September 22, 2023

The Honorable Bill Cassidy, M.D.
Ranking Member
Senate Committee on Health, Education, Labor, and Pensions
Washington, D.C.
via email

Dear Ranking Member Cassidy:

On behalf of the Software & Information Industry Association (SIIA), we write in response to the call for feedback in the white paper *Exploring Congress' Framework for the Future of AI*. We appreciate your leadership to learn more about the great potential of artificial intelligence (AI) while mitigating the risk. We look forward to working with you and your staff in the coming months to tackle these important topics.

By way of background, SIIA is the principal trade association for the software and digital information industries. Our members include over 450 companies reflecting the broad and diverse landscape of digital content providers and users in academic publishing, education technology, and financial information, along with creators of software and platforms used by millions worldwide. Our membership includes companies at the forefront of AI innovation and application. Among these are the nation's leading publishers and innovative developers of digital products and services for K-20 education, including digital instructional materials, education software and applications, online educational programs, professional development and related technologies, and services for use in education. These ed tech companies are helping to support teachers and instruction, improve student learning, carry out various administrative operations, and improve school productivity and educational performance. Our members are unified in their support for policy measures that promote responsible AI and a robust, accessible, and healthy digital ecosystem and information lifecycle.

Our comments on the white paper focus on education. In an era when "many priorities for improvements to teaching and learning are unmet,"[1] AI technologies hold vast promise to enhance a learner's educational experience, an educator's career, or a parent's involvement

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[1] U.S. Dept. of Ed., Office of Ed. Tech, "Artificial Intelligence and the Future of Teaching and Learning" (May 2023), at 1 (https://www2.ed.gov/documents/ai-report/ai-report.pdf).

with a child's educational journey.[2] For years, these technologies have helped develop personalized learning strategies and professional development, improved tutoring, and helped parents to engage more meaningfully in their child's educational experience. In the future, we believe that *AI will not replace teachers* but will put tools in their toolbox to allow more time to interact with students and to better address the individual needs of each student.

We are pleased to offer the following responses to a number of the questions outlined in the white paper.

Responses to Questions about AI and Education

- ***What should the federal role be in supporting AI in education? What should the state's role be in supporting AI in education? What should be the local role in supporting AI in education? Do these roles vary by the educational setting?***

SIIA has long called for an active U.S. government role to promote the responsible deployment of AI. Such practices will manage risk at the pre-deployment stage, government attention to developing use-based guardrails and tailored requirements for those AI systems that are likely to carry the highest risk to safety and rights, measures to advance AI innovation and improve government adoption, and robust public-private collaboration to address the challenges and opportunities of AI. States have been active in considering legislation that would mandate accountability measures for AI systems. AI is used in countless applications across the country and a patchwork of legal and policy frameworks will undermine public trust, suppress innovation, and hurt U.S. leadership on AI governance. Because of this, we strongly recommend that federal law preempt state law to avoid a patchwork of divergent requirements that will create uncertainty, compliance challenges, and confusion for consumers and industry alike.

We recognize, however, that the regulatory landscape in the education space is different. We believe upholding important federal legal frameworks like privacy, security, and civil rights will be important to the success of AI in education. Providing local and state officials with the tools and knowledge to deploy AI technologies for a learner's education in a way that is safe, equitable, and based on modern learning principles will be key to the success of the individual and the technology. Education-specific guidelines and policies are imperative to embrace new opportunities of AI and handle challenges that might not align within existing federal and state student privacy laws. SIIA believes that the successful

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[2] Some areas where you may see AI in the classroom include personalized learning tools, augmented and virtual reality, automated grading, or assessment and analytics.

deployment of AI technologies in education must be done in a way that builds up those that use it, protects innovation in the field, and addresses the risks associated with the development and use of these new tools.

- ***What are the best practices currently being used to ensure that AI systems are designed, developed, and deployed in a manner that protects people's rights and safety? (Education)***
- ***What role will AI standards, such as the National Institute of Standards and Technology AI Risk Management Framework, play in regulatory and self-regulatory efforts? (Labor)***
- ***What do policymakers need to know about the development of AI standards? (Labor)***
- ***How can policymakers work with AI developers and users to update and improve such standards as the technology develops? (Labor)***

Over the past few years, the federal government has given much thought to how to protect people's rights and safety in the design, development, and deployment of AI. While much of this guidance requires adaptation to apply to AI as used in educational settings, this work, supplemented with academic, civil society, and private sector efforts to build best practices for responsible AI, provides a strong foundation.

