</td>
</tr>
<tr>
<td>Focused troll/bot/booster activity</td>
<td>Widespread role of verified accounts</td>
<td>91.90%</td>
<td>92.40%</td>
</tr>
<tr>
<td>Many new accounts, MAGA, QANON,</td>
<td>Reactive</td>
<td>5.00%</td>
<td>4.50%</td>
</tr>
<tr>
<td>Pro-TRUMP, anti-facemask/vaccine</td>
<td>More successful in pushing message beyond group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promote/read thegatewaypundit.com, breitbart.com,youtube,foxnews.com, facebook.com</td>
<td>Bots acting in diverse manners</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pro-facemask/vaccines</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Promote/read nbcnnews.com, washingtonpost.com, rawstory.com, cnn.com, thenation.com</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

% 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

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

Bots are large red dots

Maneuvers by thatgirlsandra5
What Rights?

Legitimate concern

Rhetorical shift to Rights

Build and Bridge

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
For More Information

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