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DETECTING ADVERSARIAL BENDS IN THE INFORMATION ENVIRONMENT

Carley Technologies, Inc. developed a scalable system for identifying, characterizing and countering adversarial activity on social media platforms.

Carley Technologies, Inc.

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THE CHALLENGE

Social media is used as a key weapon in modern information warfare. Adversaries employ social media skills to wage total cyber war. Influence campaigns are conducted using bad actors, bots, trolls and people with bot assistance (cyborgs). These campaigns exploit the ways social media platforms present and prioritize information, thereby influencing how people think and reason about groups, and taking advantage of their cognitive and social biases. Propaganda created by adversaries can undermine military missions, distort campaigns, and undermine social trust and the military's ability to control its own messages. Furthermore, these campaigns create danger in situations of crisis, such as disasters and police actions where the military must deploy to secure the safety of civilians. The Navy needed scalable solutions for exploiting social media to identify, assess and counter adversarial influence campaigns, as well as to assess their own stories to see what their vulnerabilities were and what they were exposing for adversaries to use in campaigns.

THE TECHNOLOGY

Carley Technologies, Inc. (CarleyTech), through their Netanomics division, developed a software tool that automates the detection of adversarial influence campaigns on social media by identifying their target, assessing the maneuvers being made, evaluating their impact and exploring potential countermeasures. This tool uses the BEND taxonomy, which identifies 16 distinct information maneuvers used to manipulate users and spread false information. The software examines social media content using high-dimensional network analytics combined with machine learning and computational linguistics to operationalize social and psychological theories of persuasion and influence. It can detect bots, cyborgs and trolls. The software can be used to assess the messaging of allies as well, for potential impact to military movement.

THE TRANSITION

CarleyTech's BEND framework was developed using real world data and applied to different scenarios on social media. The technology has been used in several military exercises, including NATO's 2018 Trident Juncture Exercise and DEFENEDER-Europe 21. In 2022, CarleyTech was awarded a Phase III cost plus fixed fee contract for social network analysis and social media influence campaign detection and analysis for Naval Air Warfare Center (NAWC) Training Systems.

THE NAVAL BENEFIT

CarleyTech's software allows Navy analysts to go beyond surfing social media to being able to identify actors and groups of interest, their activities and the impact of those activities. The software can analyze large volumes of open-source data quickly, offering insight into adversarial intent and impact. It performs analysis in 30 languages over millions of messages. Unlike human analysts, the software does not apply human bias when interpreting open-source data.

THE FUTURE

NAWC Training Systems awarded a second contract to CarleyTech to track how social media is being used to follow military asset movement. Under this contract, CarleyTech is updating baseline social media asset tracking in the Pacific. Additionally, CarleyTech is developing an approach for establishing a set of cyber-mediated usable emotional sensors (CUES) that assess the emotional state projected by a social media influencer and the resulting emotional states of those being influenced in the campaign.