Chief among these is the AI Risk Management Framework (AI RMF) released by the National Institute of Standards and Technology (NIST) in January 2023 following a multi-stakeholder, expert driven, and transparent 18-month process. The NIST AI RMF reflects the most comprehensive framework by the U.S. government (and perhaps anywhere in the world) for identifying, assessing, and mitigating risks. The RMF, the NIST AI Roadmap, and other resources at NIST's Trustworthy & Responsible AI Center provide guidance on AI accountability measures. The value of these resources will only increase as NIST finalizes AI RMF Profiles based on key use cases.

In addition, the recent Blueprint for an AI Bill of Rights from the White House[3], voluntary commitments from industry, and the U.S. Department of Education's recent report, *Artificial Intelligence and the Future of Teaching and Learning*[4] all provide important pillars for industry and the education community. Specifically, the Department of Education emphasizes the

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[3] White House Office of Science and Technology Policy, "Blueprint for an AI Bill of Rights: Making Automated Systems Work for the American People" (Oct. 2022) (https://www.whitehouse.gov/wp-content/uploads/2022/10/Blueprint-for-an-AI-Bill-of-Rights.pdf).

[4] U.S. Dept. of Ed., Office of Ed. Tech, "Artificial Intelligence and the Future of Teaching and Learning" (May 2023), at 1 (https://www2.ed.gov/documents/ai-report/ai-report.pdf).

importance of the safety and security of people's rights in the education sector. The Department of Education also stresses the importance of keeping "humans in the loop" of the conversation of utilizing AI in education, by ensuring that responsible AI should include: 1) the protection of people's civil rights; 2) the protection, safety, and security of users' data; and 3) the protection of children's health and safety while using AI tools.

Also critical to the foundation of robust AI accountability policy and guidance is the work of international technical standards organizations. Standard 42001 (expected in August 2023) by Subcommittee 42 (SC 42) of Joint Technical Committee 1 of the International Organization for Standardization/International Electrotechnical Commission provides technical standards for the management of AI systems. SC 42 has served as a focal point for developing international technical standards for AI systems in the areas of accountability, data quality, and governance.

Lastly, we recommend attention to best practices that are being developed and improved in the private sector. We encourage the committee to use its unique convening power to convene experts from business, civil society, and academia to work towards best practices in AI accountability. We are pleased to see renewed engagement on this front. The development of a voluntary code of conduct could be a productive way to ensure that all entities in the private sector agree to baseline standards for AI accountability.

- ***How is AI already being used in the classroom? Are there any innovative models emerging?***

SIIA released a case study earlier this year focused on how Cambium Assessment, Inc. (CAI) empowers educators with innovative AI-based assessment solutions. Their use of state-of-the-art artificial intelligence, combined with human scoring, enables efficient and accurate evaluation of student writing. CAI deploys their models to work alongside human scoring; unusual or borderline responses are routed to human scorers for verification scoring, and random subsets of responses are routed to human scorers as a quality check. Their approach helps to ensure that all responses receive valid and reliable scores and that scores are returned quickly to educators for use in the classroom.[5]

SIIA is working on additional case studies on how AI is used in the classroom to be released October 2023. We will share these with the committee.

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[5] SIIA, "Empowering Educators with Innovative AI-Based Assessment Solutions: A Look into Cambium Assessment, Incorporated" (2023) (https://www.siia.net/cambium-assessment-casestudy/).

- ***How can we ensure that AI is used effectively and meaningfully in the classroom to support teachers and improve learning, rather than becoming another burdensome new tech for teachers to navigate?***

AI has been used in the educational space for several years. An article from the Center for Data Innovation explains how AI can be a resource in education:

> "Artificial intelligence (AI) has the potential to improve K-12 education in the United States. For students, AI can provide them a personalized learning experience tailored to their individual preferences and needs, immediate feedback on their work and answers to their questions, and increased access to tutoring and other educational materials. For teachers, it can help automate some of their workload, design better interventions, and reduce burnout. And for administrators, AI can monitor the student body and provide preemptive interventions with the help of predictive analytics."[6]

Furthermore, AI tools can assist in key aspects of education, such as tutoring, teaching methods, textbooks, and chatbot/digital assistance tools. AI has the potential to ease burdens of teachers by handling low-level classroom details, extend teacher assistance outside of school hours, and provide more fruitful professional development for educators.[7] The impact is likely to help reduce the digital divide. As described in a report curated by UNESCO,[8] "[t]he use of AI technologies…aim to provide every learner, wherever they are in the world, with access to high-quality, personalized, and ubiquitous lifelong learning."

