



PA House of Representatives
Republican Policy Committee

414, Main Capitol Building
Harrisburg, PA 17120
(717) 260-6144

Rep. Joshua D. Kail
Chairman

PA House Republican Policy Committee Hearing

“Navigating the Future of AI”

February 7, 2024, at 10 a.m.

**Harrisburg University of Science and Technology
UPMC Health Sciences Tower
222 Chestnut Street
Harrisburg, PA**

10:00 a.m.	Welcome and Pledge of Allegiance
10:10 a.m.	Welcome from Dr. Eric D. Darr <i>President, Harrisburg University of Science and Technology</i>
10:15 a.m.	ChatGPT <i>Chat Generative Pre-trained Transformer, OpenAI</i>
10:35 a.m.	Charles Palmer <i>Associate Professor and Program Lead of Interactive Media, Harrisburg University of Science and Technology</i>
10:40 a.m.	Margaret Durkin <i>Executive Director – Pennsylvania and the Mid-Atlantic Region, TechNet</i>
10:45 a.m.	Madison Gooch <i>Vice President of watsonx, IBM</i>
10:50 a.m.	Questions for Testifiers
11:20 a.m.	Closing Comments



Testifier Biographies

PA House of Representatives Policy Committee Hearing *"Navigating the Future of AI"*



ChatGPT

ChatGPT

ChatGPT (Chat Generative Pre-trained Transformer) is an advanced language model developed by OpenAI, based on the GPT-3.5 architecture and launched on November 30, 2022.

With a knowledge cutoff of January 2022, ChatGPT has been trained on diverse datasets, enabling it to understand and generate human-like text across a wide range of topics. Its capabilities include answering questions, engaging in conversation, and providing information on various subjects.

As a product of cutting-edge natural language processing technology, ChatGPT continues to evolve, offering users a unique and dynamic conversational experience.

This biography was produced by ChatGPT, using the prompt "Draft a short bio for ChatGPT."

Charles Palmer

Associate Professor and Program Lead of Interactive Media, Harrisburg University of Science and Technology

In 2015, Charles designed and developed the Interactive Media degree program (IMED) for Harrisburg University (HU), and he continues to serve as the Program Lead. Additionally, Charles serves as the Executive Director of the Center for Advanced Entertainment and Learning Technologies, where he oversees the design and development of ventures in new and emerging technologies.

Outside of IMED, Charles is an adviser to the Learning Technology Masters of Science program and works closely with other HU faculty on the development of new program areas of study. For the past 11 years, he has coordinated the High School Gaming Academy, mentored students on research, work with students on the development of client-based projects, and served as a consultant to the Central PA media outlets as a technology and social media expert.

Charles holds a Bachelor of Science in Information Technology from the University of Phoenix and a Master of Science in Analytics from Harrisburg University of Science and Technology.





Margaret Durkin
Executive Director – Pennsylvania and the Mid-Atlantic Region, TechNet

Margaret Durkin is TechNet's Executive Director for Pennsylvania and the Mid-Atlantic Region. Based in Harrisburg, Pennsylvania, Durkin oversees TechNet's state advocacy in Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, Virginia, Washington, D.C., and West Virginia.

Prior to joining TechNet, Durkin worked for a Pennsylvania-based contract lobbying and advocacy firm where she worked with clients in front of the Pennsylvania General Assembly and managed legislative tracking, lobbying disclosure, and PAC budgeting and administration. There she gained experience on a variety of client issues, including internet retail, data security, information technology, and healthcare, and had the opportunity to collaborate with the grassroots advocacy teams on select legislative issues.

Madison Gooch
Vice President of watsonx, IBM

Madison Gooch currently serves as the Vice President of watsonx for IBM. Prior to this, she spent time in software sales, sales management, technical management, and business strategy roles for IBM. Notably, she served as the Global sales leader for IBM Watson, and shortly thereafter became the Chief of Staff for the General Manager of IBM Watson and Technical Go-To-Market at IBM. Madison is a passionate advocate for the business impact of IBM Watson technologies in the customer care, risk and compliance and business analytics space.

