



A National AI Initiative to Solve Key Challenges in Security and Science

Artificial intelligence is reshaping science, the tech industry, and human capital, as well as disrupting national security. To leverage rapid advances in AI, the United States must invest in research, supercomputing, data management, and an expert workforce. We're in a pivotal race to gain advantage. **Los Alamos National Laboratory** is establishing a framework that could guide national AI efforts.

 **5,500+**
employees using
ChatGPT Enterprise

 **7,000+**
employees using
the internal AI Portal

Key partnerships



Co-developing solutions
with **NVIDIA**



Building agentic knowledge
frameworks including with
OpenAI and using proprietary
ChatGPT models on
classified challenges



Collaborating on three
University of California
projects that use AI to target
national security and science
problems at scale



Partnering with **University
of Michigan** on HPC and AI



Working with hardware vendors,
including **Hammerspace, Air
Mettle, Pometry, SK Hynix,
Neuroblade...** to build cutting-
edge AI systems

Strategic strengths at Los Alamos

- Venado, a powerful, AI-enabled supercomputer that advances mission objectives in materials discovery, reasoning capabilities, bioinformatics and medical discovery, code and simulation work, multi-physics design, energy security, and more
- A broad base of mission and science accomplishments in machine learning
- Multidisciplinary scientific facilities and testbeds, which combine to generate world-class, high-quality data for national security
- Active partnerships with industry and academia (see left) to conduct national security research, create safeguards, and build a pipeline of AI talent
- A National Security AI Office to coordinate Los Alamos' many AI efforts

Championing a national AI initiative

A comprehensive framework and sustained investment in Los Alamos' capabilities will

- Utilize the Lab's trove of experimental data, including unique weapons testing data, to build frontier-class AI models for defense and research
- Enable acceleration across all aspects of the weapons design, experiment, and production phases and accelerate complex weapons physics models and simulations
- Enhance the Lab's deterrence impact to help detect threats (nuclear, bio, cyber, etc.) as well as shield from the harm of AI by adversaries
- Fortify the Lab's proven track record of integrating AI with secure computing systems
- Evaluate AI's reliability, safety, and security
- Secure next-generation, AI-powered supercomputers
- Demonstrate an integrated AI framework across multiple science disciplines for national security impact

To shape AI for national security, the nation must harness the power of its national labs – in partnership with industry and academia – and keep the U.S. at the forefront of the AI race.



Los Alamos
NATIONAL LABORATORY

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