



**Testimony of Timi Hadra, Client Partner and Senior Executive for West Virginia,
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**U.S. House of Representatives
House Subcommittee on Cybersecurity, IT, and Government Innovation
House Committee on Oversight and Accountability
Hearing Title: Toward an AI-Ready Workforce**

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Introduction

Good afternoon, Chairwoman Mace, Ranking Member Connolly, and distinguished members of the subcommittee. Thank you for the opportunity to testify today and discuss IBM's perspective on skills training, upskilling, and reskilling in the era of accelerated AI adoption.

My name is Timi Hadra and I am a Client Partner at IBM Consulting with over 20 years of experience serving federal agencies by developing world class talent, driving IT innovation, and championing Skills First talent and the new collar worker. I also serve as IBM's Senior Executive for West Virginia, where I lead our regional innovation center at the Rocket Center. Much of my work has been focused on creating STEM and workforce development opportunities in underserved communities, and in 2018, I facilitated the launch of IBM's Application Developer Apprenticeship program in West Virginia – a program that helps expand career opportunities in tech for those with the right mix of skills without relying on college degrees. Currently, I serve as a delivery executive for IBM Consulting for the U.S. Navy and U.S Veterans Affairs clients.

IBM has been a proud services and technology partner to U.S. federal government for decades, helping agencies use technology to accomplish their missions, meet new challenges, and drive innovation. Today, more than 4,300 IBMers work alongside federal workers each day. IBM's enterprise computing platforms, software, and security solutions are used widely across government agencies. And a fundamental element of IBM's work for government includes helping federal workers adapt their

skills and how they work with new technologies, and that includes rising to the challenges of using AI.

IBM has been a leader in technology for over a century and at the forefront of innovations such as AI for decades. You may recall in 2011, IBM's Watson supercomputer won Jeopardy! and ushered AI and machine learning into America's living rooms. And now, in an era of accelerated generative AI adoption, IBM's AI platform for enterprise – watsonx – is helping business and governments manage their data with trusted governance and innovative open source solutions.

Today, I will share how IBM has helped prepare people to work alongside AI through free, online learning courses and partnerships, create new pathways for technology jobs, and reskill our own workforce to maximize opportunities created by technologies like AI. Lastly, I will share our recommendations on how the federal workforce can be AI-ready.

Responsible development and deployment of AI

Before I begin, let me first underscore IBM's commitment to responsible development and deployment of AI. When harnessed and deployed responsibly, with ethics at its core, AI can enrich and advance human ingenuity in ways that could solve the most challenging and pressing problems of our time. We also recognize the risk this technology could pose for society and have long committed to adopting guardrails and accountability for our technologies.

Specifically, we have three ¹ priorities for AI regulation: focus on risk; hold AI creators and deployers accountable; and enable open innovation, not a licensing regime. Last year, we signed onto the White House Voluntary AI Commitments² to promote the safe, secure, and transparent development and use of generative AI (foundation) model technology.

Preparing Americans for jobs augmented by AI

Throughout our history, IBM has been mindful of the impacts new technologies have on society, and what skills workers will need to work with emerging tools. For almost a century, we've been an industry leader in offering career-building programs. We continue our legacy of investing in the future of work by making free learning widely

¹ <https://newsroom.ibm.com/How-governments-and-companies-should-advance-trusted-AI>

² <https://www.linkedin.com/feed/update/urn:li:activity:7124837310814179329/>

available.

As an industry leader, we have a responsibility to help prepare the American workforce to capitalize on the benefits of AI. In 2021, IBM unveiled a global commitment³ to help skill 30 million people by 2030. And most recently, we committed to train two million people in AI in the next three years through collaborations with universities and with new generative AI coursework on IBM SkillsBuild⁴ - our online platform with free coursework for teachers, students, and adult learners.

