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Editor's Note: This will be the final AI newsletter for 2020. The newsletter will resume in the New Year.

A Message From Leadership

October and early November have been an incredibly busy and productive time at AITO. These are also months when our Nation recognizes the importance of cybersecurity, and of vigilantly protecting the critical infrastructure we rely on as the foundation for our prosperity and security.

And thanks to groundbreaking work pioneered at DOE's national labs, artificial intelligence is playing a growing role in both.

As you'll read in this month's edition, I recently traveled to DOE's Pacific Northwest National Laboratory (PNNL) to hear directly from some of the world's leading experts in AI and cybersecurity on their efforts to leverage the latest cutting-edge technologies to protect America's electrical grid and other critical infrastructure.



But just as AI becomes a central component of high consequence systems with little room for failure, there is an urgent need to recognize that the data, models, and algorithms -- on which AI relies -- are in need of protection too.

The same adversaries that seek to disrupt our cybersecurity are stepping up their efforts to infiltrate and corrupt our data sets and machine learning models. This fact threatens our human decision-making based on AI results and increases risks to the reliability of autonomous systems.

But despite these vulnerabilities, investment in AI assurance to combat what is called "adversarial AI," has yet to rise to the level of the threat.

As our world has grown more digitally connected, cybersecurity has become an essential industry. Adversarial AI is the next front line for America's security experts. It's time we recognize that as the role of AI in our security grows, so too does the need for securing the AI itself.

As always, thank you for your interest in our work at AITO. While we all prepare to gather (safely) for Thanksgiving and the coming Holiday Season, I would like to wish you all good health and Happy Holidays! .

Cheryl Ingstad
Director
Artificial Intelligence & Technology Office

Our Top Story



AITO Director Cheryl Ingstad recently visited the Pacific Northwest National Laboratory (PNNL) in Richland, WA to see first-hand how PNNL scientists are applying AI and ML to enhance grid security, ensure a secure, flexible, and resilient electric power system, and receive an update on the First Five Project.

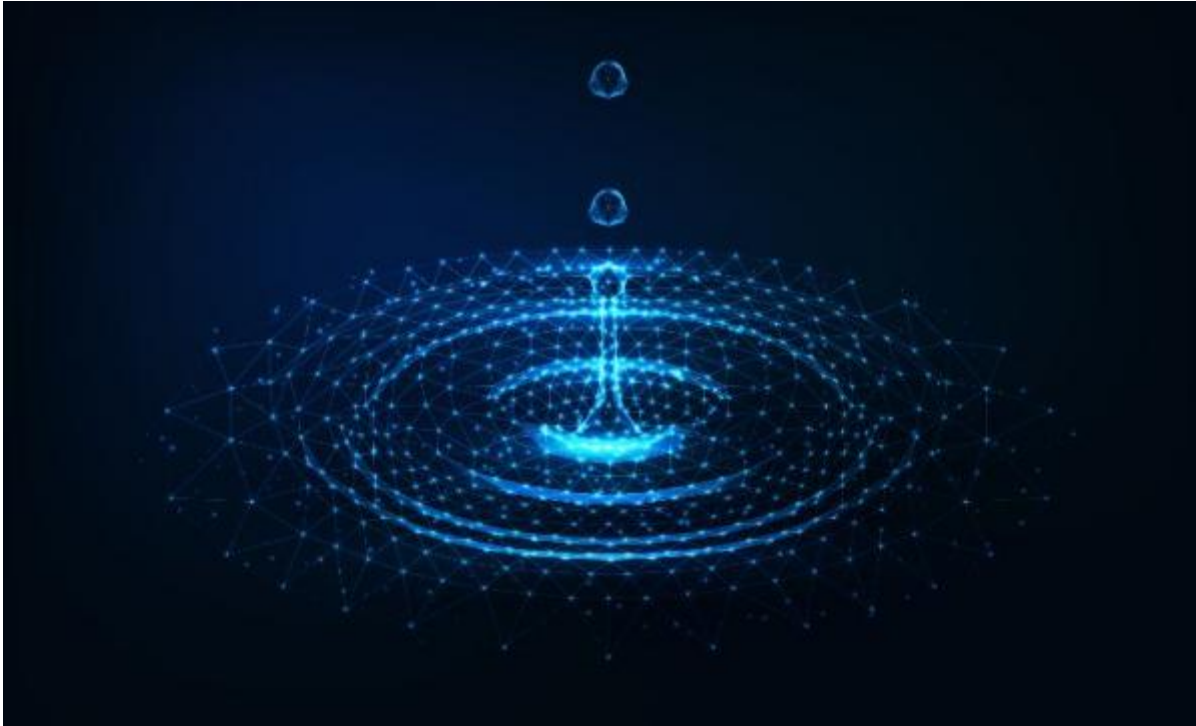
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This Month's Highlights



PNNL pilots two use cases applying blockchain technology to improve the cybersecurity of critical electricity infrastructure.

[Read More Here](#)



Ripples is a first-of-its-kind network analysis tool that -- when coupled with the power of a supercomputer -- can speed real-time applications for cybersecurity, transportation, and infectious disease tracking.

[Read More Here](#)

Careers in AI

As AITO continues to grow, we are pleased to announce that two **2021 Presidential Innovation Fellows** have joined our team.

Tricia Martinez will bring her experience and passion to our efforts to develop an AI-ready workforce at DOE.

My #CivicTech Why

"I have dedicated my life to entrepreneurship because I am passionate about helping others, solving complex problems, and using technology to change the world. As a change agent, I see it as my duty to take the wealth of knowledge and experience I have gained as an entrepreneur to the public sector to help solve some of our country's most pressing issues."

★ **Tricia Martinez**
2021 Presidential Innovation Fellow

Scott Gorman will be primarily focused on the ever-increasing challenge of adversarial AI and how we protect our data and algorithms from external corruption.

My #CivicTech Why

"I believe the integration of public and private expertise to meet the challenges facing our country is not only an exciting opportunity, but a call to duty, and a strategic necessity for America to remain a global beacon of progress and leadership."



★ **Scott Gorman**
2021 Presidential Innovation Fellow

Welcome Tricia and Scott! We're honored to have you both as part of the AITO team.



DOE-FUELED AI...
enhances cybersecurity

AI at ENERGY.GOV/AI

U.S. DEPARTMENT OF ENERGY

Named for the Greek word for wisdom, SOPHIA is an AI-optimized software sentry that protects energy sector networks and control systems from cyberattacks and helps network operators detect intruders and other anomalies.



ARTIFICIAL INTELLIGENCE & TECHNOLOGY OFFICE



Cheryl Ingstad
@AiDirector Follows you

Director of @ENERGY's Artificial Intelligence & Technology Office, Mother, US Army veteran, and Lean Six Sigma Master Black Belt.

Following



Cheryl Ingstad
@AiDirector



A true privilege to tour the [#HooverDam](#) at [@lakemeadnps](#) with [@ScienceUnderSec](#). The Dam is a marvel of American ingenuity, imagination, and determination. I encourage you to learn more about its mission and critical importance to the American Southwest!



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