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FINAL REPORT OF THE SENATE STUDY COMMITTEE ON ARTIFICIAL INTELLIGENCE (SR 476)

Committee Members

Senator John Albers, Chairman
District 56

Senator Max Burns
District 23

Senator Jason Esteves
District 6

Senator Sheikh Rahman
District 5

Senator Ed Setzler
District 37

Senator Shawn Still
District 48

Dr. Pascal Van Hentenryck
Georgia Institute of Technology

Ms. Robyn Crittenden
Deloitte

Mr. Frederic Miskawi
CGI

Prepared by the Senate Office of Policy and Legislative Analysis, 2024

TABLE OF CONTENTS

STUDY COMMITTEE CREATION, FOCUS, AND DUTIES

The Senate Study Committee on Artificial Intelligence was created by Senate Resolution 476 during the 2024 Legislative Session of the Georgia General Assembly.[1] The Study Committee was tasked with examining current and future uses of AI technologies in this state for the purpose of:

- Determining appropriate policies and procedures to implement in this state concerning the development, procurement, utilization, and ongoing assessment of systems that employ AI and are used by state agencies;
- Reviewing the potential impacts of AI technology on the workforce across major industries;
- Examining the potential misuse and unintended consequences of AI, particularly in the absence of ethical standards that seek to preserve the dignity and autonomy of individuals; and
- Exploring the best paths forward to promote responsible innovation, competition, and collaboration across public and private sectors in Georgia, ensuring that AI technology advances in a way that enforces existing consumer protection laws and principles for citizens of the state and enacting necessary additional safeguards against fraud, unintended bias, discrimination, infringements on privacy, and other potential harms.

Senator John Albers of the 56th served as Chair of the Study Committee. Other Senate members included Senators Max Burns of the 23rd; Jason Esteves of the 6th; Sheikh Rahman of the 5th; Ed Setzler of the 37th; and Shawn Still of the 48th. Additional members appointed to the Study Committee included Dr. Pascal Van Hentenryck, Director, Tech-AI, Georgia Institute of Technology and Director, NSF Artificial Intelligence Institute for Advances in Optimization; Ms. Robyn Crittenden, Managing Director, Deloitte; and Mr. Fred Miskawi, Vice President, AI Innovation Expert Services, CGI Global AI Enablement.

The following legislative staff members were assigned to the Study Committee: Emily Leonard, Senate Press Office; Hayley Williams, Senate Office of Policy and Legislative Analysis; William Spencer, Office of Senator John Albers; and Ben Huntington, Office of Legislative Counsel.

[1] S.R. 476, 157th Gen. Assemb., Reg. Sess. (Ga. 2024), https://www.legis.ga.gov/legislation/66281

BACKGROUND

Recognizing the significance and complexity of the task at hand, the Senate Study Committee on Artificial Intelligence created and utilized the following framework to ensure a comprehensive and objective approach to examining issues related to AI.

SR 476 – AI Study Committee Framework

Artificial Intelligence system' means an engineered or machine based system that emulates the capability of a person to receive audio, visual, text, or any other form of information and use the information received to emulate a human cognitive process, including, but not limited to, learning, generalizing, reasoning, planning, predicting, acting, or communicating; provided, however, that artificial intelligence systems may vary in the forms of information they can receive and in the human cognitive processes they can emulate.

Regulation and Ethics: Should Georgia establish regulations governing the development, deployment, and use of AI technologies to ensure ethical behavior, accountability, transparency, and fairness. This includes guidelines for AI bias, privacy protection, data security, deep fakes, elections, and algorithmic transparency. Define Artificial Intelligence.

Privacy and Data Protection: Georgia may need to enact policies to safeguard individual privacy and data protection in the age of AI. This includes regulations such completed in numerous states, countries, and the EU, which govern the collection, processing, and sharing of personal data.

Social Welfare and Equity: Should Georgia address the societal implications of AI, including its impact on inequality, social inclusion, and access to AI-driven services. This may involve policies to mitigate bias in AI algorithms, ensure equitable access to AI technologies, and address the digital divide.

Labor & Workforce	Research & Development	Public Safety	Healthcare	Transportation Infrastructure	Education	Economic Impact Innovation
Are needed to address the impact of AI on employment, workforce training, and education. This may involve programs for retraining displaced workers, promoting lifelong learning, and fostering the development of AI-related skills.	Should Georgia invest in AI research and development to drive innovation and maintain competitiveness. Funding may be allocated for basic research, applied research, and collaboration between academia, industry, and state and local agencies. Leverage #1 place for business and AI.	AI has implications for public safety (law enforcement, firefighting, Emergency Medical Services, 911 Dispatchers). Should Georgia develop policies related to AI-enabled military technologies, cybersecurity, gang activity, counterterrorism, and the ethical use of autonomous public safety systems.	Policies addressing the use of AI in healthcare including Medicaid, access to healthcare and medical diagnosis, treatment planning, drug discovery, and patient care. This includes AI-powered medical devices, and the ethical implications of AI in healthcare decision-making.	Should Georgia develop policies to regulate AI applications in transportation, including autonomous vehicles, traffic management, and smart infrastructure. This involves safety concerns, liability issues, and regulatory frameworks transportation systems, utility impacts, etc.	Policies in education to enhance educational outcomes, transform curriculum, aim to integrate AI into curricula, promote digital literacy, and prepare students for the AI-driven workforce. Initiatives to teach AI concepts, coding skills, and critical thinking about AI's societal impacts and teacher using AI in the classroom.	Policies to foster innovation and economic growth in AI-related industries. This may involve tax incentives for AI startups, support for technology transfer from research institutions to businesses, and measures to attract AI talent and investment, venture funding, creative arts, etc.

