

Testimony of Arati Prabhakar

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on “How are Federal Agencies Harnessing Artificial Intelligence?”

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Chairwoman Mace, Ranking Member Connolly, and distinguished Members of the Subcommittee, thank you for the opportunity to testify about artificial intelligence (AI). I want to recognize and thank you for the work you are doing on this important topic.

I am Arati Prabhakar, Assistant to the President for Science and Technology and Director of the White House Office of Science and Technology Policy (OSTP). OSTP is the home of the National AI Initiative Office, a White House office established by Congress. My perspective is shaped by experience in both the public and the private sectors. I have been an executive in technology companies and a venture capitalist. I also have led the Defense Advanced Research Projects Agency (DARPA) in the Defense Department and the National Institute of Standards and Technology (NIST) in the Commerce Department.

I bring you three messages today:

- First, AI is a top priority for President Biden because the choices we make today about this powerful technology will shape the decades ahead.
- Second, the government’s core responsibilities on behalf of the American people are to manage the risks of AI and to harness the technology’s enormous potential for public purposes.
- Third, the Biden-Harris Administration is taking action and is working with Congress, the private sector, and like-minded nations, so that together we chart the course for our future with AI.

AI’s Broad Applications and Implications Call for American Leadership

President Biden has been clear that AI is one of the most powerful technologies of our time and that American leadership in the world today requires American leadership in AI. That is why AI is one of his top priorities.

AI technology is already part of our daily lives. When we search the internet, see ads online, or unlock our phones with our faces we are using AI. Companies are using AI to design new products, researchers are using AI to analyze laboratory data, and governments are using AI to improve access to critical services. Now, a new generation of AI technology is bursting forth with surprising capabilities to generate text, images, audio, and video. Generative AI is also

helping to automate software programming; advance biological design; and enable many other applications for companies, individuals, and society.

As with every powerful technology, each of AI's applications will have bright and dark sides. AI that generates text, images, audio, and video holds the promise of personalized learning and expanded creativity and productivity — and will also undermine information integrity and exacerbate deepfakes. AI that generates code will mean faster, more effective software programs — and faster, more effective cyberattacks. And AI that generates biological designs can accelerate treatments for cancers — and could lower the barrier for bad actors to create biothreats.

Today, the United States leads in AI development. But the ingredients to build AI systems — computation, data, and algorithms — are widely available. China, Russia, and many other countries are investing heavily. Every nation is striving to use AI to build a future that embodies its own values. None of us wants to live in a world driven by technology that is shaped by authoritarian regimes — again underscoring the importance of American leadership in AI.

Government's Roles: Mitigate Risks and Harness Benefits

The fast pace and the broad applications of AI present tremendous opportunities and critical risks for the American people. The government's core responsibilities are to contain the risks and to harness AI's enormous potential for public purposes.

The Risks of AI

Because AI has so many applications across society, its potential harms are also wide-ranging. We see risks falling into four categories:

Information integrity and fraud: The ability to generate high-quality text, images, audio, and videos has lowered the barrier to rapidly generate content that is fake but appears realistic. These are high-powered tools that can be used to deceive individuals, distort psychological reality, manipulate financial markets, and defraud consumers and seniors. The risk for individuals is clear. These trends can also further erode trust in democratic institutions and processes, leading people to doubt the veracity of authentic videos submitted as evidence in the courtroom, for example.

Safety and security: AI can be used, intentionally and unintentionally, in ways that threaten Americans' safety and security. Today, many of these risks stem from the limitations, inaccuracies, and misapplication of AI systems. These risks include crashes in automated vehicles and battlefield errors caused by AI. As the technology improves, it can also lower the knowledge and skill required to carry out malicious activity like dangerous cyberattacks on critical infrastructure or the development and use of novel biological threats.

Privacy, civil rights, civil liberties, and other human rights: The use of AI can interfere with Americans' rights, opportunities, and access to critical services. For example, companies and organizations have already used AI in ways that resulted in greater inaccuracies in medical

diagnoses for Black people and higher mortgage rates for Hispanic people. AI advances also bring the risk of a deepening erosion of privacy as surveillance increases and as more and more sensitive information is used to train AI systems. Authoritarian governments are already using AI to censor and repress expression and abuse human rights.

Jobs and the economy: AI can help create new jobs and boost productivity, but it can also supplant the need for some jobs, worsen inequity as skill requirements change, or contribute to psychological or physical harms in the workplace when deployed without appropriate safeguards. AI advances have important implications for the creators of intellectual property as AI models are trained on human-created text, images, audio, and video, and as AI systems generate content that may infringe copyrights and trademarks. And anticompetitive behaviors from dominant companies that control key inputs for AI, such as computational power and data, can disadvantage competitors and harm small businesses and entrepreneurs.

Several of these risks may be addressed by current laws and regulations, and some can be further mitigated by ensuring that government uses AI responsibly. But as I note later, additional legislation will be necessary.

Harnessing AI's Benefits

Companies across many industries are tapping AI to improve and even transform their products and services. This technological advancement holds equally great potential for the work that government does for the American people.