Similarly, as explained in report[9] from McKinsey & Company: "The area with the biggest automation potential is one that teachers deal with before they even get to the classroom: preparation. Across the four countries we studied, teachers spend an average of 11 hours a week in preparation activities. We estimate that effective use of [AI] technology could cut the time to just six hours." This research from McKinsey further states that 20 to 40 percent of teachers' time could be saved by AI tools, thus leaving educators 13 hours per week in additional time. Which, in short, will "lead to higher student outcomes and higher teacher

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[6]Center for Data Innovation, "How AI Can Improve K-12 Education in the United States" (2022) (https://datainnovation.org/2022/04/how-ai-can-improve-k-12-education-in-the-united-states/).

[7] U.S. Dept. of Ed., Office of Ed. Tech, "Artificial Intelligence and the Future of Teaching and Learning" (May 2023), at 1 (https://www2.ed.gov/documents/ai-report/ai-report.pdf).

[8] UNESCO, "AI and education: Guidance for policy-makers" (2021) (https://unesdoc.unesco.org/ark:/48223/pf0000376709).

[9] Jake Bryant, et al., McKinsey & Company, "How artificial intelligence will impact K-12 teachers. (Jan. 14, 2020) (https://www.mckinsey.com/industries/education/our-insights/how-artificial-intelligence-will-impact-k-12-Teachers).

satisfaction." If implemented responsibly with well-versed policy, AI tools have the capability to enhance the educator experience.

- ***How is AI being used throughout school buildings or on post-secondary campuses? What areas are advocates hopeful AI can help in besides the classroom?***

The use of AI in schools can impact how teachers can enhance curriculum, as well as teaching methods, in the modern classroom. For example, the UNESCO report also states that "[m]any teacher-facing AI applications aim to help teachers reduce workloads by automating tasks such as assessment, plagiarism detection, administration and feedback." This is a critical function and one that should receive attention as part of a solution to address teacher shortages.

Further, AI tools can also assist with helping universities with many activities that could be considered "time-consuming." It can provide resources to help with numerous university tasks, such as online applications, chat-bots related to financial aid, and learning platforms for professors in the college classroom. For example, AI can be utilized to assist with attendance, answering questions, and marking completed assignments. Although this is just one piece of what can be accomplished through AI-based technology, in the field of ed tech, the possibilities are endless and remarkable.

- ***How can AI be used to promote school safety? Are there pilots in this area?***

AI is increasingly used to promote school safety. One example is GoGuardian's Beacon, a student safety solution that operates on school-issued technology. As a multi-class classifier machine learning model, Beacon analyzes students' browsing across search engines, social media, email, web apps, and more to identify online behaviors that could be indicative of suicide or self-harm. Beacon was built in collaboration with mental health professionals and suicide prevention experts, including the American Foundation for Suicide Prevention (AFSA), and the American Association of Suicidology (AAS).

- ***How does AI impact what students need to be taught? What are the skills students need to use AI responsibly and effectively? What are the components of next-generation digital literacy related to AI (e.g., algorithmic bias, ethics and academic integrity, asking critical questions/spotting deep fakes, etc.)?***

AI impacts what students need to be taught in two ways. First, schools must have resources sufficient to upskill and prepare qualified students to learn and understand AI. "Digital literacy" is critical for young people to coexist in a society in which AI will be incorporated into many aspects of their lives and careers. Educators and learners should be well-

prepared to engage in careers and learning experiences where uses of AI technology is the norm.

Second, AI will change the information landscape making it harder than ever for people to distinguish between true and false text, deepfake images and videos, and so forth. We recommend advancing "media literacy" as a regular component of the K-12 learning experience. Teaching skills to help students become astute purveyors of the rapidly changing information ecosystem and responsible digital citizens is one we think should be a bipartisan priority.

- ***How does AI impact how student learning is assessed?***

AI technology can lead to improved rollouts of formative assessments, as the tools can cater to each individual student and their "style" of learning and growth. Furthermore, the tools can assist teachers by reducing the workload of the time, effort and energy that is put into assessing student learning patterns, while also giving the teachers more time to cater to other needs and focus areas that the student may have.