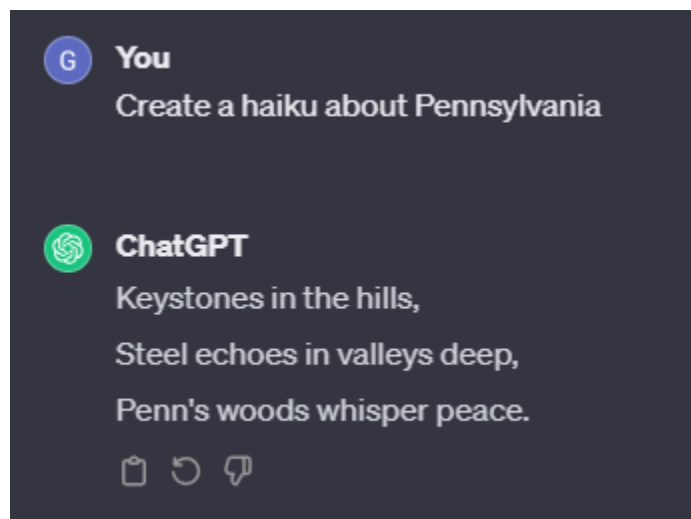
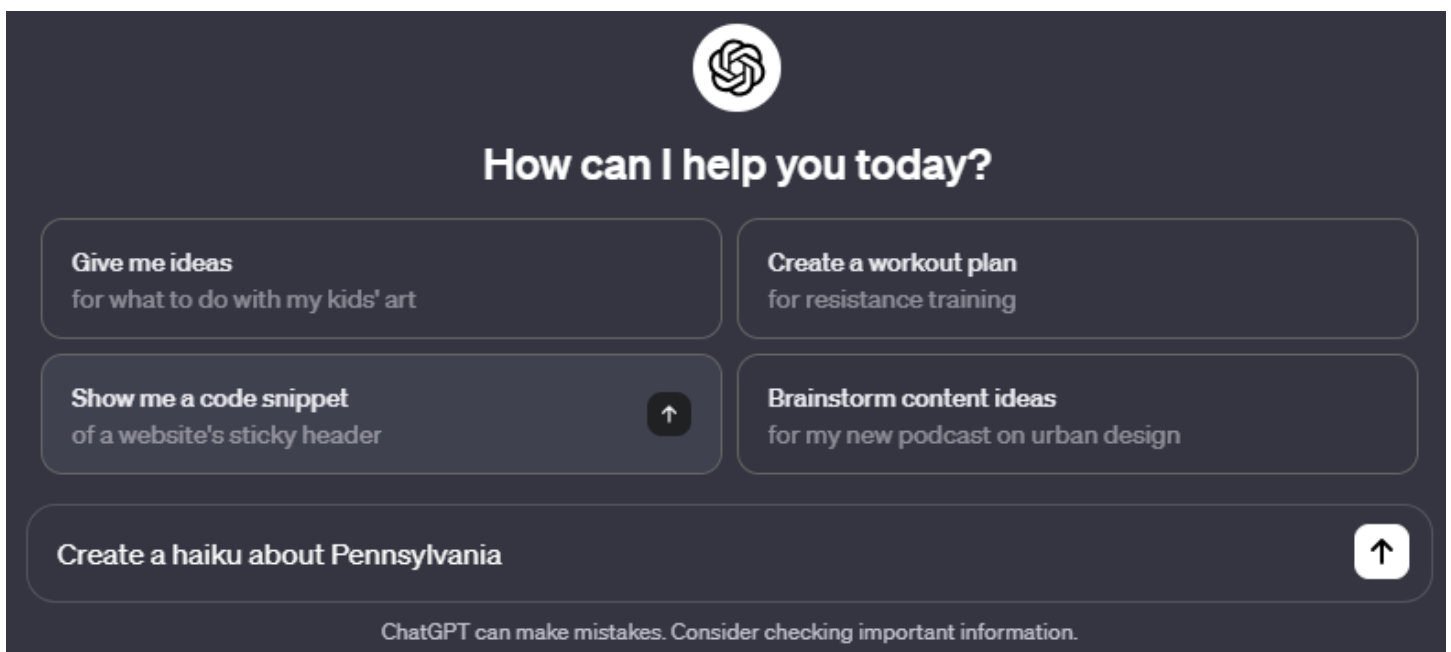


Madison holds a Bachelor of Business Administration from the University of Kentucky.



