The evolving AI regulation space: A preliminary analysis of US state legislations addressing AI, 2024

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Abstract. As artificial intelligence (AI) technologies proliferate, the US federal government has oscillated on related executive orders, and no federal laws have addressed AI comprehensively. However, many states have passed legislations related to AI in the previous 5 years, and these laws are evolving and becoming more targeted, creating challenges and opportunities for government agencies. For this study, we compiled all passed and enacted legislations across the 50 US states in 2024 and examined them in terms of: *domains; regulation of AI use in the public sector and industry; and novel topics and issues being addressed.* In this preliminary analysis, we find that recent AI legislations are multiplying across US states, but unevenly. AI regulation across states continue to address various domains, including healthcare, education, and now also generative AI and AI-generated content. Legislations are expanding the role of the public sector in AI governance and AI policies, but issues of AI ethics, such as bias, are unevenly addressed across states, and few states have comprehensive AI governance frameworks.

1. Introduction

Artificial intelligence (AI) technologies continue to proliferate in public and private organizations (Medaglia et al., 2023; Zuiderwijk et al., 2021). Although the use of AI technologies is attractive through the promise of increased efficiencies, productivity and augmented cognitive capabilities, it has also proven to be a risky endeavour with potential negative consequences (Sousa et al., 2019; Wirtz et al., 2020). To address these negative consequences, ethical frameworks and regulations have been proposed (Barfield & Pagallo, 2022; Harrison & Luna-Reyes, 2022). Globally, the European Union is leading in terms of AI regulation (Artificial Intelligence Act, 2024) where the EU AI act mandates governance mechanisms and risk management practices for different types of AI technologies. In the United States (US), there is no broad legal framework to address AI, but executive orders and references to AI activities have been made in some legislations. On January 23, 2025, President Trump rescinded President Biden's prior Executive Order on AI (Federal Register, 2023) but promised that his administration would create an AI action plan to "sustain and enhance America's global AI dominance in order to promote human flourishing, economic competitiveness, and national security" (White House, 2025, Jan. 23).

In the meantime, many US states are actively promoting and/or regulating various aspects of AI (DePaula et al., 2024). While previous research has examined some aspects of these US state legislations, in this study we report on US state legislations passed or enacted in 2024 and discuss them in relation to previous trends in AI state legislations. We find a considerable increase in the amount of legislation addressing AI, an expansion into distinct issues not previously addressed, and a notable increase in the legislations providing comprehensive frameworks to address AI. In the following sections we explain our methods, report on preliminary results and discuss findings in terms of the implications for governments and digital government scholars.

2. Methodology

For this study, we compiled all passed and enacted legislation addressing AI in 2024 across the 50 US states from the National Conference of State Legislatures (NCSL, 2024) which yielded N=79 legislations. For this preliminary report, we examined these legislations in terms of several aspects, namely: *domains; regulation of AI use in the public sector and industry; and novel topics and issues being addressed.* The authors discussed and examined the categories of analysis in multiple coding iterations, and then divided the legislations among the authors so that each legislation was independently examined by at least two authors (detailed protocol available upon request). Further, we discussed commonalities and discrepancies across authors, and reached agreement on the most reasonable interpretation of the legislation for our categories given the text of the legislature and our coding rules.

3. Results

We present preliminary results of our analysis of US state legislations related to AI passed or enacted in year 2024. First, Figure 1 shows the growth in legislations over the years, and the total number of legislations passed/enacted across states in 2024.

Fig 1. Total passed and enacted legislations addressing AI: 2019-2024 time-series, and 2024 map.
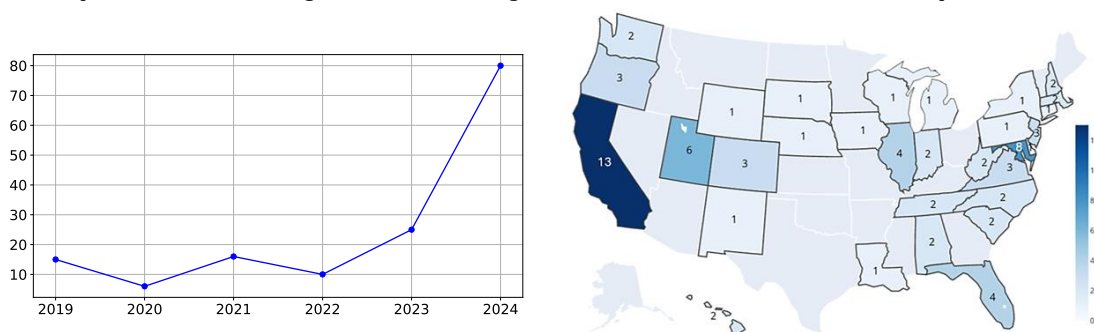
Our results show that AI-related state legislation in the US have largely increased, but not all states are enacting AI legislations. The 79 pieces of legislation passed/enacted in 2024 amounts to more legislations than the previous 4 years combined. Legislative acts seem to be getting more comprehensive and further reaching, covering various domains, including healthcare, education, and now AI-generated content. However, some legislations simply appropriate funding for a particular activity (e.g. an AI-related organization) without any regulatory development. Legislations are expanding the role of the public sector in AI governance, but several issues, such as AI bias and workforce development, are not widely addressed across the states. California continues to be the state with the most passed/enacted AI-related legislations (N=13 in 2024), many of which are addressing ethical issues.

