Online Community: Are you chatting with bots?

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Social media platforms are complex communities where bots and humans coexist.
Bots generate more than half of the internet traffic, and actively disseminate propaganda, amplify disinformation, manipulate opinions; and play key roles in political & crisis events

## Bots are AI Agents

user uses AI
An automated account that carries out a series of mechanics on social media platforms,
content
for content creation, distribution and collection, and for
interactions
relationship formation and dissolutions.

Bots employ AI to manipulate online communities:

2011 Arab Springs uprising: bots used to boost politicians' follower count, flood news streams, interrupt efforts of political dissidents

2020 US Elections: Bots augment humans for strategic communication & distorted/ fabricated narratives to create polarization

2024 Indonesian Elections: bots used for political campaigning

Recently, Generative AI has facilitated more advanced bots, that have realistic profiles and posts, and better communication with humans
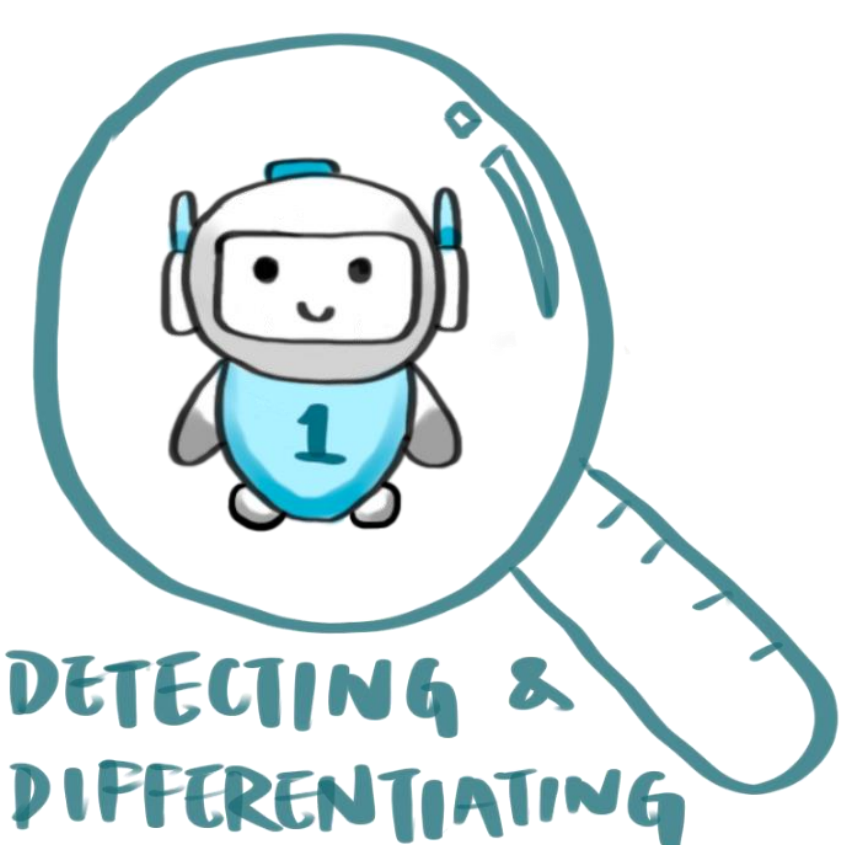
RQ1: How do I find Bots?
Use the BotBuster Universe!
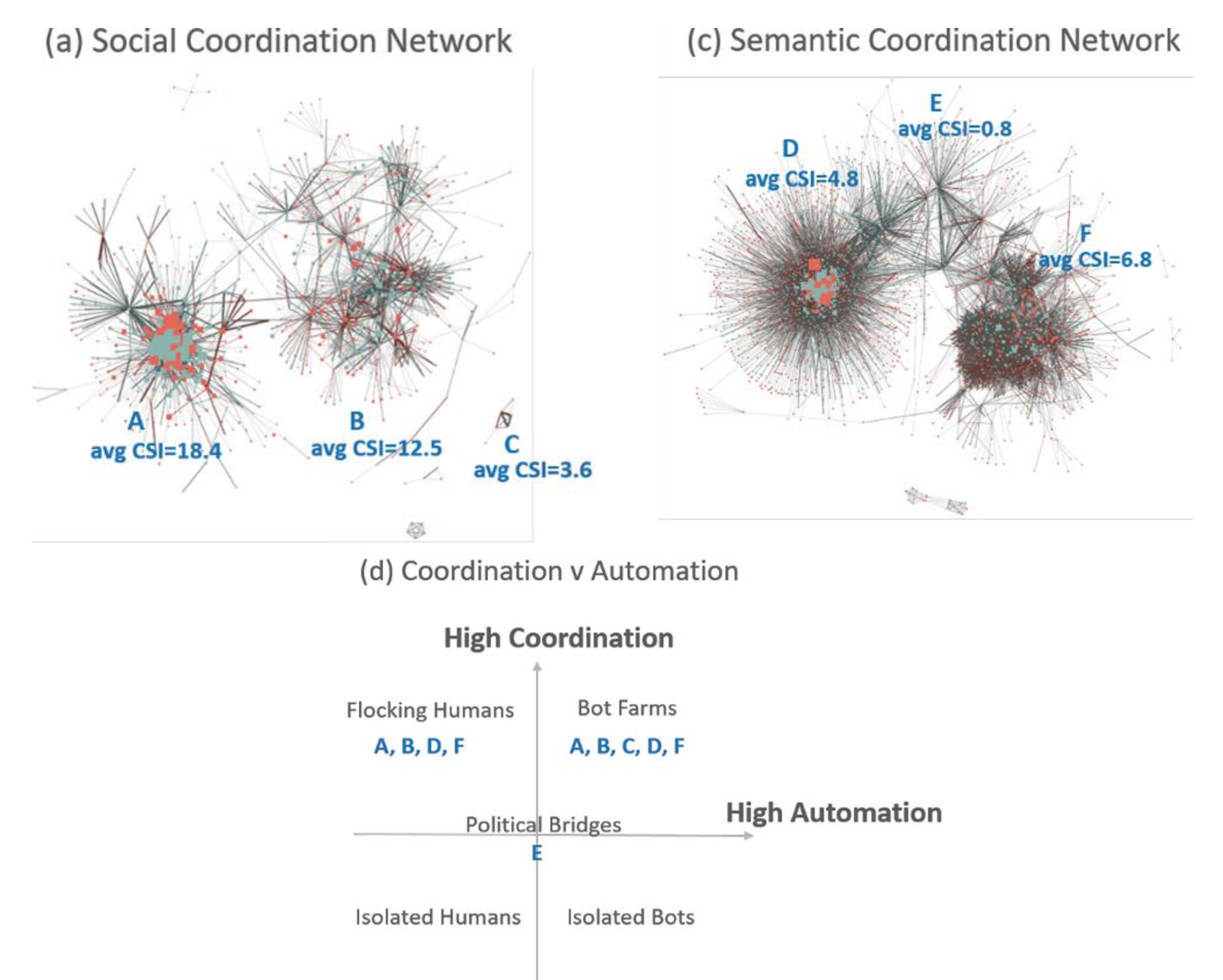
DETECTING & DIFFERENTIATING
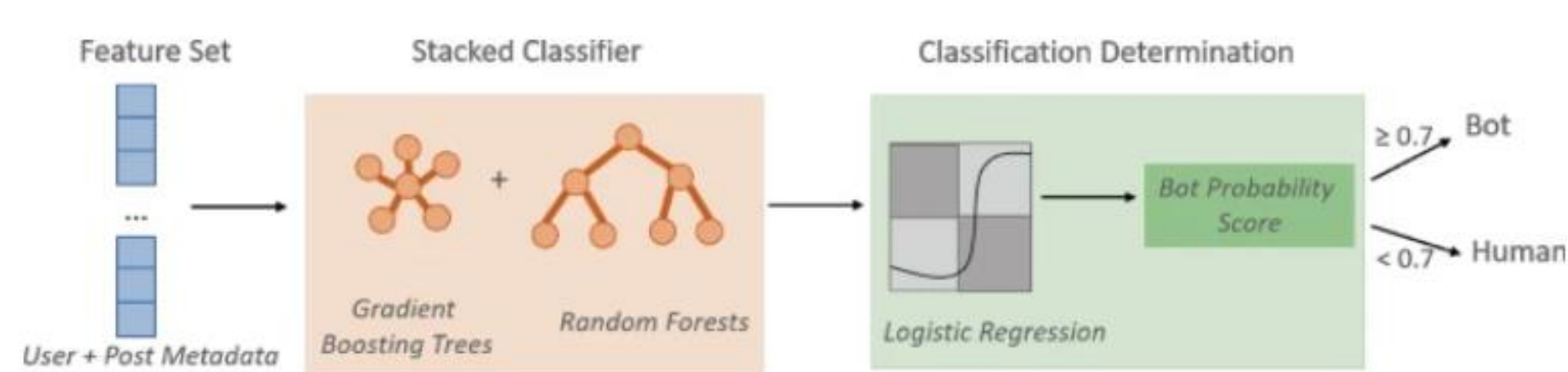
Perception-based bot detection algorithm constructed with supervised machine learning techniques
"if many people think that user is a bot, it is a bot"

RQ2: Are Bots solely chatting to each other?
They chat with humans too!

UNEARTHING COORDINATED COMMUNITIES

Combined Synchronization Index (CSI) as a hierarchal measure of synchrony across dimensions.