SUMMARY OF TESTIMONY AND DISCUSSION

MEETING ONE

Date: June 26, 2024
Location: Georgia State Capitol – Atlanta, GA
Topic: Introductory Meeting

Committee Members Present

Chair: J. Albers
Senators: M. Burns, J. Esteves, S. Rahman, E. Setzler, S. Still
Others: R. Crittenden, P. Van Hentenryck

Speakers & Presentations

Name/Agency	Topic(s)
Senate OPLA	Overview of Active Regulations, EU AI Act

Summary of Testimony

1. Hayley Williams (Director, Senate Office of Policy and Legislative Analysis)

Hayley Williams, Director of the Georgia Senate Office of Policy and Legislative Analysis, presented to the committee an overview of enacted state and federal AI regulations, along with the recently enacted the EU AI Act.

MEETING TWO

Date: July 17, 2024
Location: Georgia Tech University – Atlanta, GA
Topic: Higher Education, Societal Impact

Committee Members Present

Chair: J. Albers
Senators: M. Burns, J. Esteves, S. Rahman, E. Setzler, S. Still
Others: R. Crittenden, P. Van Hentenryck, F. Miskawi

Speakers & Presentations

Name/Agency	Topic(s)
Dr. Pascal Van Hentenryck, Georgia Institute of Technology	Trustworthy AI for Societal Impact – engineering, science, and education
Jeanette Taylor, University of Georgia	AI at UGA
Nicholas Creel, Georgia College & State University	Impact of AI on Higher Education; AI Bias

Summary of Testimony

1. Dr. Pascal Van Hentenryck (Georgia Institute of Technology)

Professor Van Hentenryck provided an overview of Georgia Tech's ongoing AI research and development efforts (See **Appendix A**). Georgia Tech produces the largest concentration of AI talent globally from a single institution and has contributed significantly to its development. Professor Van Hentenryck emphasized Georgia Tech's commitment to applying AI in real-world scenarios to find advanced and efficient solutions using this technology while maintaining its trustworthiness and integrity in practice.

Georgia Tech also offers informational workshops and courses to the community related to various aspects of AI, from the technology itself to its impact on our society.

Senator Setzler questioned the role of AI in primary and secondary education and the likelihood that it will deter children from learning fundamentals such as math. Professor Van Hentenryck suggested that integrating AI into instruction to contextualize the usefulness of math in the real world. Senator Esteves suggested that it may be time to revisit the current K-12 education system to determine whether certain basic aspects of subjects like math are necessary anymore, when it would likely be more productive to teach children to use the technology available to complete the same tasks and spend more time teaching more complex concepts. Professor Van Hentenryck emphasized that Georgia Tech's goal to make its AI coursework available to the entire public and provide direct training for teachers in K-12 schools.

Ms. Crittenden asked if Georgia Tech's work is shared among different institutions or if all institutions are studying independently. Professor Van Hentenryck spoke about collaborating with faculty at Clark Atlanta University to bring individuals to Georgia Tech for training, estimating that 45-50 people have been trained to date. He stated that the next goal is to make these resources available in a demonetized online setting.

2. Jeanette Taylor (University of Georgia)

Ms. Taylor gave an overview of UGA's history in the AI space, having formed its first AI-related research group in 1984 (See **Appendix B**). UGA began offering Bachelor's and Master's degrees in AI in the 1990s. In 2022, UGA began offering a PhD in AI. As of 2024, UGA is developing an AI + X Certificate program.

In 2021, UGA launched the Presidential Hiring Initiative on AI and Data Science to hire 50 faculty across multiple disciplines and have filled nearly all positions created for this effort. The primary goal is to perfect AI's application in agricultural processes, but addresses multiple areas of interest. Ms. Taylor provided examples of additional efforts by UGA including AI symposiums and coursework offered at the Center for Teaching and Learning.

Ms. Taylor went on to elaborate on the concept of active learning and UGA's Active Learning Initiative to integrate developing technology with traditional education methods to make the subject matter more relevant and engaging for students. Ms. Taylor also discussed UGA's current focus on developing recommendations for guidance and policies for AI as it relates to: AI literacy; teaching; research and graduate education; and security.

3. Nicholas Creel (Georgia College & State University)

Mr. Creel gave an overview of GCSU's AI related activity and policies (See **Appendix C**). He described AI as a workforce development issue and explained the many concerns and fears associated with it. Mr. Creel believes that while AI will inherently change the ways in which society functions, it will not replace the human element in the vast majority of scenarios. Rather, AI will contribute to a human's ability to perform tasks as efficiently and accurately as possible. Mr. Creel also explored the issues of bias in AI technology and its potential to result in discrimination.

MEETING THREE

Date: August 14, 2024
Location: Trilith Studios – Fayetteville, GA
Topic: Arts & Entertainment, Transportation

Committee Members Present

Chair: J. Albers
Senators: M. Burns, J. Esteves, S. Rahman, E. Setzler, S. Still
Others: R. Crittenden, P. Van Hentenryck, F. Miskawi

Speakers & Presentations

Name/Agency	Topic(s)
Frank Patterson, Trilith Studios	AI in Art & Entertainment
Julie Feagin, Filmbook Media and VIP Rights	Intellectual property, NIL rights
Alan Davis, GDOT	Transportation
Brandon Branham, Smart Cities	Transportation

Summary of Testimony

1. Frank Patterson (Trilith Studios)

Mr. Patterson spoke to the committee about his extensive experience with AI as it has developed over time, particularly in the film and entertainment industry. He shared his perspective on numerous common concerns regarding AI development, emphasizing the innovative potential of AI technology and the results it has already delivered. Mr. Patterson also spoke to Trilith's many uses of AI and efforts to constantly improve on the ethical use of AI technology.