For example, Edulastic's "Question Generator" enables educators to automatically generate questions tailored to a subject, standard, Depth of Knowledge, and difficulty level, which can be input in a variety of question formats and can be revised by teachers. The second is "Assisted Rubrics," which automatically generate rubrics for essay questions, recommend grades for rubric questions, and save teachers hours of time manually grading assessments with rubrics.

Nonetheless, it remains critical for AI tools to be properly vetted and reviewed to prevent any sort of discrimination. We support the Department of Education's recommendation that AI-assisted assessments are designed to reduce bias: "Bias and fairness are important issues in assessment design and administration, and they hold relevance for the area of AI-enabled assessment. In traditional assessment, test items might be biased if unnecessary details are included that differentially advantage some students (e.g., a story-based item that references a sport that only boys play regularly may be less helpful to girls). As discussed earlier, with AI, we now must worry about algorithmic discrimination which can arise due to the way AI algorithms are developed and improved from large datasets of parameters and values that may not represent all cohorts of learners.[10]" As AI continues to provide new opportunities to enhance student learning, tools and guardrails will help to ensure that educational equity exists across the board.

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[10] U.S. Dept. of Ed., Office of Ed. Tech, "Artificial Intelligence and the Future of Teaching and Learning" (May 2023), (https://www2.ed.gov/documents/ai-report/ai-report.pdf).

- ***What does refusal look like in a classroom? When can and should teachers decline advice/recommendations from an AI system? How should errors in AI's output be handled? How should teachers be trained to spot and correct these? Students?***

SIIA released a case study with Cambium Assessment, Inc.[11] and their AI-based assessment solutions. CAI provides resources and materials for educators and clients to understand: 1) how their AI models work; 2) how they are combined with human scoring; 3) what percentage of responses are scored by AI and by human scorers. The methods used for combining AI and human scoring are communicated with and approved by their clients. Any system changes are communicated to clients as well. Further, if an educator would like to refuse recommendations from the AI system, CAI provides options for their clients to to request re-scores if they disagree with the score assigned to a student response from an AI system.

- ***What are the demonstrable steps taken during the design process that give districts/teachers/parents confidence that the AI is fit for use?***

AI technologies used in education should strive for transparency to enable the school community to effectively understand and engage with the AI tools. Developers of AI in ed tech should provide the understanding of what AI tools are and what they do. This knowledge will empower learners, educators, and parents to have the ability to engage effectively with the AI tools directly. Ed tech providers, developers, and companies should enact procedures that include policies to incorporate transparency and responsible disclosure regarding AI systems used for a school community.

SIIA is working with the education technology industry to establish a set of principles for the use of AI in education. These principles will be a public statement by several leading education technology companies on how to responsibly build and deploy AI technologies in our educational system. These principles will be released in October 2023 and we look forward to discussing them further with the committee.

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[11]SIIA, "Empowering Educators with Innovative AI-Based Assessment Solutions: A Look into Cambium Assessment, Incorporated" (2023) (https://www.siia.net/cambium-assessment-casestudy/).

- ***How do foundational models that were not designed with children or the classroom in mind come into play here?***

We are likely to see increases in classroom use of applications that build on foundation models.[12] We recommend that AI applications that build on foundation models follow the same ethical principles for the use of AI in education that would apply to AI tools that do not build on foundation models, and to the extent that a classroom makes use of an off-the-shelf foundation model, such as ChatGPT, that such model is vetted in accordance with procedures for responsible adoption of AI.

- **How is data that is collected during the use of these programs in schools used by the AI?**

There is a huge diversity of AI tools so this question could have a variety of answers depending on the individual tool. One tool may, for example, utilize the usage data of the tool to continue to learn and improve the quality and accuracy of the tool's responses.

- ***How is personally identifiable information (PII) managed, stored, and used in accordance with FERPA?***

FERPA provides certain rights for parents and legal guardians regarding their child's education records. One of the original data minimization laws on the books in the U.S., FERPA has long established guardrails on how school officials, education technology vendors in some cases, may access, use, and protect student education records. AI tools, just like other educational technology products under contract with the schools, must ensure that student data and PII is protected under FERPA.

State level protections in the form of student privacy laws directly regulating education technology vendors establish frameworks that align with state and local education policies for data sharing, access, and protection. For example, Connecticut has a robust student privacy law that requires certain contractual language to protect student PII[13].

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[12] *See* Eliot Jones, Ada Lovelace Institute, "Explainer: What is a foundation model?" (July 23, 2023) (https://www.adalovelaceinstitute.org/resource/foundation-models-explainer/).

