PUBLIC SUBMISSION

Received: May 29, 2025
Tracking No. mb9-wz0p-fwxd
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-0272
Comment on FR Doc # 2025-07332

Submitter Information

Organization: EDSAFE AI Alliance

General Comment

The EDSAFE AI Alliance (EDSAFE)—a global coalition of educators, policymakers, researchers, community organizations, technology leaders, and industry—welcomes this opportunity to outline essential strategic priorities for research and development (R&D) in artificial intelligence (AI) in education.

See attached file for full comment.

Attachments

5.29.25 RFI Response No. NSF2025OGC0001 EDSAFE AI

May 29, 2025

Subject: EDSAFE AI Alliance Response to Request for Information on the 2025 Development of a National Artificial Intelligence Research and Development Strategic Plan (Docket ID No. NSF–2025–OGC–0001)

The **EDSAFE AI Alliance (EDSAFE**)—a global coalition of educators, policymakers, researchers, community organizations, technology leaders, and industry—welcomes this opportunity to outline essential strategic priorities for research and development (R&D) in artificial intelligence (AI) in education. We support calls to accelerate R&D in critical technologies, revitalize the U.S. science and technology enterprise, and ensure that innovation promotes national security, economic competitiveness, and human flourishing to improve the lives of all Americans.

EDSAFE advocates for a national AI R&D agenda that squarely addresses pivotal questions within the education sector. There is a critical need to cultivate widespread AI literacy, equipping students and educators with the understanding and skills to navigate and utilize AI tools effectively and ethically. The agenda must address questions about identifying and fostering the essential skills required for workforce readiness in an increasingly AI-driven economy, ensuring learners are prepared for jobs for the future. Our SAFE Framework (**S**afety, **A**ccountability, **F**airness and Transparency, and **E**fficacy) centers learning experiences that integrate AI safely and responsibly and are designed to help humans flourish, promoting well-being, the ability to work alongside AI as part of a multifunctional team, and the development of critical thinking and creativity alongside technological advancement. The unprecedented learning and labor disruptions reshaping our economy require an urgent and strategic response from the national R&D agenda and apparatus, encompassing both the private and public sectors. This agenda must prioritize understanding the evolving skill landscapes, the efficacy of new learning models, and the infrastructure needed to support a continuously adapting workforce.

The national AI R&D agenda must consider these key research priorities:

1. **Invest in foundational AI Literacy and skills R&D:** AI Literacy, a form of digital literacy, is "the knowledge, skills, and competencies needed to safely use and understand artificial intelligence and critically evaluate the implications, limitations, and ethical considerations of AI use." As AI integrates into sectors, R&D is crucial to identify the core AI competencies needed for future jobs and to develop and evaluate scalable programs that cultivate this literacy across the population, starting from K-12 and extending through lifelong learning.

2. **Drive R&D on AI-powered reskilling and upskilling:** The speed and scale of AI-driven disruption can outpace traditional education and training. Therefore, a key R&D priority is to explore and validate AI-powered personalized learning systems, training platforms, and micro-credentialing that can efficiently reskill and upskill individuals. This includes research into how AI can make learning more accessible and effective, given learner variation.
3. **Develop frameworks for safe and effective AI in learning and work:** To ensure that AI-driven solutions to labor and learning disruptions are beneficial, the R&D agenda must address the ethical, safety, access, and opportunity implications of AI. This includes creating robust frameworks for the responsible development and deployment of AI in educational settings and workforce training, ensuring fairness, accountability, and transparency.
4. **Foster public-private partnerships and data infrastructure:** Addressing these large-scale disruptions requires collaboration. The R&D agenda should incentivize government, academia, and industry partnerships to accelerate innovation in educational technologies and workforce development. Furthermore, investment in public data infrastructure is needed to better understand labor market trends, skill gaps, and the impact of various interventions, allowing for more agile and evidence-based policy-making.
5. **Focus on human-AI collaboration and human flourishing:** R&D should explore how AI can augment human capabilities, freeing individuals from automatable tasks to focus on human skills such as critical thinking, creativity, emotional intelligence, and complex problem-solving. The agenda must support learning and work environments where humans can thrive alongside AI, ensuring technology enhances well-being and prosperity.

By tackling these critical research topics, the national AI R&D agenda can play a pivotal role in navigating the current disruptions, preparing citizens for the future of work, and ensuring that technological advancements lead to broadly shared prosperity.

Our comments highlight specific, critical areas where federal leadership can catalyze advancements in AI for education. Effective and coordinated federal action will address challenges that exceed private sector capabilities alone, directly enhancing America's competitive edge and prosperity.