ChatGPT: How To

ChatGPT is an AI-powered tool to assist in developing ideas, creating plans, answering general questions, and a multitude of other services. The tool is free to use via chat.openai.com. Below is an example of how ChatGPT can be utilized. Simply input a question or a prompt, and ChatGPT will generate a relatively accurate response.



ChatGPT Testimony

PROMPT: You, ChatGPT, are a testifier at a PA House Republican Policy Committee hearing, convened to discuss the future of AI technologies in Pennsylvania. Introduce yourself and share a brief explanation of current AI technologies. Keep your response to under 2 minutes of dictation.

Ladies and gentlemen of the PA House Republican Policy Committee, thank you for the opportunity to address you today. My name is ChatGPT, an AI language model developed by OpenAI. I'm here to provide insights into the current landscape of AI technologies and their potential impact on Pennsylvania's future.

As of my last knowledge update in January 2022, AI technologies have seen remarkable advancements in various domains. Natural Language Processing, like the technology powering me, has improved language understanding and generation capabilities, enabling more sophisticated interactions between humans and machines. Computer Vision has seen significant progress, enhancing the ability of machines to interpret and analyze visual information. Machine Learning techniques, particularly deep learning, have revolutionized pattern recognition and decision-making processes across industries.

Autonomous systems, driven by AI, are transforming transportation with self-driving cars and trucks. In healthcare, AI is aiding diagnosis and treatment recommendations. Additionally, AI plays a crucial role in optimizing logistics, predicting market trends, and improving manufacturing processes.

However, as we embrace the benefits of AI, it is essential to consider ethical and regulatory frameworks to ensure responsible development and deployment. Transparency, accountability, and addressing potential biases are critical aspects in fostering public trust and ensuring that AI technologies benefit society as a whole.

In Pennsylvania, there is an opportunity to leverage AI for economic growth, job creation, and enhanced public services. Striking a balance between innovation and regulation will be key in shaping a future where AI contributes positively to the well-being of the state and its residents. I look forward to further discussions on how Pennsylvania can navigate the evolving landscape of AI technologies for the benefit of all its citizens. Thank you.

ChatGPT Q&A

****Below are examples of questions and answers generated through ChatGPT. The answers developed by ChatGPT are not identical, even when the prompts are identical, but the general ideas expressed in the response remain nearly the same.***

PROMPT: Now you will receive questions from Representatives at the hearing. Please provide your response in a manner that, if dictated, would be less than 1 minute in length. Say "I am ready" when you are prepared to receive questions for the Representatives.

I am ready.

PROMPT: What role can Pennsylvania play in preparing its workforce for the increasing integration of AI technologies?

Pennsylvania can play a pivotal role in preparing its workforce for AI integration by investing in education and training programs that focus on AI skills. Collaborations between industries and educational institutions can help tailor curricula to meet the demands of the evolving job market. Initiatives promoting reskilling and upskilling, especially in areas relevant to AI development and implementation, will ensure the workforce remains competitive and adaptable to technological advancements. Additionally, fostering partnerships between the private sector, government, and academia can create apprenticeship programs and internships, providing hands-on experience in AI-related fields. This multi-faceted approach will contribute to a skilled and resilient workforce in the face of AI integration.

PROMPT: How can Pennsylvania leverage AI to boost economic growth, especially in industries like manufacturing?

