Call for Technology: Machine Learning

The Mission Acceleration Center (MAC) is seeking new & emerging technology solutions that leverage machine learning (ML) principles to enable electronic warfare systems to become more adaptive, intelligent, and effective in countering emerging threats. Specific areas of interest include:

Signal Classification: Machine learning algorithms can be trained to classify different types of signals - including radar signals, communication signals - or identifying potential threats such as jamming or spoofing attempts to enable more effective decision-making.
Anomaly Detection: Machine learning algorithms can be utilized to analyze large amounts of data and detect anomalous behavior, adapt to evolving threats, and provide early warning capabilities.
Adaptive Jamming: The ability to deploy machine learning techniques to analyze the effectiveness of different jamming techniques against adversary systems and dynamically adjusting parameters based on real-time feedback to optimize jamming efforts to disrupt communications and radar systems effectively while minimizing the risk of detection or countermeasures.
Electronic Countermeasures (ECM) Optimization: Machine learning algorithms capable of analyzing the environment, mission objectives, and available resources to determine the most effective combination of jamming techniques, frequency hopping patterns, and other ECM strategies to deceive or neutralize enemy systems while maximizing the survivability of friendly assets.
Threat Prediction: Demonstrated ability to analyze and correlate large volumes of sensor data from various sources, such as radar, communications, and electronic intelligence (ELINT), to predict and identify emerging threats and provide actionable intelligence to commanders and operators in real-time.
Autonomous EW Operations: Apply continuous learning and optimization to enable autonomous EW systems to execute complex mission tasks, such as electronic attack coordination, spectrum management, and threat prioritization, with minimal human intervention, to improve operational efficiency and reduce operator workload.

A Technical Readiness Level (TRL) of 6 or higher is requested.

Technology Submission Process
There are three ways to submit your technology for consideration:

1. Quad chart (see additional instructions below)
2. Company pitch deck
3. Technology capabilities statement

Please choose the format that works best for you and submit to the SWMAC**.** Please also include video footage of your technology in action. Submissions can be sent as an email attachment to solutions@swmac.org.

QUAD CHART SUBMISSION GUIDELINES

If you choose to submit a quad chart, please follow the instructions below to ensure that all the information needed by our review team is provided.

Top Left Quadrant: Introduction

- Brief project title or description.
- Overview of the current capabilities.

Top Right Quadrant: Key Features or Components

- Major features and components of the system.
- Bullet points or concise explanation of how your technology satisfies the above requested features/functions.
- Visual representations or icons to aid understanding (if applicable).

Bottom Left Quadrant: Company Profile

- List of current customers (priority to Federal customers)
- Current level of investment in the continued development of the technology, including the sources of funding.
- Brief explanation of corporate structure and ownership.

Bottom Right Quadrant: Benefits or Impact

- Positive impact on stakeholders, clients, or users.
- Metrics or data showcasing the value proposition (if available).

About the Southwest Mission Acceleration Center

Located in Phoenix, Arizona, the Southwest MAC is expediting critical technology assets to the warfighter in collaboration with DoD mission partners to address pressing National Security challenges. MAC programming includes critical technology identification & venture creation, lab-to-market commercialization, funding, and acquisition navigation support to develop prototypes and offer training and support for entrepreneurs and the tech workforce needed to ensure these startups and our mission partners succeed.