NEBRASKA DETERRENCE LAB

Introduction

The Nebraska Deterrence Lab hosts a team of research professors, visiting fellows and students conducting analysis on real-world deterrence scenarios and problem-sets. The lab introduces and employs a proprietary methodology and custom-generated computer application to capture the geo-political threat environment and potential actors and adversaries. The Nebraska Deterrence Lab actively strengthens students' critical thinking and national security writing skills through collaborative research projects with the government and defense institutions, encouraging experiential learning opportunities for undergraduate and graduate students.

Multi-Actor Deterrence

Deterrence is defined as a theory in which actors use credible threats against each other in order to persuade against taking a specific action, either through the imposition of cost or the denial of benefit. In the past deterrence was largely understood as involving two state actors responding to each other mostly in the nuclear domain. Today, however, there is an effort to reexamine deterrence in context of the current global environment, with multiple actors, varying objectives and widespread capabilities. Multi-actor deterrence is the examination of "a complex system with multiple state and nonstate actors with conflicting and common interests, each with different strengths and weaknesses, and operating within a new security environment in which nuclear proliferation, cyber and space threats, regional and hybrid conflicts simultaneously exist and influence their decision-making processes" (Black & Obradovic, 2022).

MADAM Technology

Multi-Actor Deterrence Analysis Methodology (MADAM) is a proprietary tool that facilitates analysis within a complex, multiplayer scenario through a multi-actor deterrence concept lens. Our students generate accurate, credible, and trustworthy context-specific actor profile datasets in a double validated process. A software tool provides the team with a unique mechanism to store, analyze, and assess multiple actors in a combined view while performing analysis in an automated environment. This unique multi-disciplinary collaboration generates an innovative mechanism for exploring some of the toughest deterrence scenarios. Technology is at the heart of what we do. We utilize agile methodology to build software that expands with our needs.

Deterrence Experiments

In 2020, Dr. Michelle Black, UNO, led a team of eight undergraduate and graduate students in testing the multi-actor deterrence methodology in collaboration with NATO. The project, Enabling Coherent Deterrence, was meant to elucidate implications for alliance decision making and adaptation to new and emerging security challenges.

In December of 2022, agents and analysts from the FBI joined faculty and students to run an experiment using MADAM. In the experiment, participants analyzed potential threats to the Nebraska and Iowa agricultural economy — these threats could include anything from actions by terrorist groups or unfriendly nations to threats like climate change, cyber threats, and diminished access to resources.

Nebraska Deterrence Lab Events

Former US Secretary of Defense visits Nebraska Deterrence Lab - Fall 2022

Nebraska Deterrence Lab Hosts Experiment with regional FBI - Dec 2022

Nebraska Deterrence Lab invites USSTRATCOM to discuss and demo tool

Way Ahead

- The Nebraska Deterrence Lab will focus on further experimenting and implementing MADAM by testing additional select scenarios.
- Enhance MADAM computer application through the introduction of machine learning and artificial intelligence.
- Coordinate with other organizations to expand relationships and opportunities for grants, funding, and student research.
- Develop and teach deterrence courses, using the Nebraska Deterrence lab technology and active-learning instructional techniques.
- Familiarize fellows and students with the key problems of contemporary global threats, to include risks to critical infrastructure, domestic and international terrorism, cyber threats, and the proliferation of WMDs.
- Expand research to formulate an innovative quantitative risk mechanism within a multi-actor domain.

Research

Black, M. & Obradovic, L. 2022. Multi-Actor Deterrence: Defining the Concept. *ÆTHER: A JOURNAL OF STRATEGIC AIRPOWER & SPACEPOWER,* 1(2), 69-80.

Black, M. 2020. "Enabling Coherent Deterrence, a Multi-Actor Approach," research project, NATO Concept Development, June 2019–December 2020.

Website
https://www.unomaha.edu/nebraska-deterrence-lab/

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