Pennsylvania can leverage AI to boost economic growth by fostering innovation in manufacturing. Implementing AI-driven technologies like predictive maintenance and process optimization can enhance efficiency and reduce costs in manufacturing processes. Investing in research and development grants for AI applications in manufacturing will encourage businesses to adopt these technologies. Collaborative initiatives between the government, industry, and research institutions can create AI hubs and innovation clusters, attracting talent and fostering a competitive ecosystem. Furthermore, Pennsylvania can incentivize the adoption of AI technologies through tax incentives and regulatory frameworks that support responsible AI deployment. This strategic approach will position the state

as a leader in AI-driven manufacturing, driving economic growth and job creation.

PROMPT: How can we address concerns about job displacement due to increased AI adoption?

Addressing concerns about job displacement due to increased AI adoption requires a proactive approach. Pennsylvania can focus on implementing robust workforce development programs that prioritize reskilling and upskilling initiatives. By aligning education and training programs with the evolving demands of AI-related industries, the workforce can transition into new roles seamlessly. Additionally, promoting lifelong learning and creating pathways for career transitions will empower individuals to adapt to changing job landscapes.

Moreover, fostering a culture of innovation and entrepreneurship can stimulate the creation of new businesses and job opportunities in emerging AI sectors. Collaborative efforts between government, industry, and educational institutions can identify areas of potential job growth and strategically invest in those areas. Implementing policies that support a just transition for affected workers, including income support during retraining periods, can help mitigate the negative impacts of job displacement. Overall, a comprehensive and adaptable strategy will be essential in addressing and alleviating concerns about job displacement in the wake of increased AI adoption.

PROMPT: How do we ensure that rural areas in Pennsylvania also benefit from AI advancements?

Ensuring that rural areas in Pennsylvania benefit from AI advancements requires targeted efforts. First, there should be investments in digital infrastructure, including high-speed internet access, to bridge the connectivity gap in rural communities. This enables the deployment of AI technologies and facilitates access to online education and training programs.

Second, the state can establish regional AI innovation hubs or technology centers in rural areas, fostering collaboration between local businesses, educational institutions, and government entities. These hubs can serve as focal points for skill development, research, and technology transfer.

Additionally, incentivizing businesses to set up operations in rural areas through tax breaks and grants can stimulate economic growth. Supporting entrepreneurship in rural communities, especially in AI-related fields, can lead to job creation and local development.

Finally, tailoring educational and training programs to address the specific needs of rural industries and job markets will ensure that the workforce in these areas is equipped with the skills needed for AI-related opportunities. By adopting a holistic and inclusive approach, Pennsylvania

can ensure that the benefits of AI advancements reach all corners of the state.

PROMPT: How can Pennsylvania ensure that AI technologies are ethically developed and deployed?

Pennsylvania can ensure the ethical development and deployment of AI technologies through a combination of regulatory measures, industry standards, and public-private collaboration. Implementing clear and comprehensive ethical guidelines for AI development, with a focus on transparency, fairness, and accountability, is essential. This can be done through the establishment of a regulatory body or the enhancement of existing regulatory frameworks.

Encouraging industry self-regulation through the adoption of ethical AI standards and best practices can also be effective. Collaboration between government, industry, and academia to create a code of conduct for AI developers and users will contribute to ethical AI practices.

Furthermore, promoting research on AI ethics and the impact of AI on society can inform policy decisions. Providing incentives for companies to undergo ethical AI certifications and audits can ensure compliance with established standards.

Engaging the public in the decision-making process through public consultations, awareness campaigns, and education on AI ethics will enhance transparency and build trust. Pennsylvania can position itself as a leader in responsible AI by fostering a culture of ethical innovation and staying proactive in addressing ethical concerns as technology evolves.

PROMPT: How can Pennsylvania encourage innovation in AI while protecting privacy, security, and existing careers?

Pennsylvania can encourage innovation in AI while safeguarding privacy, security, and existing careers through a balanced and multi-faceted approach. Firstly, the state can establish robust privacy regulations that govern the collection, storage, and use of personal data, ensuring that AI applications adhere to strict privacy standards.

Implementing strong cybersecurity measures and standards for AI systems is crucial to protect against potential threats and ensure the integrity of data. Regular audits and assessments of AI systems can help identify and address security vulnerabilities.

