

OPENING STATEMENT
Ranking Member Daniel W. Lipinski (D-IL)
of the Subcommittee on Research and Technology

House Committee on Science, Space, and Technology
Subcommittee on Research and Technology
Subcommittee on Energy
Artificial Intelligence: With Great Power Comes Great Responsibility
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Thank you Chairwoman Comstock and Chairman Weber for holding this hearing to understand the current state of artificial intelligence technology. Because of the rapid development of computational power, the capacity of AI to perform new and more complicated tasks is quickly advancing.

Depending on who you ask, AI is the stuff dreams or nightmares. I believe it is definitely the former and I strongly fear that it could also be the latter. The science fiction fantasy worlds depicted on Hollywood's big and small screens alike capture our imaginations about what the world might be like if humans and highly intelligent robots shared the Earth. Today's hearing is an opportunity to begin to understand the real issues in AI, and to begin to move forward with informed, science-based policymaking. This is a hearing that we may remember years from now, hopefully as the bright beginning of a new era.

Current AI technologies touch a broad scope of industries and sectors, including manufacturing, transportation, energy, healthcare, and many others. As we will hear from the witnesses today, artificial intelligence can be classified as artificial general intelligence or artificial narrow intelligence. From my understanding, it is applications of the latter, such as machine learning, that are the underlying technologies that support some of the services and devices widely used by Americans today. These include virtual assistants, such as Siri and Alexa, translation services, such as Google Translate, and autonomous vehicle technologies. As the capabilities of AI improve, it will undoubtedly become a more essential part of our lives and our economy.

While technology developers and industry look forward to making great strides in AI, I want to make sure my colleagues and I here in Congress are asking the tough questions and carefully considering the most crucial roles that the federal government may have in shaping the future of AI. Federal investments in AI research are longstanding, and we must consider the appropriate balance and scope of federal involvement as we begin to better understand the various roles AI will play in our society. We are not starting from scratch in thinking about the appropriate role of the federal government in this arena. In 2016, the White House issued the *National Artificial Intelligence Research and Development Strategic Plan* that outlined seven priorities for federally-funded AI research. These included making long-term investments in AI; developing effective methods for human-AI collaboration; and addressing the ethical, legal, and societal implications of AI. Additional issues to address are safety and security, public datasets, standards, and workforce needs.

Earlier this year, the Government Accountability Office issued a technology assessment report, led by one of our witnesses, Dr. Persons, titled *Artificial Intelligence: Emerging Opportunities, Challenges, and Implications*. While noting significant potential for AI to improve many

industries, including finance, transportation, and cybersecurity, the report also noted areas where research is still needed, including how to optimally regulate AI, how to ensure the availability and use of high quality data, understanding AI's effects on employment and education, and the development of computational ethics to guide the decisions made by software.

These are all critical issues, but more and more I hear concern - and widely varying predictions - about AI's impact on jobs. AI has the potential to make some job functions safer and more efficient, but may replace others. We need to ask, what are the long-term projections for the job market as AI grows? In this context we need to ask, how well do our AI capabilities compare to those of other countries? What education, skills, and retraining will the workforce of the future need? These are very important questions as we think about ensuring a skilled workforce for the future that will help solidify U.S. leadership in AI as other countries vie for dominance in this field. If AI threatens some careers, it likely creates many others. We need to consider what Congress should do to shape this impact, make sure Americans are ready for it, and make sure the benefits of AI are distributed widely.

One other obvious issue of major concern when it comes to AI is ethics. There are many places where this becomes relevant. Currently we need to grapple with issues regarding the data that are being used to "educate" machines. Biased data will lead to biased results from seemingly "objective" machines. A little further down the line are many difficult questions being raised in science fiction about a world of humans and intelligent robots. These are questions we will likely be called on to deal with in Congress and we need to be ready.

I want to thank all of our witnesses for being here today and I look forward to hearing their testimony. I yield back.