The BotBuster Universe

Lynnette Hui Xian Ng
lynnetteng@cmu.edu

Kathleen M. Carley
carley@cs.cmu.edu

1. BotBuster Core

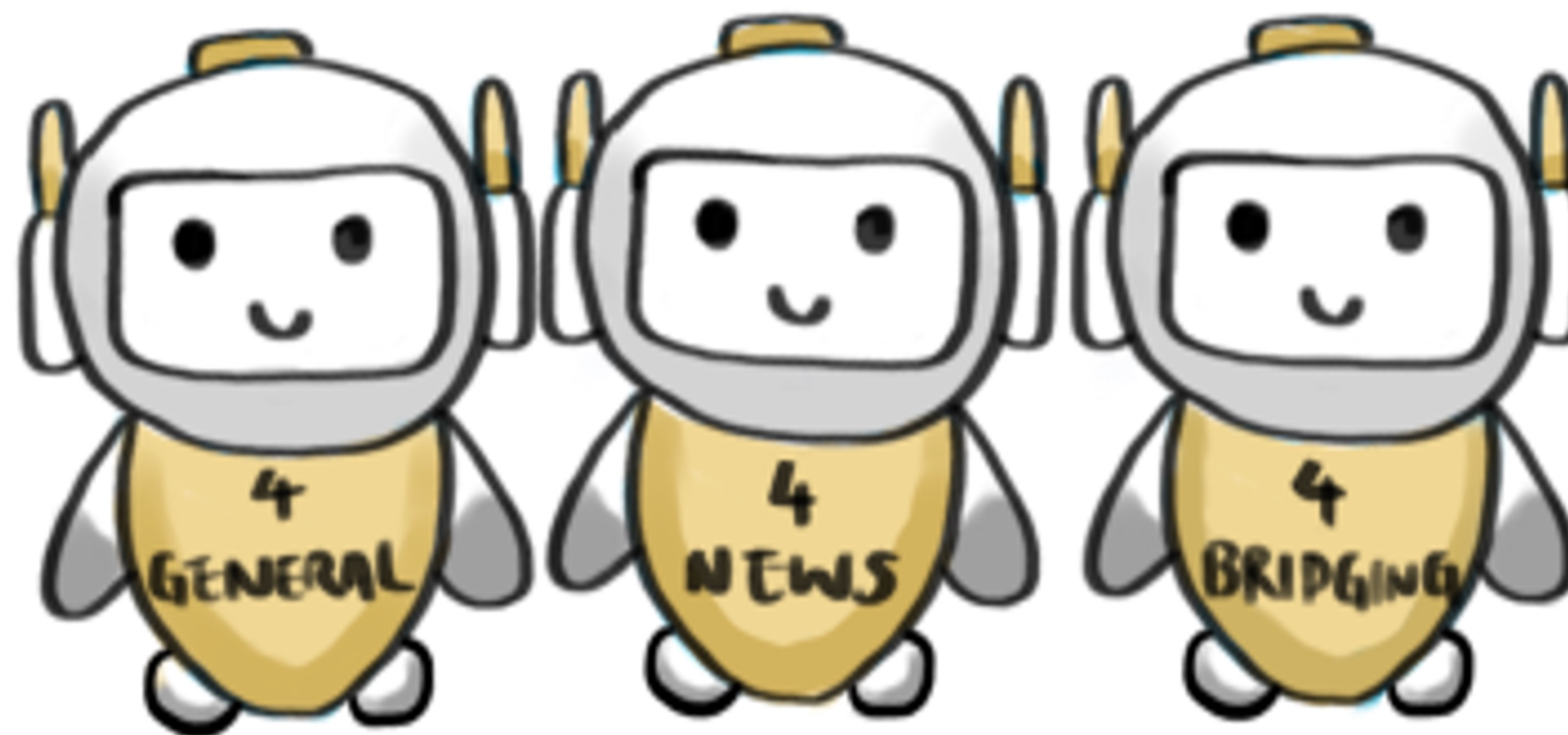Mixture-of-Experts bot detector for Twitter, Reddit, Instagram