The IBM SkillsBuild platform offers free coursework in AI fundamentals, chatbots, AI ethics, and generative AI. The coursework for generative AI includes Prompt-Writing, Getting Started with Machine Learning, Improving Customer Service with AI, and Generative AI in Action.

We are also collaborating with universities and leveraging our network of experts to build faculty and student AI capacity. University faculty have access to IBM-led training such as lectures, immersive skilling experiences, and coursework for their classrooms. We also offer students flexible and adaptable resources, including free, online courses on generative AI and open-source technologies. Lastly, participants can earn IBM-branded digital credentials that are recognized by potential employers. I encourage you to share with your constituents IBM's free AI courses they can start taking today to better familiarize themselves with AI tools and their capabilities.

Skills based hiring and work-based learning

More than a decade ago, and largely out of necessity due to skills shortages in cybersecurity, IBM embarked on a skills first journey, creating opportunities for well paid jobs for those without college degrees. And in 2017, we launched a-first-of-a-kind registered apprenticeship programs for technology jobs, now covering 35 job roles including in cybersecurity, mainframe administration and development, and data science. Today, more than 50% of our U.S. job postings no longer require a college degree and almost 20% of our U.S. hires do not have college degrees.

IBM's apprenticeship program hires Americans without college degrees and teaches them the skills and provides the certifications for a number of in-demand tech roles. We have hired over 1,000 apprentices since we launched the program and have helped hundreds of others land good-paying tech jobs.

³ <https://newsroom.ibm.com/2021-10-13-IBM-Commits-to-Skill-30-Million-People-Globally-by-2030>

⁴ <https://skillsbuild.org/>

These opportunities are changing real lives. In West Virginia, where I manage an IBM regional center, we recently had an apprentice named Cindy graduate. Cindy, a hard worker with a drive to learn, had no opportunities for career advancement and was struggling to find jobs which would support her family because she lacked a four-year degree. With an interest in tech, she joined IBM's apprenticeship program at the Rocket Center. Upon completion of the program, Cindy was hired as a Network Operations Center Technician, a career which earns an average salary of \$60-70k.

Upskilling, reskilling, and lifelong learning at IBM

As generative AI begins to transform industries, critical skills and competencies will play an even more crucial role in meeting the talent needs of employers. The World Economic Forum, for example, predicts that 44% of workers' skills will be disrupted between 2023 and 2028—up nine percentage points from its last five-year projection. Similarly, research conducted by the IBM Institute of Business Value shows⁵ C-suite executives estimate that 40% of their workforce will need to reskill for AI and automation over the next three years.

However, a new skills paradigm is emerging. As the IBM study points out, “STEM skills are plummeting in importance, dropping from the top spot in 2016 to 12th place in 2023.” It's not because STEM skills are no longer needed. It's because executives **expect** a basic level of technical acumen to work alongside technology and AI. Their top priorities now are people skills for higher-value jobs because the half-life of technical skills is less than three years in today's market, and it is easier to retrain on technical skills.

That's why IBM places talent and skills at the center of our people strategy. For instance, IBM requires employees to complete at least 40 hours of learning annually and provides the tools for learning. IBM's integrated digital career experience platform – YourLearning – helps our workforce reflect on their skills, take online courses, develop in their role, and grow mentoring relationships, and advance in their career. In 2022, each IBMer completed an average of 88 hours of learning. Furthermore, employees with the highest learning hours (at least 200) are 20% more likely to move to a new role and 44% more likely to get a promotion. By providing continuous learning opportunities, including on topics like generative AI, IBMers can stay ahead of market demands and learn valuable technology career skills.

To incentivize and encourage skills building, especially in our high demand skills areas like AI, we publish suggested career pathways for IBMers that identify key skills, habits, and outcomes to progress to the next level in their careers. The pathways are

⁵ <https://www.ibm.com/thought-leadership/institute-business-value/en-us/report/augmented-workforce>

specific to each role and identify requirements for in-role progression, as well as for progression outside their current role. This framework is then linked to specific learning modules in the YourLearning platform.