2. Julie Feagin (CEO, Filmbook Media & VIP Rights)

Ms. Feagin spoke to the committee about AI and intellectual property issues. (See **Appendix D**.)

3. Alan Davis (GDOT)

Mr. Davis gave the committee an update on AI's applications in transportation and infrastructure in Georgia. He provided numerous examples of AI-powered technology that assists in traffic monitoring, collision detection and emergency alert capabilities, and similar uses, and shared insight into developments on the horizon. (See **Appendix E**.)

4. Brandon Branham (Smart Cities)

Mr. Branham spoke to the committee about the capabilities of AI in transportation at the local level (See **Appendix F**). The committee learned about smart cities and the AI-powered tools they use to improve efficiency in transportation and infrastructure. For example, "streets of the future" utilize robust systems of sensors and cameras to monitor, predict, and manage traffic patterns; autonomous vehicles provide alternative public transportation options; connected infrastructure enables direct communication between vehicles; and technology such as website chatbots and automated ticketing systems provide service enhancements for the public.

MEETING FOUR

Date: September 12, 2024
Location: Georgia Cyber Center – Augusta, GA
Topic: Cybersecurity, Data Privacy

Committee Members Present

Chair: J. Albers
Senators: M. Burns, J. Esteves (Zoom), S. Rahman, E. Setzler (Zoom), S. Still
Others: R. Crittenden, P. Van Hentenryck, F. Miskawi

Speakers & Presentations

Name/Agency	Topic(s)

Renzo Soto, TechNet	Data privacy, cybersecurity
Ernesto Cortez, Booz Allen Hamilton	Data privacy
Steven D. Rehn, Ft. Eisenhower	Cybersecurity
Jake Denton, Heritage Foundation	Data privacy

Summary of Testimony

1. Renzo Soto (TechNet)

Mr. Soto addressed the committee on behalf of TechNet (See **Appendix G**). TechNet operates the AI for America initiative to educate the public about AI. The initiative combines coalition building, advocacy, social media, and traditional media to showcase the economic and societal benefits of AI.

This state has already experienced the impact of these rapidly expanding technologies. In 2023, Georgia was ranked among the top 10 states for net technology employment, net technology job gains, and job postings for technology openings. When regulating AI technology that may affect the development and accessibility of these tools, TechNet urges policymakers to ensure that data privacy and cybersecurity proposals are interoperable.

2. Ernesto Cortez (Booz Allen Hamilton)

Mr. Cortez spoke to the committee about various AI-enabled tools to mask and protect private information and ensure safe data processing. There are significant resources available for private and public entities; collaboration and partnerships among stakeholders are vital to ensure safe and ethical AI use in the future.

3. Steven D. Rehn (Director, Technical Warfare Center / Chief Technology Officer)

Mr. Rehn spoke to the committee about the Army's efforts to use AI, describing it as a technology that can take lives in battle as well as ensure success in the defense space. There are common challenges related to AI in the defense space as well as the public and private sectors.

4. Jake Denton (Heritage Foundation)

Mr. Denton addressed the committee on behalf of the Heritage Foundation. (See **Appendix H**). To rectify the current imbalance in data privacy and safeguard the rights of Georgia's citizens while maintaining Georgia's thriving business environment, the Heritage Foundation urges a comprehensive data privacy legislative framework. The cornerstone of this framework should be the mandate for transparent, accessible, and easily understandable disclosures about data practices. A fundamental aspect of data privacy protection is the empowerment of consumers through the right to access, delete, or correct personal data that has been collected or in some cases, inferred. This allows individuals to maintain control over their digital footprint. In addition to individual rights, legislation should also address the broader issue of data collection practices. To bolster compliance and responsiveness, a robust complaint process should be implemented to allow consumers to report violations directly to an oversight body for investigation.

MEETING FIVE

Date: October 2, 2024
Location: Virtual
Topic: K-12 Education, International AI Impacts

Committee Members Present

Chair: J. Albers
Senators: M. Burns, J. Esteves, S. Rahman, E. Setzler, S. Still

Others: R. Crittenden, P. Van Hentenryck, F. Miskawi

Speakers & Presentations

Name/Agency	Topic(s)
Dr. Kristen DiCerbo, Khan Academy	K-12 education
Daniel Hales, Future of Privacy	Impacts of AI in K-12 education
April Aldridge, GaDOE	AI and K-12 education in Georgia
Fred Miskawi, CGI	Global perspective
Bianca-Loana Marcu, Future of Privacy	Global privacy

Summary of Testimony

1. Dr. Kristen DiCerbo (Chief Learning Officer, Khan Academy)

Dr. DiCerbo testified to the committee about the use of AI in K-12 education. (See **Appendix I**). Students learn more when they are actively engaged, work on material they can complete within their own abilities with a little support, get immediate feedback on their responses to new material, and see the value in what they are learning. AI enabled tools have proven to be effective ways to accomplish each of these. The committee saw several examples of AI-powered education resources offered by Khan Academy which enhance both learning and teaching experiences. Most students want to receive education on technologies using AI and policies for acceptably using it in the classroom, while most teachers feel as if their school systems do not have clear policies regarding AI in education. It is imperative to promote AI literacy, foster AI leadership, provide funding for professional development, support innovation, and provide schools with guidance on the responsible uses of AI.