To protect existing careers, Pennsylvania can invest in reskilling and upskilling programs, preparing the workforce for the changing demands of the job market. Collaborations between industries and educational institutions can facilitate the development of training programs tailored to the evolving needs of AI-related professions.

Additionally, fostering a culture of responsible innovation through industry guidelines, ethical standards, and public-private partnerships will promote the development of AI technologies that prioritize societal benefits and minimize negative impacts.

By striking a balance between innovation and regulation, Pennsylvania can create an environment where AI can thrive while concurrently safeguarding privacy, security, and the well-being of its workforce.

Random fun question to highlight the broad intelligence of ChatGPT.

Ex. PROMPT: “I live in Central PA and would like to start a tomato garden. Which tomatoes should I plant, and when should I begin to plant them?”

In central Pennsylvania, consider planting tomato varieties like Early Girl, Celebrity, or Big Beef, as they tend to perform well in the region. For optimal results, start seeds indoors 6-8 weeks before the last expected frost date, which is typically around mid to late May in central PA. This means you can begin planting tomato seeds indoors in late March to early April. Transplant the seedlings outdoors after the last frost when the soil has warmed up. Ensure your chosen location receives ample sunlight and consider using well-draining soil. Regular watering and appropriate support for the plants will contribute to a successful tomato garden. Happy gardening!

Conclusion

PROMPT: Now that you have introduced yourself to Representatives, entertained their questions, and shared what AI may hold for PA’s future can you prepare some closing remarks to summarize your testimony and what was learned about AI and AI’s potential? Respond in a manner that if dictated would require less than 1 minute.

In conclusion, esteemed Representatives, I appreciate the opportunity to discuss the future of AI in Pennsylvania. We've explored the potential for economic growth, workforce development, and ethical considerations. By fostering innovation, investing in education, and implementing responsible regulations, Pennsylvania can position itself as a leader in the responsible integration of AI. Balancing the benefits of AI with privacy, security, and workforce protection is key to ensuring a prosperous and inclusive future for all residents. I thank you for your time and look forward to continued collaboration on this critical matter.

Charles Palmer, Associate Professor and Program Lead of Interactive Media, Harrisburg University of Science and Technology

[Introduction]

Good morning, members of the committee, and distinguished guests. I'm Charles Palmer, the program chair of Interactive Media at Harrisburg University and PhD candidate in Data Science. For the past 18-months I've been experimenting, studying, and applying various AI tools to my research, administrative tasks, and teaching duties. I am here today to share insights into the rapidly evolving field of generative artificial intelligence, that is artificial intelligence that creates. This cutting-edge technology has the unparalleled capability to create new, original content—including text, imagery, audio, and video—that has never been seen before. This technology heralds a new era where machines exhibit skills once thought uniquely human, challenging our understanding of ownership, creativity, and innovation across a wide range of human endeavors.

[Significance of Generative AI]

The significance of generative AI (*Gen AI*) in our contemporary world cannot be overstated. It stands at the cusp of revolutionizing how we conceive, create, and interact with digital content. By mimicking human-like creativity, generative AI not only expands the boundaries of art and expression but also offers novel solutions to complex problems across all industries—everything from entertainment to healthcare. These tools have substantial societal impacts centered around their ability to do mathematics, summarization, and comprehension of information.

[How Generative AI Works]

At its core, generative AI operates by analyzing vast datasets, learning from them, and then applying these learned patterns to generate new content. For instance, GPT-4, the premiere large language model, was trained on 1 Petabyte of data, or 1/20th of the information stored in the Library of Congress. This training process involves sophisticated algorithms that can discern and replicate complex patterns, structures, and even styles found within the data it has been trained on. It's a process similar to a highly skilled artist who can produce new works after studying countless others, yet it's done at a scale and speed beyond human capability.