Furthermore, IBM offers opportunities for our employees to get hands-on experience with AI enabled technologies and tools. In the summer of 2023, 160,000 IBMers participated in a weeklong challenge where they formed teams to solve a business problem using our watsonx suite of AI tools, and competed for the Chairman's Awards. This challenge was successful in accomplishing our two main goals 1) to give IBMers hands-on experience, and 2) to stress-test our platform while obtaining user feedback. Gamification, experiential learning projects, opportunities to tinker with the tools, - especially as it relates the employee's role and mission - are all best practices IBM employs to ensure our employees are obtaining and refining AI and other professional skills.

We are also reskilling and upskilling employees in functions like Human Resources (HR), as their jobs are changed by AI. These employees in areas like Compensation, in Payroll, and on the HR Help Desk are now on average at least one job band higher, reflecting their higher value skills and work. A notable result of reskilling our HR employees is that 70% of the ideas for new applications of AI in that function come from those employees. When we started the AI deployments in 2017 almost all applications were driven top-down by executive leadership.

Federal workforce

There is a significant body of research on steps the federal government must take to ensure the United States has the best and brightest Americans leading our federal agencies. IBM has long contributed to this research through our Center for the Business of Government and offers insights from scholars and experts on practical and actionable steps for federal leaders leading organizational transformation to take. But we also know that guiding large organizations requires clear strategies to create and sustain meaningful change. As AI adoption accelerates, we believe Congress and the Biden Administration must double down on actionable ways to ensure the federal workforce is ready to safely procure, govern, and effectively implement AI tools across agencies.

This committee is well aware of federal agencies' skills challenges and shortages, including in mission-critical areas such as cybersecurity. In 2020, the committee helped enact the AI in Government Act of 2020, which requires the Office of Personnel Management to develop a comprehensive plan and timeline to prepare the federal workforce for AI adoption. Robust implementation of this legislation across the

Executive Branch would be a key first step in preparing the federal workforce for a new way to work using AI.

The federal government's mission-critical skills shortages have been on the U.S. Government Accountability Office's (GAO) High Risk List, with only limited progress reported, since 2001. Fast forward to today, and White House's recent AI Executive Order instructs agencies to leverage special hiring for AI talent while continuing to focus on skills-based recruitment. The Executive Order and subsequent guidance also recognize that resources and training will be critical in developing, upskilling, and reskilling federal workers in AI. It reads: "Agencies should provide resources and training to develop such AI talent internally and should also increase AI training offerings for federal employees, including opportunities that provide federal employees pathways to AI occupations and that assist employees affected by the application of AI to their work."⁶

Based on IBM's experience running a large talent organization and working with federal agencies, we know what needs to be done and the necessary best practices and processes. Now, it's time to put implementation into high gear. Federal agencies must lean into a co-creation strategy for effective AI technology deployment that is executed with multidisciplinary teams of technologists and non-technologists who understand agency programs and processes. This strategy will ensure that federal workers are consulted on and incentivized to implement AI technologies effectively and successfully. To further show IBM's approach to implementation, here are some examples of IBM's engagements with federal agencies:

- **Veteran's Benefits Administration (VBA).** Annually, VBA receives more than 14 million pieces of written correspondence from current and potential beneficiaries consisting of more than 1,000 different types of documents. Over time, VBA's processing time for medical, financial, and other essential articles grew to five months. IBM worked with VBA to use automation and AI to speed up this process, reducing wait times, in some cases, from 5 months to just 5 hours. These tools drastically improve veterans' experiences with the VA and, potentially, their healthcare outcomes by getting their benefits approved quickly and accurately. Relevant to the interests of this hearing, these AI tools assist the hardworking VBA staff, freeing them up to assist veterans in a more fulfilling way.
- **U.S. Department of Veterans Affairs (VA).** In 2022, IBM announced a partnership with the VA and to provide enhanced resources through IBM

⁶ <https://www.whitehouse.gov/wp-content/uploads/2023/11/AI-in-Government-Memo-draft-for-public-review.pdf>

SkillsBuild for transitioning service members and their dependents in need of skills to pursue high-demand technology roles. Our partnership with the VA also supports the Veteran Employment Through Technology Education Courses (VET TEC) program. As part of that program, we provide IBM experts to support U.S. veterans throughout their job application process.

