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Comment On: NSF-2025-OGC-0001-0001
Request for Information: Development of a 2025 National Artificial Intelligence Research and Development Strategic Plan

Document: NSF-2025-OGC-0001-DRAFT-0216
Comment on FR Doc # 2025-07332

Submitter Information

Organization: Security Industry Association

General Comment

See attached file(s)

Attachments

SIA National AI R-D RFI Response to NSF



May 29, 2025

Sethuraman Panchanathan
Director
National Science Foundation
Alexandria, VA 22314

Re: Request for Information on the Development of a 2025 National Artificial Intelligence (AI) Research and Development (R&D) Strategic Plan

Dear Director Panchanathan:

The Security Industry Association (SIA) appreciates the opportunity to submit a response to the National Science Foundation (NSF) on its Request for Information (RFI) on the of a 2025 National Artificial Intelligence (AI) Research and Development (R&D) Strategic Plan.¹ We believe the Strategic Plan could play a pivotal role in ensuring U.S. leadership in AI that will help secure the benefits of AI-driven technologies to society.

About SIA

SIA Represents more than 1,600 companies that provide a wide array of products essential to protecting the physical safety of people property, businesses, schools, and critical infrastructure in the state and throughout the nation, and to bolstering public safety as well as homeland and national security. We support development and use of AI technologies in ways that are human-centric, ethical and trustworthy and that mitigate potential risks, as well as policies that ensure society to continues to harness the benefits of AI for enhancing safety and security.

AI and Security

In safety and security applications, AI tools are now enabling technology users to analyze and respond to information in a substantially quicker and more accurate manner than traditional methods. Associated techniques like machine learning, computer vision, deep learning, and neural networks can dramatically improve the capabilities of security solutions and have been the primary areas of recent technological innovation in our industry, which contributes \$131 billion in direct economic impact and supports over 2 million jobs across the United States.²

Today, these technologies are enhancing applications for remote and on-site guarding, robotics, cloud computing, biometrics, sensor fusion, video analytics, anomaly recognition, object classification, event detection, passive weapons detection, drone detection and mitigation, perimeter security solutions, automated alarm response, traffic and parking garage management, and speeding up security investigations, just to name a few. Deploying AI-enabled security technologies continues to show results for providing more preventative versus reactionary capabilities in security operations – indicating even more significant benefits are possible in the future.

¹ <https://www.federalregister.gov/documents/2025/04/29/2025-07332/request-for-information-on-the-development-of-a-2025-national-artificial-intelligence-ai-research>.

² <https://www.securityindustry.org/member-resources/reports-publications/security-industry-economic-impact-report/>.

COMMENT

SIA strongly supports the RFI's statement that, "the Federal government plays a critical role in supporting AI R&D in areas where private sector investment is insufficient or where national interests require government leadership." SIA and its member companies see it as essential that practical research be undertaken to make meaningful advancement amidst the fast-paced growth of AI. Consequently, SIA recommends the following be considered, prioritizing R&D that focuses on practical application to enable economic growth, technological advancement, human flourishing, and national security.

AI Red Teaming Research

AI Red Teaming, notably for Generative AI, is a fast-evolving area, posing challenges for industry to develop effective testing at "market speed." Practical research that drives identification of best practices, the development of open source tooling, and creation of publicly available testing data would greatly advance the state of the art, and help to create a standardized set of red teaming practices. This would empower industry with a strong set of validated capabilities that drive innovation and economic growth.

Generative AI Measurement

Measurement of AI capabilities remains a challenging area for all industries. Current Generative AI measurement practices are driven by benchmarking developed by academia and industry. However, while necessary, benchmarking alone is insufficient to fully evaluate the effectiveness and utility of Generative AI capabilities. Moreover, inconsistent approaches across companies confuses engagement, slows adoption by customers, and constrains economic growth. Practical research into meaningful measurement for industry-specific use cases (e.g., Public Safety, Telecommunications) would help to push AI forward and enable the development of consistent standards or tools for measuring AI capabilities, be they self-regulatory, open source (e.g., OWASP), state, federal (e.g., FEDRAMP), or international (e.g., ISO).

Human-Computer Interaction:

As AI quickly integrates into products and services across industries, it is equally permeating every aspect of human interaction with information technology. However, the full impact of AI-driven human-computer interaction is not fully understood. If customers and the public view AI skeptically and with trepidation, this will slow adoption, constrain economic growth, and limit the potential benefits. Research studying effective methods and best practices in which humans interact with AI systems will be crucial. SIA recommends consideration of research activities that enable software engineers with practical steps and tools that enable the development of AI capabilities, coupled with testing, to verify proper and reliable usage of AI.

AI, National Security, & Public Safety:

AI can have a significant, positive impact for public safety and national security, empowering emergency responders to focus their efforts and resources, improve and streamline processes, and reduce fatigue. There is limited research currently on using AI in the public safety space. Further, efforts to explore use cases, develop and publish datasets, and enable AI transparency in the public safety and national security contexts would help enable innovation and bolster the use and adoption of AI within these spaces.

Conclusion

SIA is committed to engaging with our industry and other stakeholders to ensure the benefits of AI can be fully and responsibly harnessed to improve the lives of Americans and help solve some of our toughest challenges.

Given the far-reaching and long-term strategic importance of AI-driven technologies to the U.S. it is imperative as a nation that we make needed strategic investments in R&D. We appreciate the opportunity to respond to the RFI and are ready to provide any additional assistance the Administration might need as this important work continues.

Sincerely,

Don Erickson
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Silver Spring, MD
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