Strength of synchrony: **Bot-Human** > Human-Human > Bot-Bot
Bots are embedded in human conversations! And therefore have the potential to influence conversation & humans
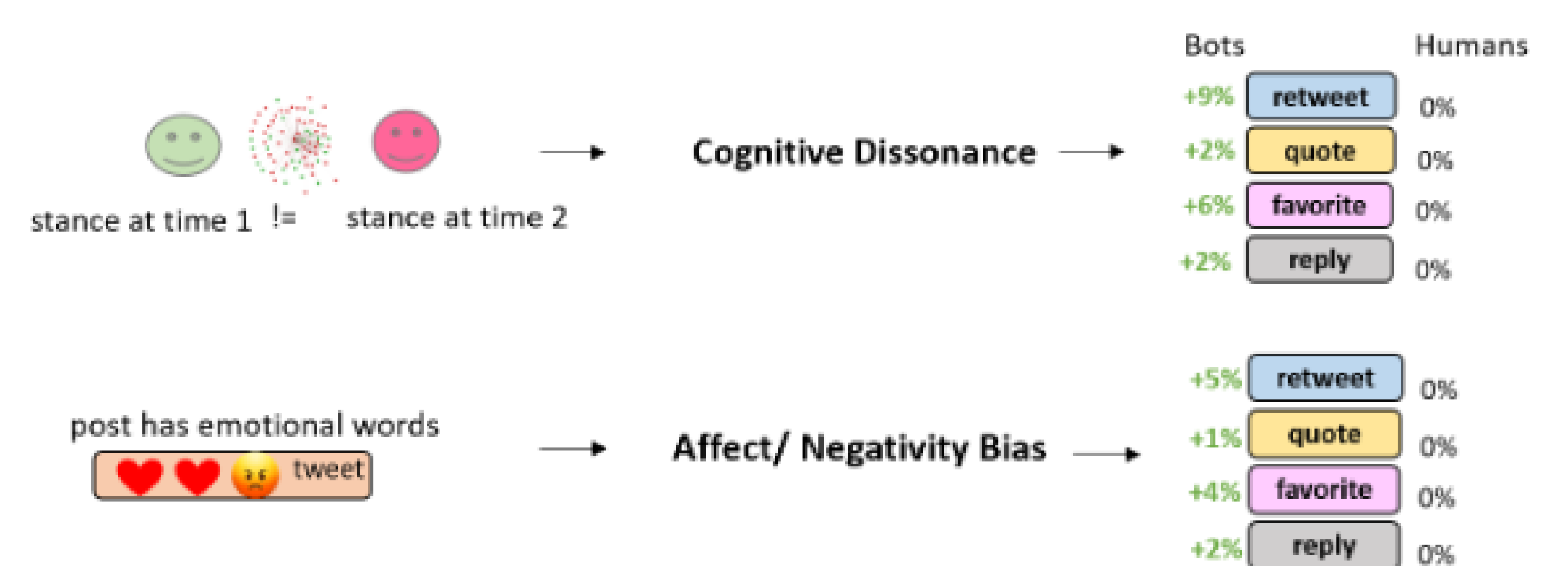

(a) Social Coordination Network
(c) Semantic Coordination Network

(d) Coordination v Automation

High Coordination

Flocking Humans — A, B, D, F
Bot Farms — A, B, C, D, F

Political Bridges — High Automation

Isolated Humans — Isolated Bots

RQ3: Can Bots influence my community?
Yes they can, and have been!

EXAMINING USE OF SOCIAL INFLUENCE & COGNITIVE BIASES

2021 coronavirus pandemic: bots aggressively pushed anti-vaccine narratives and applied social pressure, causing them to change their vaccination stance
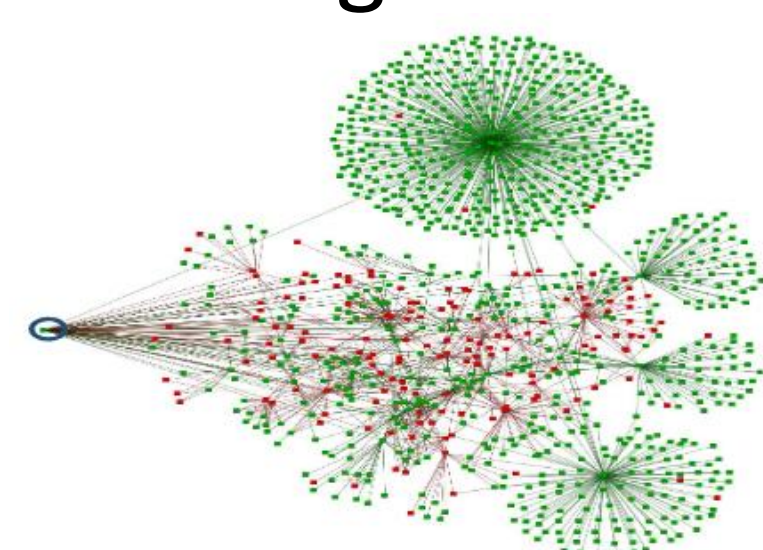
Humans that change from pro- to anti-vaccine
Humans: green; Bots: red

Bots make use of cognitive biases to increase engagement of misinformation tweets

stance at time 1 != stance at time 2 → Cognitive Dissonance

post has emotional words → Affect/ Negativity Bias

Future Work
Is your online community mostly Bots programmed to be cute girls?
Analyze the use and impact of different types of bots, and the AI strategies used

References

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