Recommendations

To ensure the U.S. federal workforce is ready to identify, procure, and work effectively alongside AI systems, it will take the continued and collective effort of policymakers, academia, industry, and workers. Based on our own experience and expertise in delivering learning pathways, we believe there are three key ways Congress can help advance an AI-ready workforce:

- 1. Foster a culture of upskilling and life-long learning.** As AI adoption is accelerated, the half-life of technical skills is narrowing to less than three years. Technology's ease of use is democratizing basic STEM skills, making it possible for today's high-demand technical skill to be tomorrow's commodity. As such, the federal government must place talent and skills at the center of the people strategy and invest in quality, relevant, and accessible tools for life-long learning. In the short term, federal agencies must accelerate the following actionable steps to build AI-ready talent:
 - a. **Hire.** Make it easier to hire people with both with STEM and non-STEM backgrounds and expertise, including apprentices.
 - b. **Learn.** Make use of high-quality online platforms that have relevant introductory AI content and create opportunities for private sector personnel exchanges to build up AI capacity. Federal agencies must take concrete steps to encourage more public-private sector engagements and sharing of best practices and upskilling and reskilling.
 - c. **Incentivize.** Create a new system to reward and incentivize federal employees to attain in-demand AI skills. IBM's reinforces our learning culture by including learning outcomes as one of two key measures in employees annual performance reviews to determine salary increases.
- 2. Scale skills-first hiring in the federal government and on federal contracts.** While the federal civil service is moving in the right direction when it comes to skills-based hiring, federal contractors are rarely able to place an individual without a four-year degree on a technology services contracts, regardless of their qualifications. Federal agencies tend to require educational degrees

despite the reality that many roles can be staffed by individuals without degrees when they have the right skills and experience.

IBM supports efforts to expand skills-first hiring in federal agencies and encourages corresponding policy change on federal contracts to enable contractor job roles being filled by those without degrees. Necessary steps must be taken to further remove barriers to entry for federal government and contracting jobs, opening the door for more Americans to have an engaging and meaningful career in technology. That's why we also applaud the introduction and recent passage of the Modernizing Acquisition of Cybersecurity Experts Act that would eliminate unnecessary degree barriers for federal cybersecurity jobs.

- 3. Expand federal financing for short-term training programs.** For working adults and learners who aspire to careers requiring technology skills working outside federal agencies and need access to short-term, quality skilling programs, we encourage Congress to allow federal Pell Grants for short-term and job-aligned skilling programs, and to increase training grants under the Workforce Innovation and Opportunity Act (WIOA) legislation. Recently introduced and reported out of the House Education and the Workforce Committee bipartisan twin bills – the Workforce Pell Act and A Stronger Workforce for America Act – would modernize how Americans can access quality, short-term training programs that are providing skills required by employers.

Closing

AI is here, and it is redefining work, who does it, how they do it, and will require more people to work with technology. We – the private sector, government, and educators – must collectively act now to ensure Americans, including our federal workforce, are prepared to work alongside digital tools, take on higher-level and more meaningful work, and thrive in lifelong careers.

Thank you again for holding this timely hearing on issues at the intersection of AI adoption and workforce readiness. IBM looks forward to continuing to work with Congress to adopt a risk-based approach to regulating AI. We are also committed to better aligning America's education and workforce systems with in-demand skills – for now and for the future while carrying out our commitments to reskill and upskill workers and learners in AI skills.