

PUBLIC SUBMISSION

Received: May 29, 2025
Tracking No. mb9-q54x-0pas
Comments Due: May 28,
2025 **Submission Type:** Web

Docket: NSF-2025-OGC-0001
NITRD_FRDOC_0001

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-0225
Comment on FR Doc # 2025-07332

Submitter Information

Organization: Booz Allen Hamilton

General Comment

See attached file from Booz Allen Hamilton

Attachments

Booz Allen Response_2025 National AI Research and Development RFI



RFI Response: Development of a 2025 National AI R&D Strategic Plan

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

Document Citation: 90 FR 17835

Document Number: 2025-07332

Docket ID: NSF-2025-OGC-0001

Submitted By: Booz Allen Hamilton

Submission Date: May 29, 2025

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Introduction

Booz Allen values the opportunity to contribute to the development of the 2025 National Artificial Intelligence (AI) Research and Development (R&D) Strategic Plan. We support the Administration's commitment to ensuring the United States secures its position as the unrivaled global leader in AI by accelerating innovation, enhancing economic and national security, and promoting human flourishing. Booz Allen is the advanced technology company delivering outcomes with speed for America's most critical defense, civil, and national security priorities. We build technology solutions using AI, cyber, and other cutting-edge technologies to advance and protect the nation and its citizens. As such, we recognize the federal government's unique role in driving long-term AI R&D and offer recommendations to help shape a forward-leaning federal AI R&D agenda that secures U.S. leadership over the next 3 to 5 years and beyond.

Expand Federated National AI Testbeds

Recommendation: Establish and fund open, interoperable AI testbeds focused on key national and scientific priorities, such as nuclear energy and border security.

Rationale: Robust benchmarking environments are critical for transitioning research into real-world deployment. The creation of such test beds is challenging, primarily due to the academic community's lack of access to real-world data necessary for forming realistic test environments. The government, due to its size and scope, has the unique capability to create and share data from its operations across various domains, thereby forming numerous realistic environments. National testbeds should:

- Simulate realistic, high-fidelity environments (e.g., digital twins)
- Provide synthetic and real datasets with labeling tools
- Enable secure, multi-party access for academia, industry, and government
- Support edge-AI and cloud-AI experimentation

Publicly accessible AI testbeds will bridge the gap between lab research and field deployment, while accelerating reproducibility and trustworthiness.

Build AI That Protects Data Privacy and Promotes Security

Recommendation: Expand core research in practical privacy-preserving machine learning, adversarial robustness, and secure federated learning frameworks to increase public trust in emerging technologies.

Rationale: While the security and robustness of AI methods have been extensively studied, much of this research is currently unused and inaccessible to modern practitioners. The expertise necessary to assess and utilize these techniques is substantial, and there is insufficient research addressing the real-world discrepancies between theoretical possibilities and practical implementation by standard practitioners. Research in this area should focus on:

- Differential privacy methods that run in reasonable amounts of time under realistic data constraints/assumptions (i.e., implementations, not just math and proofs)

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- Secure multiparty computation and homomorphic encryption that run in reasonable time frames with usable APIs
 - Tools for risk quantification and AI assurance
 - Leverage federated learning to enable broader AI collaboration while preserving privacy and security of sensitive datasets.
 - Robust adversarial training techniques that can be widely leveraged across many models, rather than being bespoke and requiring careful thought in application

These techniques and technologies will enable scalable, secure AI adoption across privacy-critical domains, protecting national security data and sensitive advantages, and reduce adversaries' ability to influence our models.

Cultivate the National AI Talent Pipeline

Recommendation: Create government-backed workforce development programs, particularly focusing on AI apprenticeships, secure internships, and fellowships, with clear pathways to industry and government contracting opportunities.

Rationale: The ongoing shortage of AI professionals, particularly those with security clearance or the ability to work on critical national projects, presents a significant and enduring challenge. Recommend considering the following for inclusion in national workforce development programs:

- Partnering with community colleges to expand AI education access
- Co-funded AI externship programs with federal contractors
- Offering incentives for curriculum development around real-world AI systems

These actions will enable the U.S. to build a technically prepared AI workforce.

Enhancing Academia-Industry Collaboration Through Co-Funding and Partnership Incentives

Recommendation: Consider structuring funding opportunities to encourage the inclusion of industry collaborators or sub-awardees. This would help cover corporate overhead and staff costs, enabling more seamless and sustained academic-industry research partnerships.

Rationale: Booz Allen is deeply engaged in AI/ML research, with our work regularly reviewed by academic peers. These interactions underscore the complementary strengths of academia and industry—academia brings deep theoretical insight, while industry offers practical experience with real-world constraints and implementation challenges. By incentivizing closer collaboration, researchers gain access to valuable datasets, infrastructure, and applied perspectives that can enrich academic inquiry. At the same time, industry partners are better positioned to support the administrative and legal frameworks necessary for effective joint research. This mutual engagement fosters innovation that is both cutting-edge and grounded in practical relevance.

Advance Foundational, Cross-Disciplinary AI Research

Recommendation: Significantly expand investment in foundational AI research that fuses machine learning, cognitive science, neuroscience, linguistics, and symbolic reasoning.

Rationale: Despite recent progress, current AI systems exhibit key limitations in generalization, reasoning, and robustness, particularly in open-world or dynamic environments like border security or disaster response. As the leading provider of mission-critical AI tools for federal use, we routinely encounter use cases where interdisciplinary approaches are necessary to ensure accuracy and reliability for high-impact AI applications. Recommend investing in additional research in the following areas:

- Hybrid neuro-symbolic architectures
- Commonsense reasoning frameworks
- Energy-efficient and sparse learning algorithms
- Lifelong and continual learning research

Such investments will accelerate progress toward AI systems that are not only performant, but adaptable, interpretable, and sustainable.

About Booz Allen

Booz Allen is the advanced technology company delivering outcomes with speed for America's most critical defense, civil, and national security priorities. We build technology solutions using AI, cyber, and other cutting-edge technologies to advance and protect the nation and its citizens. By focusing on outcomes, we enable our people, clients, and their missions to succeed—accelerating the nation to realize our purpose: **Empower People to Change the World®**.