2. Daniel Hales (Policy Fellow, Youth & Education, Future of Privacy Forum)

Mr. Hales spoke to regional and national trends of AI in K-12 education (See **Appendix J**). Algorithms, analytics, and artificial intelligence ("AI") have been used in a large majority of K-12 instructional systems for over a decade. Examples of pre-existing "predictive" AI tools such as student lunch biometric payment processing systems, adaptive learning assessments, and early warning systems.

Generative artificial intelligence ("Gen AI") is a recent development -focusing on creating new text, code, image, video and audio content. This emerged in 2022-2023 with the rise of generative pretrained transformers ("GPTs"). Initial concerns and hesitations about Gen AI were related to plagiarism and cheating, while they have since shifted to how can these tools be used safely and securely. The committee heard the importance of ethical and legal guiderails for AI use in K-12 education, and how they have been addressed so far. There are 22 states with published guidance on AI use in K-12 schools.

The following key takeaways were offered on current State AI guidance:

- Some states do not have formal AI guidance for K-12 use, but have instead compiled related resources.
- Most states with AI in K-12 guidance acknowledge data privacy as a risk of AI use.
- Few states have concrete, specific guidance and recommendations for addressing and mitigating data privacy risks of AI use; most offer high-level or vague guidance on the importance of data privacy generally.
- Most states urge vetting ai systems for compliance with existing state and federal privacy laws and local regulations.
- Most states recommend updating existing policies with AI language as opposed to creating new policies.
- Most state data privacy guidance is superficial.

3. April Aldridge (Deputy Superintendent, Teaching & Learning, Georgia Department of Education)
Ms. Aldridge spoke to GaDOE's perspective on AI in K-12 education in Georgia (See **Appendix K**).

4. Fred Miskawi (Vice President, AI Innovation Expert Services, CGI Global AI Enablement)
Mr. Miskawi testified on AI's impact on a global scale (See **Appendix L**). Responsible use of AI is not only an ethical necessity, but also a business imperative. Enabling responsible AI use requires the use of guardrails, not roadblocks; these include defined principles, governance, and operationalization to ensure trusted outcomes. Mr. Miskawi also shared with the committee about the EU AI Pact, an innovative framework and network for frontrunners to directly engage with the EU & AI Office, set up by the EU to share best practices and shape AI Act Implementation. He presented numerous AI solutions seen in practice currently.

5. Bianca-Loana Marcu (Deputy Director, Global Privacy, Future of Privacy Forum)
Ms. Marcu testified to the committee about AI and global privacy matters (See **Appendix M**). The committee heard an update on the EU AI Act and a new overview of its risk-based approach to regulating AI, along with recent and emerging actions to regulate AI in Asia Pacific, Latin America, and Africa.

MEETING SIX

Date: October 23, 2024
Location: UGA Iron Horse Plant Sciences Farm – Watkinsville, GA
Topic: Agriculture, Workforce

Committee Members Present

Chair: J. Albers
Senators: M. Burns, J. Esteves, S. Rahman, E. Setzler, S. Still
Others: R. Crittenden, P. Van Hentenryck, F. Miskawi

Speakers & Presentations

Name/Agency	Topic(s)
Commissioner Tyler Harper, Georgia Department of Agriculture	AI in Agriculture
Eric Elsner, Iron Horse Farm	Integrative Precision Agriculture
Dr. Leo Bastos, University of Georgia	Impact of AI in Agriculture
Lloyd Avram, Stephanie Scearce and Scott Burkey, Georgia Association of Manufacturers	AI in Manufacturing
Calvin Lawrence, IBM	AI Workforce Implications

Summary of Testimony

1. Commissioner Tyler Harper (Georgia Department of Agriculture)
Commissioner Harper gave an overview of the broad application of AI in the agriculture industry and shared his concerns regarding the future of the agriculture industry in America and specifically in Georgia. He shared that the agriculture trade deficit is the highest it has ever been. Commissioner Harper asserted that agriculture is vital to the foundation for national security and economic success. He shared statistics regarding the rapidly decreasing population of farmers in Georgia. Chairman Albers inquired about the reasons for that decrease and why more family farms aren't adopting new technology to increase efficiency. Commissioner Harper explained that most often it is a decision based entirely on cost. He suggested

exploring financial incentives for family farms to invest in this technology. Rep. Brad Thomas asked about the logistical efficiency of transporting food from farm to table. Commissioner Harper explained the common practices currently in place and explained how they could be improved with the use of AI, from harvesting to transporting.

2. Eric Elsner (Iron Horse Farm)

Mr. Elsner shared with the committee his perspective on AI in Agriculture through his experiences at Iron Horse. He shared specifically about integrative precision agriculture and numerous benefits of AI enabled agricultural processes.