2. BotBuster-Telegram

Bot detector for Telegram
Bots sustain conversations, Human disseminate disinformation across Telegram channels
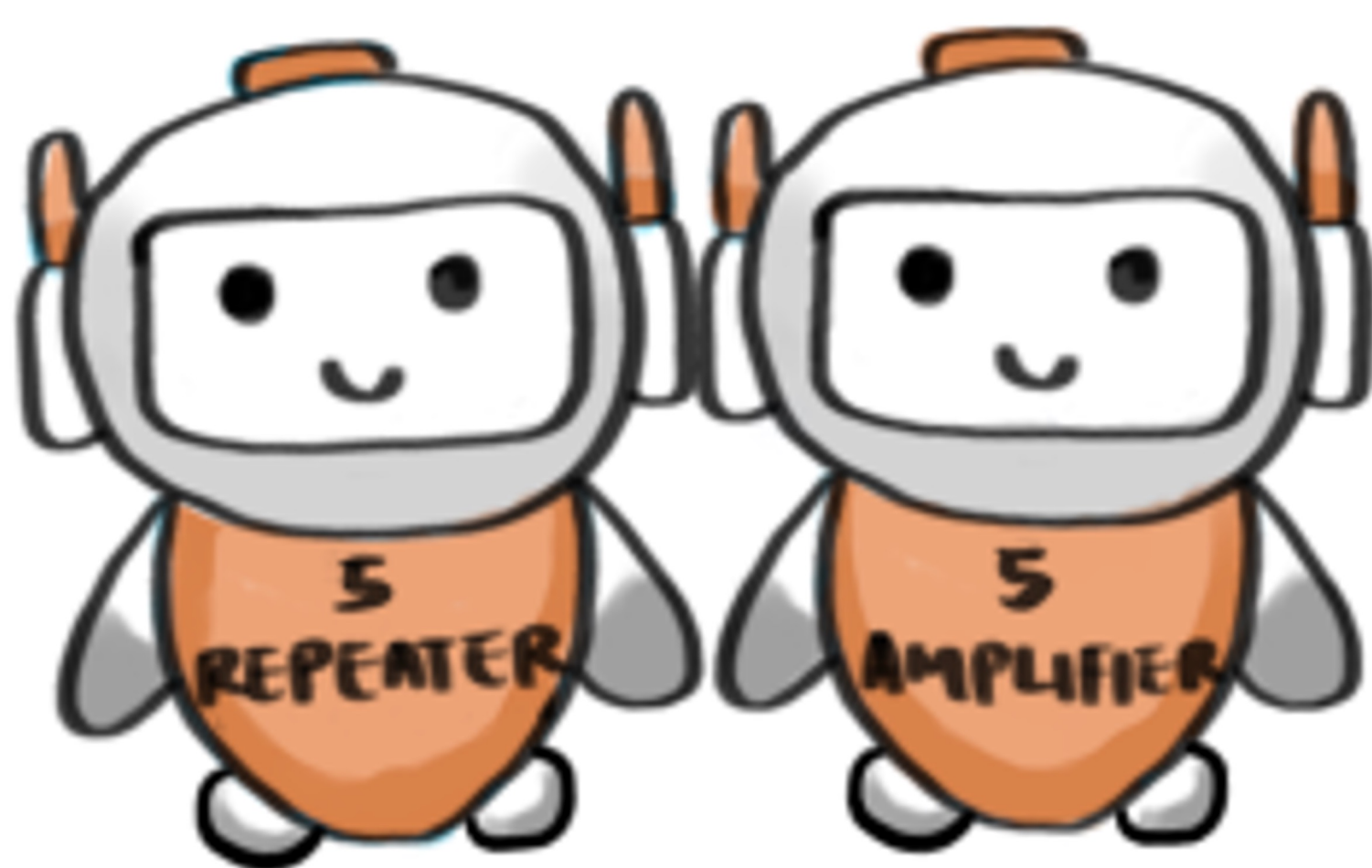
3. Cyborgs

Half-human, half-bots
Used by public figures and activists
Have long life spans

4. General, News, Bridging Bots

General Bots: Naively detected by bot detector
News Bots: Disseminate or aggregate news
Bridging Bots: Straddle two communities
All are found in conversations of different cultures

5. Repeater, Amplifier Bots

Repeater Bots: Incessantly repeat the same messages among themselves
Amplifier Bots: Incessantly repeating other users' messages
Leverage the Illusory Truth Effect cognitive bias, where people prioritize familiarity over facts. Through excessive message repetition, users are more inclined to believe the information

6. Synchronized Bots

Bots that work together to push an agenda
Bot-Human pairs have higher synchronization than Bot-Bot pairs in activist conversations, showing concerning interactions and influence of bots

7. Social Influence

User susceptibility to stance dynamics, integrating influence from past writing and network
Bots have lower social influence, and are more prone to change stances to blend into the neighboring crowd

8. Influence Maneuvers

Bots use more influence maneuvers (BEND framework) than humans
Bots are more active as anti-vaccine superspreaders than pro-vaccine in covid discussion

S3D
Software and Societal Systems Department

Carnegie Mellon University