In our comparison of the 2024 legislations with the previous 4-year period (DePaula et al., 2024), we found roughly similar development of legislative acts in domains addressing health and education. In bills passed from 2019-2023, 36% focused on using AI for health purposes (e.g., cancer detection or drug development) or education programs featuring AI and other advanced technologies at the secondary and college levels. In 2024, the distribution of legislations addressing health-related or educational programs with AI is at a similar range. Legislation in the earlier period focused on the creation of advisory groups to inventory and/or make recommendations about existing uses of AI in state government (n=14/68), and we continued to see this emphasis in the 2024 legislations. Thirty percent of the earlier 2019-2023 legislations addressed private industry's use of AI through grants to encourage technology intensive manufacturing or certain regulations of business. However, in contrast, at this stage of analysis only about 11% legislative acts in 2024 focused on regulation of business and industry.

In a marked and dramatic departure from earlier legislation, the 2024 collection featured several acts that sought to enable individuals to clearly identify AI-generated content in contexts such as political and election advertisements and in child pornography, as well as providing individuals with a cause of action for litigating such uses. Legislations in 2024 began to address "generative AI" directly. Moreover, several legislations in this year, for example Maryland S818 and Utah S149, have developed comprehensive governance frameworks for AI regulation in their respective states.

4. Discussion

Based on this investigation, we made three main observations. First, several states, such as California, Florida, Maryland and Utah, have passed multiple legislative acts in 2024 suggesting that they are attempting to fill the federal void, but in so doing they are creating a patchwork of distinct governance systems across the country.

Second, given the various bills requiring advisory groups and task forces on AI, it would be prudent for states and local governments to exchange knowledge and findings from these working groups, and to capitalize on the different work being conducted. Finally, states provide different definitions of AI, and sometimes none at all. Disparities and lack of definitions can make it difficult for businesses to develop their plans or benefit from government incentives. Making sure that AI is clearly defined should benefit the AI policy process.

The future of federal guidance on AI remains uncertain. In the meantime, the challenges for digital government scholars are to track the volume and modalities of AI usage within state governments and assess the consequences. AI can potentially help with innovation in government service delivery, job creation and workforce development. However, there are many challenges associated with discrimination, disinformation, deep fakes, and other infringements on citizen rights that are not being addressed by AI legislation across US states.

Acknowledgements

References

Artificial Intelligence Act (2024). *Regulation (EU) 2024/1689*. European Parliament. https://eur-lex.europa.eu/eli/reg/2024/1689/oj/eng

Barfield, W., & Pagallo, U. (Eds.). (2022). *Research handbook on the law of artificial intelligence*. Edward Elgar Publishing.

DePaula, N., Gao, L., Mellouli, S., Luna-Reyes, L. F., & Harrison, T. M. (2024). Regulating the machine: An exploratory study of US state legislations addressing artificial intelligence, 2019-2023. *Proceedings of the 25th Annual International Conference on Digital Government Research,* 815–826. https://doi.org/10.1145/3657054.3657148

Federal Register (2023). *Safe, secure, and trustworthy development and use of artificial intelligence: A presidential document by the executive office of the president*. Federal Register. https://www.federalregister.gov/documents/2023/11/01/2023-24283/safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence

Harrison, T. M., & Luna-Reyes, L. F. (2022). Cultivating trustworthy artificial intelligence in digital government. *Social Science Computer Review*, *40*(2), 494–511. https://doi.org/10.1177/0894439320980122

Medaglia, R., Gil-Garcia, J. R., & Pardo, T. (2023). Artificial intelligence in government: Taking stock and moving forward. *Social Science Computer Review*, *41*(1), 123–140. https://doi.org/10.1177/08944393211034087

NCSL. (2024). *Artificial Intelligence 2024 Legislation*. National Conference of State Legislatures. Retrieved March 31, 2025, from https://www.ncsl.org/technology-and-communication/artificial-intelligence-2024-legislation

Sousa, W. G. D., Melo, E. R. P. D., Bermejo, P. H. D. S., Farias, R. A. S., & Gomes, A. O. (2019). How and where is artificial intelligence in the public sector going? A literature review and research agenda. *Government Information Quarterly*, *36*(4), 101392. https://doi.org/10.1016/j.giq.2019.07.004

White House. (2025, January 23). *Removing barriers to American leadership in artificial intelligence*. White House. https://www.whitehouse.gov/presidential-actions/2025/01/removing-barriers-to-american-leadership-in-artificial-intelligence/

Wirtz, B. W., Weyerer, J. C., & Sturm, B. J. (2020). The dark sides of artificial intelligence: An integrated AI governance framework for public administration. *International Journal of Public Administration*, *43*(9), 818–829. https://doi.org/10.1080/01900692.2020.1749851

Zuiderwijk, A., Chen, Y.-C., & Salem, F. (2021). Implications of the use of artificial intelligence in public governance: A systematic literature review and a research agenda. *Government Information Quarterly*, *38*(3), 101577. https://doi.org/10.1016/j.giq.2021.101577