3. Dr. Leo Bastos (University of Georgia)

Dr. Bastos began with an overview of artificial intelligence and the development of its various applications in Georgia's agriculture industry (see **Appendix N**) and provided examples of its practical applications:

- Plants: AI can assist in phenotyping and ensure efficient variety development by using drones to measure plant heights faster than traditional methods and collecting imagery autonomously each time plants are measured in the field.
- Fields: Instead of applying fertilizer equally across an entire property, AI-powered fertilizer distribution systems use satellite imagery to prevent overspending on fertilizer in areas that may need less than other areas. AI can recommend input rates that optimize a farmer's profitably while protecting the environment.
- Regions: Programs can train AI to use data collected from across the state to identify which areas would yield the greatest return for particular crops, when to plant, which varieties to grow, and where production can be improved.
- People: Farmers carry higher than average levels of stress and has a higher rate of suicide than comparable professions in Georgia. AI can be used to predict higher concentrations of stress levels among rural areas and farming communities in Georgia based on various social indicators (excessive drinking, ER visits, etc.), input and crop prices, and weather. This data can be used to help predict the need for different types of assistance in those communities.

4. Lloyd Avram, Stephanie Scearce and Scott Burkey (Georgia Association of Manufacturers)

Representatives from GAM spoke to the impact of AI on manufacturing in Georgia. (See **Appendix O**.)

Relative to other industries, AI technology appeared in the manufacturing industry very early on in its development. The top 5 uses of AI in manufacturing include:

1. Operational efficiency,
2. Worker safety;
3. Product development and design;
4. Employee training; and
5. Supply chain optimization.

The speed of adopting AI technology is often constrained by a manufacturer's digital maturity: the company's ability to integrate digital and physical worlds. Integration is accelerated through the skill and intelligence of humans working in manufacturing – "smart workers."

Manufacturing is the fifth largest sector employer in Georgia and is expected to grow another 10 percent in Georgia between 2023-2028. However, availability of unemployed manufacturing workers has decreased by over 30 percent since January 2018. In 2023, Georgia experienced a 56 percent turnover rate in the state's manufacturing industry. A quarter of Georgia's current manufacturing workforce will become eligible to retire over the next several years.

The committee heard an anecdote about an actual employer in the State of Georgia and how the employer attempted to improve recruitment and retention. The employer increased wages by 22 percent, boosted

other benefits, and created additional financial incentives. The employer was still unable to meet its labor needs from Georgia's workforce and as a result will offshore up to 7 percent of its production.

5. Calvin Lawrence (IBM)

Representatives from IBM spoke to the committee about various capabilities that AI addresses in agriculture today, as well as the practical impacts of AI on the workforce. (See **Appendix P**.)

AI in Agriculture

The committee heard about the functions of AI in agriculture, including a closer look at AI's contributions to precision farming; crop monitoring and disease detection; yield prediction and optimization; livestock management; and labor shortages and efficiency.

Precision Farming: AI and automation help farmers manage crops more efficiently by giving real-time data about soil, weather, and crop health. This improves how farmers use resources like water and fertilizer, which reduces waste and boosts production.

Crop Monitoring & Disease Detection: AI-powered systems use drones, sensors, and satellite images to monitor crops. They detect diseases and nutrient issues early, allowing farmers to act quickly and reduce the need for heavy pesticide use.

Yield Prediction & Optimization: Machine learning uses data from past seasons, like weather and soil conditions, to predict how much crop farmers can expect. This helps farmers plan better and make informed decisions about planting and harvesting.

Livestock Management: AI tools track animals' health using sensors and wearable devices. This can detect diseases early, monitor feeding needs, and even track breeding cycles, which leads to healthier animals and higher productivity.

Labor Shortages & Efficiency: Robots and autonomous vehicles can help address labor shortages by performing tasks like harvesting and spraying. This increases farm efficiency and reduces the need for manual labor.

Examples of actual use cases examined AI's ability to address specific agricultural needs, including precision pesticide use, predictive models for peach ripening based on weather and bloom data, and AI-powered research assistants to sift through trial and lab data and provide insight to diagnosticians.

AI in Workforce Development

The committee also learned about IBM's efforts to address the need to educate, reskill, and upskill workers. It is estimated that 60 percent of workers will require additional training of some sort by 2027. IBM has created platforms like IBM SkillsBuild, which offers free online training courses in areas such as AI, cybersecurity, and cloud computing. IBM has partnered with educational institutions and organizations to help thousands of individuals develop skills needed for AI-driven careers. Another example is IBM's Apprenticeship Program, which provides an opportunity for "new collar" workers to hone in on the unique knowledge they obtain through skilled and other hands-on experience without completing a traditional degree program.

MEETING SEVEN

Date: November 8, 2024
Location: Georgia State Capitol – Atlanta, GA
Topic: Healthcare, Public Safety

Committee Members Present

Chair: J. Albers **Senators**: M. Burns, J. Esteves (Zoom), S. Rahman (Zoom), E. Setzler, S. Still **Others**: R. Crittenden, P. Van Hentenryck (Zoom), F. Miskawi

Speakers & Presentations

Name/Agency	Topic(s)
Dr. Alistair Erskine, Emory Healthcare	Practical AI in Healthcare
Dr. D. Douglas Miller, Augusta University	AI Enhanced Education for Georgia's Healthcare Workforce
Maria Saab and Brad Dispensa, Amazon Web Services	Justice & Public Safety
John Chiaramonte, Mission Critical Partners	Using AI to Enhance Public Safety and Emergency Response Outcomes
Gabe Grab, Deloitte	Healthcare Use Cases, Trustworthy AI

Summary of Testimony

1. Dr. Alistair Erskine (Chief Information and Digital Officer, Emory Healthcare and Vice President for Digital Health, Emory University)

Dr. Erskine spoke to the committee about practical AI uses within the Emory Healthcare System (See **Appendix Q**). AI technology has helped drive improvements in the patient experience and increase efficiency for care teams. Emory is developing a new app, myEmory, which works alongside Epic MyChart to add features like wayfinding, virtual urgent care, self-triage, provider locations, and conversational AI services. For example, Hyro Conversational AI is a platform that offers patients a plain language interface to complete tasks such as scheduling appointments and providing general healthcare guidance 24/7.