Research and Development Recommendations

Robust federal investment in foundational research and collaborative development is essential. Specifically, EDSAFE recommends:

- **Boost cross-sector AI investment** by prioritizing basic foundational research and SAFE framework-aligned R&D.
    - Supercharge AI breakthroughs through increased appropriations for small business grants at the National Science Foundation and the Department of Education, including small business innovation and technology transfer incentives for education use cases (via SBIR/STTR) that fast-track pilot-to-scale efforts.
    - The Administration should establish, and Congress should authorize and fund, a National Center for Advanced Development in Education (NCADE). This center would pursue high-risk, high-reward research to address critical educational

challenges without clear solutions, accelerate efficient and cost-effective R&D, and drive AI-driven innovations.
    - Federal agencies and industry should sponsor competitive R&D grants and prizes for responsible AI models and their implementation, spurring principled innovation.
    - The National Science Foundation should support a national network of AI testbeds in districts, states, and education service organizations. This would allow for rapid cycle and user-centered R&D for education tools while maintaining data privacy.
    - Establish a cross-sector AI Directorate at the National Science Foundation that strategically complements the existing Technology, Innovation, and Partnerships (TIP) Directorate, accelerating translational and partnership-driven research and innovation in artificial intelligence.
- **The National Science Foundation should continue to broaden STEM/AI pathways,** supporting curricula development, national challenges, and educator training and resources.
- **The Department of Labor should research and engage with industry to identify specific AI-related occupations suitable for developing new apprenticeship occupations and models** (e.g., AI/ML technician, data annotation, and educators, including data and computer science).
- **The Department of Labor, Department of Education, and National Science Foundation should encourage and support the development of specialized Career and Technical Education (CTE) programs** focused on specific AI domains, such as data science, machine learning, robotics, or AI ethics, and study their effectiveness across key learning and labor metrics.
- **Agencies should foster global AI coherence and further national security objectives** by collaborating with allies and partners on shared R&D priorities, including support for the International Network of AI Safety Institutes and the aligned research agenda.
- **The Administration should align the National AI R&D Strategic Plan** with the broader National AI Action Plan, agency AI strategies consistent with the Office of Management and Budget's April guidance, and relevant technology and defense strategies, embedding education objectives in long-term workforce development and national security planning.

Data and Computing Research Infrastructure Recommendations

Federal leadership must provide a secure, scalable data and computing research and development infrastructure to leverage AI. This is critical to address academic, industry, and government needs. EDSAFE specifically recommends:

- **The Administration should fully fund and scale the National AI Research Resource (NAIRR),** focusing on education and workforce, launching a shared national R&D infrastructure for responsible discovery and innovation that brings together computational, data, software, model, training, and user support assets. NAIRR will support fundamental, translational, and use-inspired AI-related R&D. K-12, workforce, and universities might separately access NAIRR as part of their next-generation AI coursework.

- **Agencies should commission and host robust quality datasets that leverage emerging modalities.** These data assets will accelerate the development and validation of innovative educational tools. They should be secure, accessible, anonymized datasets that integrate emerging modalities, such as audio (e.g., reading diagnostics for dyslexia), video (e.g., performance tasks), clickstream data from digital platforms, and sensor-generated data.
- **Agencies should encourage the use and development of advanced privacy-protecting technologies and synthetic data,** encouraging robust data governance for education and workforce AI, including updates to relevant laws and regulations.
- **The National Science Foundation should prepare a biennial AI indicators report** and transmit it to the President, the Office of Science and Technology Policy, the President's science advisors, and Congress to identify and track existing and emerging needs related to AI talent and expertise. This report should consider long-term trends over time and within the global context and provide in-depth information about the scope, quality, and vitality of the AI talent enterprise and workforce.
- **Agencies should accelerate and scale responsible AI adoption** by resourcing areas such as data governance, information technology (IT), infrastructure, quality data assets, integration and interoperability, accessibility, privacy, confidentiality, and security.

Strategic federal investments in R&D, comprehensive AI literacy initiatives, and robust computing infrastructure are essential to securing America's global AI leadership. These priorities highlight essential federal roles that complement private-sector investments, ensuring that AI development in education advances the public good, economic competitiveness, and national security.

EDSAFE appreciates your consideration and looks forward to working collaboratively with the Administration to secure and extend American innovation leadership in AI.

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All4Ed

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Anthology

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BetterLesson

Brainly

CareerVillage.org

CAST

Children and Screens: Institute of Digital Media and Child Development

Collaborative Communications

D2L

Data Science 4 Everyone

Digital Promise Global

Disruptive Partners in K12 Education

EdBetter

Edmentum

EdTrust

Global Science of Learning Education Network

Guardian Airwaves LLC

Happypillar

Hatch Early Learning

HMH

Inner Peak AI

InnovateEDU

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ISTE ASCD

JET Education Services

Kovexa

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MagicSchool AI

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Newsela

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PowerSchool

Project Evident

R3 Collaboratives Inc

Rapid Ai4 Learning

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Renaissance Switzerland

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SETDA

SkillUp Coalition

Software & Information Industry Association
Storywizard Inc.

StrategicEDU Consulting

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Subject Technologies

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TNTP

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Yourway Learning

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