[13] Sara Kloek, "Student Data Privacy in the United States." In *Children's Privacy and Safety*, edited by Kalinda Raina, 1st ed., vol. 1, International Association of Privacy Professionals, (2022).

- **What protections are in place to keep AI from "learning" the wrong things?**

Beginning with good data sets that are balanced and of high quality from trusted sources will be key to AI "learning" the right things. Additionally, developers of these tools will need to follow good data hygiene and establish practices like creating technical guardrails through practices such as a human-in-the-loop approach, rigorous and thorough training and testing through multiple scenarios, evaluating and validating the performance of the model, and continued monitoring, auditing, and repeating responsible practices once the tool is deployed are good practices to ensure AI tools.

- ***How can policymakers and technologists work together to build trust in responsibly developed AI? What does responsible development look like?***

Policymakers can work with technologists and their customers to learn how the technologies are built by developers, used by educators, students, and parents, and understood by the broader community. Technologists can provide policymakers with materials to help understand how complex technologies are deployed in a responsible manner. Existing legal frameworks that protect privacy and civil rights are important to highlight as those provide the guardrails for the deployment of these technologies.

SIIA is working with the education technology industry to establish a set of principles for the use of AI in education. These principles will be a public statement by several leading education technology companies on how to responsibly build and deploy AI technologies in our educational system. These principles will be released in October 2023 and we look forward to discussing them further with the committee.

Responses to Questions about AI in Health Care

- ***How can Congress help FDA ensure that it has access to the expertise required to review products that are developed using AI or that incorporate AI?***
- ***How can FDA harness external expertise to support review of products that are developed using AI or that incorporate AI?***

The FDA approach to medical devices that incorporate AI/ML technology provides a good example of an approach to sector-based regulation of high-risk AI that could be a useful template for addressing high-risk AI in other sectors. As to ways to improve the FDA approach, we agree that access to expertise is critical and could be a potential limitation in the ability of the FDA to maintain appropriate oversight over AI-based medical devices.

Part of the solution is to support the development of a government-wide hub to assist agencies in carrying out oversight and regulatory activities relating to high-risk AI. Under this "hub-and-spokes" model, it would be the agencies who lead in determining the appropriate oversight needs for high-risk AI in their sectors, and a central hub to provide advice and supplement agency-based experts as needed.

- ***What are the potential consequences of regulating AI in the United States if it remains unregulated in other countries?***

We anticipate that other countries will move forward with AI regulation and that by offering an innovation-enhancing approach to regulation, the United States can help shape the direction taken by other countries.

It is likely that the European Union will finalize the AI Act by the end of 2023 or sometime in 2024. The AI Act will likely include onerous regulatory requirements, including pre-market auditing and approval of AI systems that are considered presumptively "high-risk" by virtue of being used in designated sectors, regardless of their actual risk profile. There is, indeed, a possibility that the EU AI Act could serve as a model for other nations, much as the GDPR has. The United States can provide an important counterweight for what a democratic model of AI regulation should look like.

Responses to Questions about AI in Labor

- ***What role will AI standards, such as the National Institute of Standards and Technology AI Risk Management Framework, play in regulatory and self-regulatory efforts?***
- ***What do policymakers need to know about the development of AI standards?***
- ***What do employers need to know about the development of AI standards?***
- ***How can policymakers work with AI developers and users to update and improve such standards as the technology develops?***

Please see pages 3-4 above for responses to these questions.

- ***Are the current technology-neutral federal anti-discrimination laws sufficient to prevent discrimination in the workplace?***

There is a rich legal framework in the United States that already provides a baseline for AI accountability for uses with a high-risk of discrimination. We have a wealth of sector-specific laws at the federal and state levels that bear on AI accountability even in the absence of a comprehensive federal privacy law. Title VII is technology-neutral, as is the

Fairness in Lending Act and other authorities. Employment discrimination and redlining remain illegal. Credit bureaus are required to maintain "maximum possible accuracy," and will be using AI to maintain it.

Nonetheless, the government will need both internal expertise and external cooperation to understand and guide the development and deployment of AI systems under existing law. And where the technology's use clearly presents a unique and unmistakable obstacle to longstanding policy goals, additional regulation may be appropriate.

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Thank you for your time and attention to our responses. If you have any questions, please reach out to either of us.

Respectfully submitted,

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Cc: The Honorable Bernie Sanders, Chair, Senate HELP Committee