The committee also learned of AI technology supporting care teams. For example, Emory has deployed a software called Abridge within Epic Haiku which provides for ambient listening for all outpatient providers. This can significantly expedite the charting and conversion timeline for providers. Another example includes the VirtuSense AI Camera, which can monitor patient movements inside a room and alert the care team if a patient is at risk of falling out of bed based on their position. These technologies do not collect personally identifiable information, but patients have the option to opt out of those services entirely upon admission.

Dr. Erskine also gave an overview of Emory's approach to AI governance and shared information about nearly 100 generative AI use cases gathered, with more in development. These AI-powered services have been shown to improve nursing standards, provide quick references to policies and procedures, improve turnaround for infection preventionists, predict significant healthcare events, and more.

2. Dr. D. Douglas Miller (Professor, Augusta University Medical College of Georgia)

Dr. Miller testified to the committee about his experience with adapting to the emergence of AI-powered technology in the medical field, particularly for educators in the healthcare field (See **Appendix R**). This technology is extremely prevalent in the field for many uses; most patient care systems utilize AI automation of some sort, and surveys show that around 20 percent of providers use ChatGPT in their professional lives and nearly a third use it in their personal lives. However, it is important to educate providers on the ethical use of AI technology because the quality and accuracy of AI's outputs are determined by the accuracy and objectiveness of a provider's input. Providers have ethical responsibilities to: lend knowledge domain expertise to guide computer scientists' model design; have sufficient AI literacy to explain "black box" predictive models to patients; be aware of data provenance and the idea that quality impacts model scalability and reproducibility; and get involved in data inputting and quality assurance.

3. Maria Saab and Brad Dispensa (Amazon Web Services)

Representatives testified on behalf of Amazon Web Services, beginning with an overview of AI generally and its uses across all sectors and industries (See **Appendix S**). Mr. Dispensa, AWS Security Specialist, went into detail regarding the implications of AI on public safety. The committee heard about developments such as non-emergency call diversion chatbots, which have helped to address staffing shortages in 911 centers by automating non-emergency calls; AI platforms to alert citizens of public emergencies, improve case management, improve safety and compliance, and improve cybersecurity. Amazon supports the idea that AI regulation should be risk-based and assigned to the appropriate actor(s) based on their role(s) in the development and use of the AI.

4. John Chiaramonte (President, Consulting Services, Mission Critical Partners)

John Chiaramonte presented on his expertise in the use of AI in emergency response systems (See **Appendix T**).

The committee heard about today's top trending AI use cases in public safety, including:

- 911 & Emergency Communications Centers: Non-emergency call diversion, transcription, translation, and quality assurance.
- Predictive Response: Using historical data to identify potential hotspots to stage EMS + paramedics.
- Video Monitoring and Anomaly Detection: AI-enabled cameras can detect events such as crashes and wildfires to alert responders.
- Report Writing: AI-assisted report generation reduces the administrative burden on responders to document incidents.

Within the next 3-5 years, experts expect the prevalence of AI tools in public safety to expand even further:

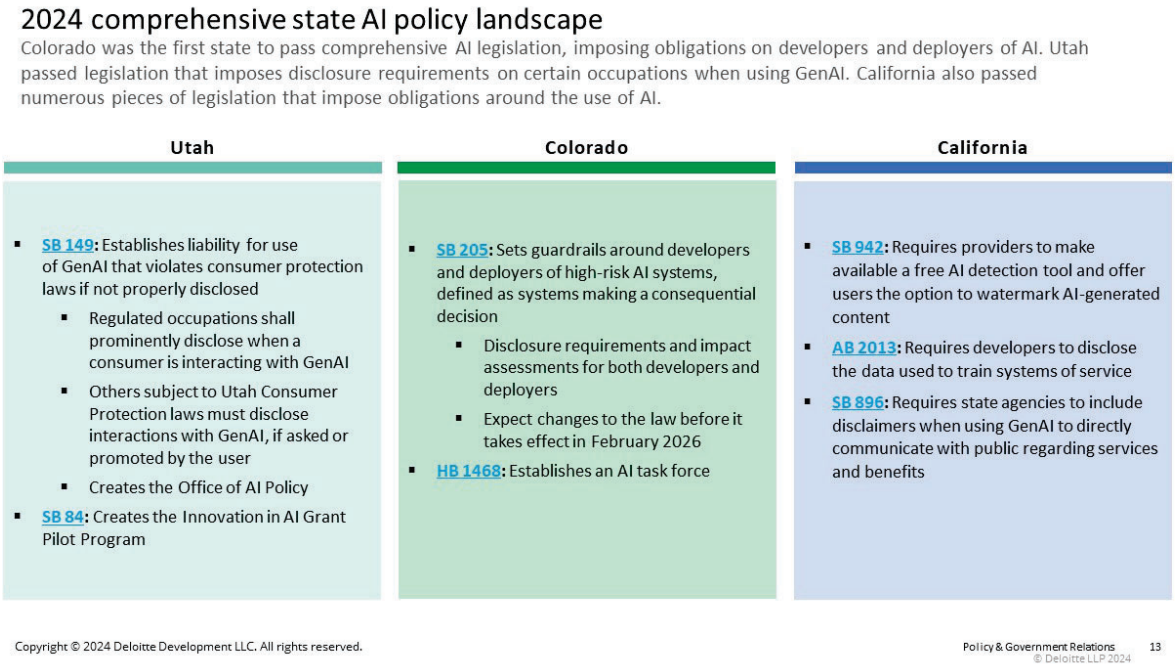
- Autonomous Emergency Response: Drones, robots, and autonomous vehicles could lead in responding to emergencies.
- AI-enhanced Cybersecurity: AI systems will provide autonomous detection and neutralization of cyber threats to critical networks.
- Enhanced Training Scenarios: AI offers immersive and dynamic simulations that adapt to different learning needs.
- Augmented Reality (AR) for Navigation and Assessment: AI could help firefighters navigate buildings or disaster sites with overlays indicated structural weak points or live temperature maps.

