

GAO Highlights

Highlights of [GAO-23-106811](#), a testimony before the Committee on Homeland Security and Governmental Affairs, U.S. Senate

Why GAO Did This Study

To help managers ensure accountability and the responsible use of AI in government programs and processes, GAO has developed an AI Accountability Framework. Separately, GAO has identified mission-critical gaps in federal workforce skills and expertise in science and technology as high-risk areas since 2001.

This testimony summarizes two related reports—GAO-22-105388 and GAO-21-519SP. The first report addresses the digital skills needed to modernize the federal government. The second report describes discussions by experts on the types of risks and challenges in applying AI systems in the public sector.

To develop the June 2021 AI Framework, GAO convened a Comptroller General Forum in September 2020 with AI experts from across the federal government, industry, and nonprofit sectors. The Framework was informed by an extensive literature review, and the key practices were independently validated by program officials and subject matter experts.

For the November 2021 report on digital workforce skills, GAO convened a roundtable discussion in October 2021 comprised of chief technology officers, chief data officers, and chief information officers, among others. Participants discussed ways to develop a dedicated talent pool to help meet the federal government's needs for digital expertise.

View [GAO-23-106811](#). For more information, contact Taka Ariga, Chief Data Scientist, 202-512-6888, arigat@gao.gov.

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ARTIFICIAL INTELLIGENCE

Key Practices to Help Ensure Accountability in Federal Use

What GAO Found

Artificial intelligence (AI) is evolving at a rapid pace and the federal government cannot afford to be reactive to its complexities, risks, and societal consequences. Federal guidance has focused on ensuring AI is responsible, equitable, traceable, reliable, and governable. Third-party assessments and audits are important to achieving these goals. However, a critical mass of workforce expertise is needed to enable federal agencies to accelerate the delivery and adoption of AI.

Participants in an October 2021 roundtable convened by GAO discussed agencies' needs for digital services staff, the types of work that a more technical workforce could execute in areas such as artificial intelligence, and challenges associated with current hiring methods. They noted such staff would require a variety of digital and government-related skills. Participants also discussed challenges associated with existing policies, infrastructure, laws, and regulations that may hinder agency recruitment and retention of digital services staff.

During a September 2020 Comptroller General Forum on AI, experts discussed approaches to ensure federal workers have the skills and expertise needed for AI implementation. Experts also discussed how principles and frameworks on the use of AI can be operationalized into practices for managers and supervisors of these systems, as well as third-party assessors. Following the forum, GAO developed an AI Accountability Framework of key practices to help ensure responsible AI use by federal agencies and other entities involved in AI systems. The Framework is organized around four complementary principles: governance, data, performance, and monitoring.

Artificial Intelligence (AI) Accountability Framework

Data

Ensure quality, reliability, and representativeness of data sources and processing.

Data Used to Develop an AI Model

Entities should document sources and origins of data, ensure the reliability of data, and assess data attributes, variables, and augmentation/enhancement for appropriateness.

Data Used to Operate an AI System

Entities should assess the interconnectivities and dependencies of data streams that operationalize an AI system, identify potential biases, and assess data security and privacy.

Monitoring

Ensure reliability and relevance over time.

Continuous Monitoring of Performance

Entities should develop plans for continuous or routine monitoring of the AI system and document results and corrective actions taken to ensure the system produces desired results.

Assessing Sustainment and Expanded Use

Entities should assess the utility of the AI system to ensure its relevance and identify conditions under which the AI system may or may not be scaled or expanded beyond its current use.

Governance

Promote accountability by establishing processes to manage, operate, and oversee implementation.

Governance at the Organizational Level

Entities should define clear goals, roles, and responsibilities, demonstrate values and principles to foster trust, develop a competent workforce, engage stakeholders with diverse perspectives to mitigate risks, and implement an AI-specific risk management plan.

Governance at the System Level

Entities should establish technical specifications to ensure the AI system meets its intended purpose and complies with relevant laws, regulations, standards, and guidance. Entities should promote transparency by enabling external stakeholders to access information on the AI system.

Performance

Produce results that are consistent with program objectives.

Performance at the Component Level

Entities should catalog model and non-model components that make up the AI system, define metrics, and assess performance and outputs of each component.

Performance at the System Level

Entities should define metrics and assess performance of the AI system. In addition, entities should document methods for assessment, performance metrics, and outcomes; identify potential biases; and define and develop procedures for human supervision of the AI system.

Source: GAO. | [GAO-23-106811](#)