[Key Advancements and Applications]

Recent advancements in generative AI have not only enhanced the quality and realism of the content it generates but also demonstrated its remarkable capabilities across various domains. Notably, GPT-4 scored in the 90th percentile on the Bar exam, an impressive achievement that underscores its potential in understanding and generating legal discourse. Furthermore, its performance in the 93rd percentile on the SAT and its success in passing all three parts of the medical licensing exam highlight its versatility and ability to grasp complex subject matter across disciplines. These achievements not only showcase the profound capabilities of generative AI in mimicking and mastering human-like understanding but also raise important questions about its role in education and professional fields.

In the realm of art and creativity, a particularly notable moment occurred in 2022, when a piece of art created by generative AI, designed in the Midjourney program, won a contest for emerging digital artists. This victory marked a watershed moment, showcasing the technology's potential to create visually compelling artwork that resonates with human judges. It ignited a fierce debate within the artistic community about the nature of creativity and the significance of human versus machine-generated art.

Together, these developments illustrate the broad and deep impact of generative AI, challenging our traditional perceptions of creativity, expertise, and the potential for machines to complement or even excel in tasks once considered uniquely human.

[Ethical Considerations and Challenges]

This brings us to the ethical considerations and challenges that accompany the proliferation of generative AI. As we navigate its potential, we must also confront the implications of its misuse, the risk of bias within its algorithms, and the profound impact it may have on jobs and the integrity of creative industries. A case in point is the recent use of a deepfake audio deployed to influence the New Hampshire primary. This incident, reported by the Associated Press, starkly illustrates the potential for generative AI to be used in disinformation campaigns, undermining the democratic process and public trust.

The backlash from the art contest, where generative AI art won against human artists, was a reminder of the tensions that arise as AI integrates into traditionally human domains. However, the misuse of generative AI in political contexts elevates these concerns to a matter of national and global importance, highlighting the urgent need for robust ethical guidelines and regulatory frameworks to govern the development and deployment of these technologies. Moreover, as generative AI continues to evolve, so must our ethical frameworks. Unlike past technological advances, AI's growth necessitates a parallel evolution of ethical standards to address newly emerging capabilities and applications. It's essential for society to actively promote the development of these standards, ensuring AI's growth is managed responsibly and sustainably.

[Future Outlook and Preparation]

Looking ahead, the trajectory of generative AI is both promising and fraught with challenges. In the next 5 to 10 years, we can expect further advancements that will push the boundaries of what's possible, integrating AI more deeply into our daily lives and industries. Yet, incidents of misinformation, plagiarism, and copyright infringement underscore the imperative for a prepared and proactive approach to the ethical, legal, and societal implications of AI.

[Preparation and Policy Recommendations]

To navigate this future responsibly, policymakers, businesses, and the public must unite to foster a regulatory environment that encourages innovation while safeguarding against misuse. The misuse of generative AI underscores the pressing need for education, policy, and ethical considerations that anticipate and mitigate the risks associated with these powerful technologies. Education will play a critical role in preparing our workforce for the changes ahead, ensuring that individuals can thrive alongside increasingly capable AI systems. Ethical considerations, too, must be at the forefront of our minds, guiding the development and deployment of generative AI in a manner that respects human dignity, creativity, and the foundations of our democratic institutions.

[Conclusion]

In conclusion, while generative AI stands as a testament to human ingenuity, offering new ways to complex problems, it also challenges us to reflect deeply on the essence of creativity, the value of human versus machine-generated contributions, and the integrity of our public discourse. Recognizing that developing responsible AI necessitates a thorough understanding of the possible issues, limitations, or unintended consequences, we are reminded of the importance of proceeding with caution and conscientiousness. As we stand on the brink of this new era, let us commit to harnessing the potential of generative AI responsibly, ethically, and inclusively, ensuring that its benefits are realized while its challenges are thoughtfully addressed. Thank you.

Navigating the Future of AI

Margaret Durkin, TechNet

February 7, 2024

- TechNet is a national, bipartisan network of technology CEOs and senior executives that promotes the growth of the innovation economy.
- Overall, what are other states doing to facilitate responsible use of AI in order to ensure public trust?
 - Executive Orders from other states in the Mid-Atlantic region.
 - Objectives within the orders.
 - Legislation
 - Introduced Legislation of Note within the Mid-Atlantic region.
 - Multi-state legislative working group to gain a deeper understanding of artificial intelligence and discuss ways to regulate the technology.