Ethical and transparent AI use is vital for maintaining public trust. It is important to remember that AI systems will support, but not replace, human decision-making; there must be safeguards again bias and unchecked automation.

5. Gabe Grab (Principal, AI & Data Leader, Deloitte Consulting)

Mr. Grab testified to the committee on behalf of Deloitte Consulting (See **Appendix U**). The committee heard about various AI use cases in health care, including functions in document generation, case and provider management systems, knowledge management, back-office functions, and customer/patient services. Fewer than 50 percent of organizations surveyed indicated that they were highly prepared for AI. For many organizations, the most significant obstacles in implementing AI tools are the gaps in risk/governance (absence of regulatory guidance) and talent (workforce skill gaps). Deloitte practices an integrated approach to AI. Deloitte's AI Readiness and Management Framework is applied across three core functions: Setting the AI Direction; Building Bore Capabilities to Deliver AI Value; and Managing AI Holistically. Deloitte's Trustworthy AI Framework provides clients with a user-friendly resource to identify, mitigate, and manage AI risk.

The committee also received a recap of AI-related legislation passed in 2024:



MEETING EIGHT

Date: December 3, 2024
Location: Georgia State Capitol – Atlanta, GA
Topic: Final Meeting to Review Report and Recommendations

Committee Members Present

Chair: J. Albers
Senators: M. Burns (Zoom), J. Esteves, S. Rahman, E. Setzler (Zoom), S. Still
Others: R. Crittenden (Zoom), F. Miskawi

Summary of Testimony

The committee met to discuss its findings and recommendations and adopt this report.

FINDINGS AND RECOMMENDATIONS

Based on the testimony and research presented, the Senate Study Committee on Artificial Intelligence offers the following recommendations to address various aspects of artificial intelligence in Georgia.

State & Local Government, Generally

1. Every state agency, department, team, School System, County, and City must develop a comprehensive AI plan and policy. Creating a comprehensive AI policy and plan involves addressing key areas to ensure responsible, ethical, and efficient use of AI within an organization or institution. Here are the main items to consider:
   - **A.** Purpose and Objectives
     - Clearly outline the purpose of the AI policy, such as ensuring safe, ethical, and effective AI practices.
     - Define the specific goals and objectives for AI deployment, including the benefits the organization aims to achieve.
   - **B.** Ethics and Responsible AI
     - Establish ethical principles for AI, such as fairness, transparency, accountability, and respect for privacy.
     - Outline mechanisms to avoid biases in AI algorithms and ensure fairness across diverse user groups.
     - Address data privacy concerns, specifying how data will be collected, stored, and used in AI applications.
   - **C.** Governance and Accountability
     - Define roles and responsibilities for AI governance within the organization, including naming an AI Ethics Board or Committee.
     - Include guidelines on accountability, identifying individuals or teams responsible for AI oversight, risk management, and compliance.
     - Ensure clear guidelines on data ownership and decision-making authority.
   - **D.** Risk Management and Compliance
     - Identify potential risks, including those related to data breaches, biases, and unintended consequences of AI decisions.
     - Detail compliance with relevant laws, standards, and regulations (e.g., GDPR, CCPA, ADA).
     - Include a process for continuous monitoring and auditing of AI systems to mitigate risks.
   - **E.** Transparency and Explainability
     - Define requirements for transparency in AI models, including documenting methodologies, data sources, and algorithms used.
     - Provide guidelines on explainability, ensuring that AI decisions can be understood by stakeholders and affected parties.
   - **F.** Data Management and Security
     - Address data governance, including the quality, accuracy, and integrity of data used in AI models.
     - Establish protocols for data security, ensuring sensitive information is protected and accessible only to authorized individuals.

   - **G.** Human Oversight and Intervention

- Define the role of human oversight in AI processes, including when and how humans should intervene in AI decision-making.
- Include guidelines for continuous monitoring of AI output and mechanisms to override AI decisions if needed.

H. Training and Awareness

- Outline training programs for employees on responsible AI practices, ethics, and potential risks.
- Include a plan for ongoing education to keep staff informed about advances in AI technologies and evolving best practices.

I. Continuous Improvement and Innovation

- Describe processes for continuous evaluation and improvement of AI models and policies.
- Emphasize an adaptive approach, allowing for updates to the AI policy in response to technological advancements and regulatory changes.

J. Incident Response and Reporting

- Establish a protocol for incident response in case of AI malfunctions, biases, or breaches.
- Define reporting procedures for AI-related incidents to affected authorities and parties.