My colleagues will speak to the use of AI in national security and homeland security. I will focus on the many other important services and public purposes that are the responsibility of the federal government — which this Subcommittee knows well. Today, important public services are starting to use the insights gleaned from analyzing a vast amount of data. AI technology is also speeding, simplifying, and improving administrative processes when government interacts with citizens. Examples include the following:

AI for weather prediction. The National Oceanic and Atmospheric Administration (NOAA) analyzes weather using data including windspeeds, temperature, and satellite imagery to get better and better at providing timely and actionable notifications that keep people safe from severe weather events.

AI for safer air travel. The Federal Aviation Administration (FAA) is developing AI to predict failures of FAA equipment supporting the provision of air navigation services, including air traffic control, before they can occur, preventing system failures and travel delays.

AI to expedite disability determinations. The Social Security Administration (SSA) processes applications for disability benefits from the public. SSA uses AI to assist decision makers with identifying readily available medical evidence that meets SSA's requirements. This software facilitates the determination process and helps to deliver benefits to those in need as quickly as possible.

AI to improve patent application processing. To process patent applications, the U.S. Patent and Trademark Office (USPTO) must determine how similar patent applications are to prior art, such

as previously published documents. USPTO uses AI to help examiners find relevant documents and additional prior art areas to search in adjudicating new patent applications.

These are a few concrete examples of AI in use today. Looking ahead, many more possibilities are emerging as AI opens new horizons in every area of research and development (R&D). AI can enable the design of radically better materials for the advanced batteries and hydrogen storage we need to achieve our clean energy future. It can change how we predict disasters and implement plans for resilience as the climate changes. It can transform drug design for new cures, tailor clinical care to each individual patient's needs, and enable major advances in population health.

Used responsibly, AI will help deliver better outcomes and create new possibilities for the people we represent.

The Biden-Harris Administration Is Taking Action

AI is a top priority for President Biden, and the Biden-Harris Administration is taking important steps to promote the powerful and responsible use of AI. That starts with extensive coordination across the federal government, as well as ongoing engagements with industry, civil society, labor, international partners, and academia by the President, Vice President, senior White House leaders, cabinet members, heads of agencies, and many others in the Administration. These efforts have already led to important actions.

Principles and practices for responsible AI: The Administration published the [Blueprint for an AI Bill of Rights](#) last year and the [AI Risk Management Framework](#) earlier this year, laying out principles and initial practices to identify and mitigate risks from AI. We continue to focus on the development of tools and methods needed to achieve safe and effective AI.

Securing voluntary commitments from AI companies: There are many actions that AI developers can take on their own to make their products and services more responsible. That's why President Biden has secured [voluntary commitments](#) from 15 leading AI companies. The companies agreed to follow a series of practices that can help limit risks to safety, security, and trust, and that will serve as a bridge to regulation for this fast-moving technology. We will continue working with industry, academia, civil society, like-minded international partners, and the public to help the developers and deployers of AI systems incorporate the protections that are vital for responsible innovation in AI.

Research and development (R&D): OSTP's National AI Initiative Office worked with R&D agencies to lay out a [new national strategic plan for AI R&D](#) that includes a new priority for international collaboration. The Administration has recommended establishing a National AI Research Resource (NAIRR) with computational and data resources to broaden participation in AI R&D.

Government use of AI technology: In his first year, President Biden signed an [executive order](#) directing federal agencies to use technology to modernize government and implement services that are simple to use, accessible, equitable, protective, transparent, and responsive for everyone

in America. AI is essential for achieving this outcome at scale. The Office of Management and Budget is drafting guidance for public comment aimed to empower agencies to put AI to work responsibly. This guidance will also serve as a model for state and local governments, businesses, and others to follow in their own procurement and use of AI. In addition, the White House is working with agencies to recruit and upskill AI talent, and to develop AI solutions to advance their missions.

Leading international engagement: Because the impacts of AI go far beyond our shores, our work on AI does as well. It is vital that the United States continue to lead the way to global, societal, economic, and technological progress, as it has in previous eras of change. This is not only about the technological advancements our country achieves, but also about advancing the governance approaches and international norms needed to responsibly deploy AI to protect rights and safety — and building and sharing those safeguards with the rest of the world. We are working with like-minded nations to manage AI’s risks, unlock AI’s potential for good in both developed and developing countries, and ensure strategic stability.

Looking ahead: The Biden-Harris Administration is currently developing an executive order and will pursue bipartisan legislation to help America lead the way in responsible innovation. Congress can ensure that federal agencies have the authorities and resources they need to leverage AI responsibly and mitigate its risks. This builds on the President’s continued call for Congress to act to strengthen privacy protections and protections for children in the online environment, measures that are even more important now as AI exacerbates those risks. We greatly appreciate how the 118th Congress has prioritized work on AI so far, and we look forward to continued engagement.

Conclusion

Our work is only becoming more important as AI’s capabilities advance, especially as AI is increasingly integrated into society. This is the moment for our government to take bold and decisive action, so that America can continue to lead the world in harnessing AI to do big things in ways that strengthen our values. I look forward to working with you to realize this tremendous opportunity.