

REPPERGER RESEARCH INTERN PROGRAM

RESEARCH PROJECT #: AFRL-RHW-24-10

Technology Enablers of Social Influence and Cognitive Warfare

PROJECT DESCRIPTION: The technology revolution has enabled cognitive manipulations, group polarization and erosion of trust on an unprecedented and elaborate scale. Adversaries can attack the way an individual thinks through dis/misinformation, deep fakes, participatory propaganda, algorithm manipulation etc. In response, NATO declared cognitive warfare the sixth domain. In this new domain, the human mind becomes the battlefield, with technology as the weapon to alter how people think and act. For example, deepfake videos and audio clips generated of political figures can sway public opinion. Information campaigns started online can motivate users to take their grievances offline in the form of protests and demonstrations. Both phenomena can be amplified by fake accounts and bots by exploiting our social networks and cognitive vulnerabilities. This project seeks to investigate effective social media messaging strategies and content, social engineering attempts via large language models, collective movements and identities that form online, and the ethics surrounding AI. Results will elucidate solutions for the DoD to enhance training and resilience to malign influence. Student interns will actively participate in the research process for ongoing projects, including spin-off study idea generation for an independent project. Soft skill development will include discussing research ideas, design, and results with scientists in their primary field of study and from other disciplines; hard skill development will focus on building experience using R for data analysis and using social media analysis tools to collect data trends.

ACADEMIC LEVEL: Masters; Doctoral

DISCIPLINE NEEDED:

- Experimental Psychology
- Social Psychology
- Psychology

RESEARCH LOCATION: Wright-Patterson Air Force Base, Dayton, Ohio

RESEARCH MENTOR: Christine Vitiello, Ph.D.
Social Psychology, University of Florida, 2021



Dr. Christine Vitiello is a Research Psychologist for the Air Force Research Laboratory's Mission Analytics Branch (711/ RHWE). She is a social psychologist interested in how context, attitudes, and individual differences affect online and offline behavior and the impact of cognitive and social biases on Artificial Intelligence (AI) design and application.