2. Adopt state legislation needed to support AI regulation without stifling innovation.
    a. Adopt a comprehensive Data Privacy law similar to other states.
    b. Adopt an updated Deep Fake law to include election interference, transparency and labeling.
    c. Embed requirements for full transparency and disclosure when utilizing AI to maintain public trust.
3. Adopt a statewide definition of AI: 'Artificial intelligence system' means an engineered or machine based system that emulates the capability of a person to receive audio, visual, text, or any other form of information and use the information received to emulate a human cognitive process, including, but not limited to, learning, generalizing, reasoning, planning, predicting, acting, or communicating; provided, however, that artificial intelligence systems may vary in the forms of information they can receive and in the human cognitive processes they can emulate.
4. Continue statewide efforts to monitor and update state law and regulations as AI technology develops.
    a. Create a state board for Artificial Intelligence.
    b. Continue the work of the Senate Study Committee on Artificial Intelligence to 2025.
    c. Continue to work with other states at how to craft future AI legislation and potential state compacts.
5. Emphasize data provenance with a functionality driven approach, recommending certain AI enabled tools for use by public entities and agencies.
6. Require reporting on AI tools in use and ROI data.

Education & Workforce Development

AI can enhance educational experiences through personalized learning and assistive technologies. The testimonies highlighted concerns about AI's role in primary and secondary education, specifically regarding children relying too heavily on technology. Integrating AI into education should focus on developing critical thinking skills and responsible tool use. Schools and institutions that forbid the use of Artificial Intelligence outright are not preparing their students to meet the AI skills companies will need when they graduate.

7. Encourage public and private partnerships to develop AI pathways in Georgia K-12 schools.
8. Support state-sponsored upskilling and reskilling programs in conjunction with educational institutions to provide training to the workforce.
9. Develop AI Plans for K-12 education in Georgia.
10. Work to create AI Plans for USG & TCSG.

Public Safety

AI-enabled emergency response systems and data-driven predictive models benefit public safety.

11. Work with local and state law enforcement agencies to identify and support appropriate uses of AI to increase the efficiency of emergency response and management.

Healthcare

AI offers significant benefits in patient care, predictive analytics, and administrative efficiency for the healthcare industry. Testimonies stressed the importance of governance to ensure patient safety, data privacy, and public trust. Responsible Use of AI governing bodies within the institutions themselves are helping provide a framework for self-governance.

12. Work with appropriate state agencies to identify and support the accessibility of AI enabled tools to increase efficiency in healthcare and improve healthcare outcomes, particularly in communities with fewer resources.
13. Keep in mind mental healthcare services and examine the ways in which AI could impact mental health generally.

Transparency, Human Oversight, & Accountability

There must be a statewide commitment to maintain public trust and require safe and ethical uses of AI.

14. Enforce transparency as a key principle for any AI system operating in Georgia. Companies should disclose how AI is used in products and services, especially where it impacts personal freedoms, financial stability, or individual health (physical and emotional).
15. Provide voluntary certification programs for companies that demonstrate commitment to transparency.
16. Any interaction between an AI interface and a human must include a full disclosure.
17. Deep fake interactions used to confuse or spread disinformation should be criminalized with severe penalties. Advertising, influencing, intimidating, or coercing individuals/entities through deep fake AI has no legitimate purpose and should be identified and banned with developers held accountable.
18. Any AI product should be held to the same legal liability standards as a physical product. If the AI product causes harm, the injured party should have the same protections as they would have had if injured by a physical product.

19. Encourage the adoption of Human-in-the-Loop and Human-on-the-Loop frameworks for AI systems, particularly in sensitive sectors like healthcare, public safety, and finance. These frameworks will help maintain accountability and ensure ethical decision-making.

Industry-Specific Findings

Entertainment Industry: The entertainment sector, a significant contributor to Georgia's economy, sees great potential in AI for content production, visual effects, and intellectual property management. However, the industry faces growing competition from international markets, and productions are increasingly moving overseas. AI development could be a means to retain production in Georgia if strategic incentives are provided to support AI research and production capabilities within the state.

20. Expand incentives for Georgia-based entertainment projects that incorporate AI innovation. This will help retain productions within the state and foster a culture of AI research and development in media and content creation.

Agriculture: AI is promising to improve agricultural efficiency in Georgia, from predictive insights for crop yields to real-time monitoring of soil and environmental conditions. The technology has significant potential to assist farmers in making data-driven decisions, enhancing productivity, and reducing resource wastage. However, smaller farms often face financial barriers to accessing AI-powered technologies, highlighting the need for targeted support and funding mechanisms.

21. Foster targeted private financial aid programs or provide AI-based technology grants to smaller agricultural operations. This support can ensure equitable access to AI-powered solutions for precision agriculture, helping small-scale farmers enhance productivity and efficiency.

Manufacturing: AI is already a key player in optimizing operations, ensuring worker safety, and enhancing product development in Georgia's manufacturing sector. However, concerns were raised about digital maturity and the readiness of the existing workforce to adopt AI technologies effectively. Accelerating the trend of manufacturing operations are moving back to US shores, with smaller, leaner and more automated operations by providing AI and robotics-based incentives would help bring more manufacturing operations to the State of Georgia.

22. Foster collaborations between the public sector, private industries, and academia to drive AI research, responsible AI usage, and workforce development. These partnerships can help bridge the talent gap and ensure workers have the skills to succeed in an AI-driven economy.

Respectfully Submitted,

FINAL REPORT OF THE SENATE STUDY COMMITTEE ON ARTIFICIAL INTELLIGENCE (SR 476)

Senator John Albers – Committee Chairman
District 56