How governments and companies should advance trusted AI

By Arvind Krishna,
Chairman and Chief Executive Officer, IBM

September 13, 2023

AI is a profound opportunity. The stakes are high. AI is projected to enhance human productivity and unlock an astounding \$16 trillion in value by 2030. Not only will this fuel economic growth and boost GDP, but it will also offer a competitive edge to individuals and organizations who effectively leverage its capabilities. AI could also help address some of our most pressing challenges, whether it's pioneering drug discovery, improving manufacturing and food production, or confronting climate change.

But, as with any other powerful technology, AI comes with the potential for both misuse and risk. If AI is not deployed responsibly, it could have real-world consequences - especially in sensitive, safety-critical areas. This is a serious challenge we must overcome, and it is precisely why **we urge policymakers to enact smart regulation now**. At IBM, we believe smart regulation should be based on three core tenets:

#1 Regulate AI risk, not AI algorithms

We should regulate high-risk uses of AI. Not all uses of AI carry the same level of risk. While some might seem harmless, others can have far-reaching consequences, such as propagating misinformation, introducing bias into lending decisions, or compromising election integrity. Because each AI application is unique, we strongly believe that regulation must account for the context in which AI is deployed and must ensure that the high-risk uses of AI are regulated more closely. This kind of smart, precision regulation works. There is a successful precedent. In semiconductors, we have never licensed the invention of new chips. Instead, we regulate

when, where, and how those products are used. This helps promote both innovation and accountability. The same can be done with AI.

#2 Make AI creators and deployers accountable, not immune to liability

We should hold those who create and deploy AI accountable. While governments play an important role, others must also bear a responsibility. Legislation should consider the different roles of AI creators and deployers and hold them accountable in the context in which they develop or deploy AI. For example, companies using AI for employment decision-making cannot claim immunity from employment discrimination charges. Similarly, if a software developer creates a financial algorithm that promotes fraudulent activities, they should be held liable for the potential harm it may cause. Let's learn from past mistakes with emerging technologies. Broad exclusion from legal liability for social media platforms stands as a cautionary tale; we cannot create another broad shield against legal liability, irrespective of reasonable care. It is essential to find the right balance between innovation and accountability.

#3 Support open AI innovation, not an AI licensing regime

We should not create a licensing regime for AI. An AI licensing regime would be a serious blow to open innovation and risks creating a form of regulatory capture. This would inadvertently increase costs, hinder



innovation, disadvantage smaller players and open-source developers, and cement the market power of a few players. Instead, AI should be built by and for the many, not the few. To that end, a vibrant open AI ecosystem is good for competition, innovation, skilling, and security. It guarantees that AI models are shaped by many diverse, inclusive voices. Other governmental actions, such as funding AI research and development could further help foster an open AI innovation ecosystem.

Responsible AI at IBM

For over a century, IBM has been at the forefront of responsibly introducing groundbreaking technologies. This means we don't release technology to the public without fully understanding its consequences, providing essential guardrails, and ensuring proper accountability. Instead, we believe that addressing the repercussions of those innovations is just as important as the innovations themselves. Our commitment to trusted and accountable AI is evident in our approach to building and deploying AI models. AI models are essentially a representation of underlying data. That is why IBM has embraced a holistic approach with a platform that allows AI creators to deploy trusted and accountable AI. Our watsonx platform ensures governance at every level – from data ingestion to model development, deployment and monitoring throughout the entire AI lifecycle. This enables companies to deploy trusted, responsible, and accountable AI.

Balancing innovation with responsibility and trust

An AI rising tide can and should lift all boats. At IBM, we urge governments to adopt and implement consistent smart regulation that would allow business and society to reap the benefits of AI while addressing the potential for misuse and risk. IBM is ready and committed to play a pivotal role in bringing the power of responsible AI. We look forward to doing our part in building an AI future we can all trust.

