

Department of the Navy SBIR/STTR Transition Program

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Topic # N192-129

Detecting Adversarial BENDs in the Information Environment

Carley Technologies, Inc.

WHO

SYSCOM: ONR

Sponsoring Program: Marine Corps Information Groups, Deputy Commandant of Information, the Joint Information Warfighter

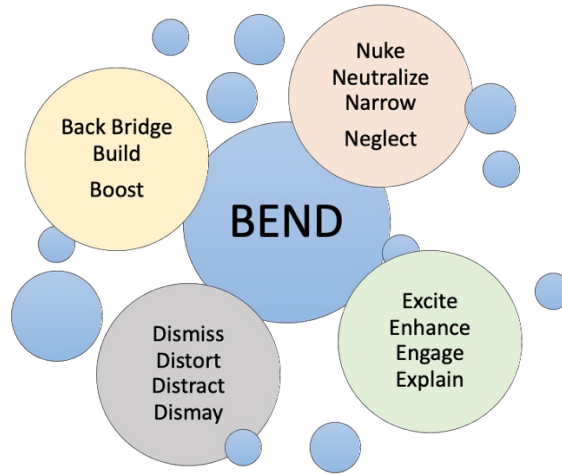
Transition Target: Phase III contract leading to incorporation into a Program of Record

TPOC:

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Other transition opportunities:

Marine Corps Information Groups, Deputy Commandant of Information, the Joint Information Warfighter; Distributed Common Grounds System - Army (DCGS-A); Intelligence services in general; e.g., DIA, CIA, NSA, etc.; Law Enforcement Agencies; State Department - GEC, DHS, other US Government Agencies; Insurance Companies; Healthcare Providers; Brand Management; City and State Governments



Dividing Social Media Influence Campaigns into 16 Types

WHAT

Operational Need and Improvement: A system for detecting adversarial information campaigns that target the emotions of anger, hate, fear, and disgust; classifying them as to the type of influence campaign being waged and its over-time evolution; assessing their potential impact and offering potential options for counteracting them. Existing approaches using simple sentiment models and/or bot detectors to identify adversarial agents are not sufficient to detect sophisticated "cyborg" information actors. New systems capable of operating against hybrid, "cyborg" information actors, backing, aiding, and amplifying human networks distributing propaganda and highly charged messages are needed.

Specifications Required: Need scalable system for identifying, characterizing and countering adversarial activity. System must identify state-backed adversaries using artificial intelligence (AI) and data mining technologies to craft sophisticated "botnet armies" and other similar manipulations of social media platforms. System also needs to identify the type of information maneuver, assess the impact of the information maneuver and provide guidance for counter-measures against the information maneuver.

Technology Developed: Automated system that: (1) detects adversarial information campaigns, (2) characterizes actor intent in terms of 16 distinct information maneuvers (BEND taxonomy), (3) assesses strength/impact of information campaigns and (4) evaluates potential countermeasures. The technologies developed include analysis of social media content using new high-dimensional network analytics combined with theory-based machine learning; new cyborg, troll and bot detectors; improved stance assessment; and improved theory for how actor is employed and coordination mechanisms.

Warfighter Value: Our System offers improved reliability for predictions about emotionally laden social media channels in order to detect adversarial information campaigns. It can help the warfighter / information analyst by automatically identifying potentially important adversarial information campaigns buried in a mass of social media data. Further, it provides the Information Analyst with an analytical taxonomy for classifying and communicating the type of information campaign being observed (the "BEND" taxonomy). In addition, the system offers an analytical framework for assessing the potential impact or importance of the maneuver. Finally, the system offer suggestions for strategies to block the information maneuver and predictions for the impact of various blocking strategies. All of the above these capabilities will dramatically improve the effectiveness of the Warfighter / Information Analyst.

WHEN

Contract Number: N68335-20-C-0665 **Ending on:** June 30, 2022

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Initial System Demonstration of BEND classification	Med	Demonstration carried out	TRL 6	3rd QTR FY21
New Local stance assessment algorithm	Low	> 90% correct assessment of message stance	TRL 6	4th QTR FY22

HOW

Projected Business Model: Operate as subcontractor under a Prime responsible for delivering C4I user interface. SBC delivers and supports the software developed under this contract.

Company Objectives: Phase III effort leading to Incorporation of Technology into Program of Record

Potential Commercial Applications: Law enforcement agencies
Healthcare Providers
Insurance Carriers
Brand Management
City and State Governments

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