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Technology
Law Consulting

The Impacts of Artificial Intelligence upon the Judiciary

A National Study

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About the Sponsor: The [American Judicature Society](#) (AJS) is an independent, nonpartisan membership organization working nationally to protect the integrity of the American justice system. Its mission is to secure and promote an independent and qualified judiciary and a fair system of justice. We are lawyers, judges, teachers, students, community members, and others who believe in and advocate for a fair system of justice.

About the Image: [Methuselah](#) is a majestic and ancient redwood tree. At 1800 years old with a trunk encircling more than 44 feet, it is the oldest and largest living thing in California's Santa Cruz Mountains, other than in Big Basin State Park. Methuselah is a fitting symbol for the purposes for this work:

- to help to preserve the strength, legitimacy, and future of the courts as one of three pillars upon which democracy and the rule of just law stand and must continue to stand; and
- to do so by offering support and insights to judges and the judiciary as they examine carefully and govern wisely through the revolution and evolution that artificial intelligence and its uses signify.

With the strength, endurance, and unwavering commitment to growth of Methuselah, the judiciary can continue to fulfill and preserve its vital roles in democracy and civil society as the artificial intelligence-impacted future unfolds.

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Key Findings

The Study, including as informed by the author's supporting work described in Appendix I hereof, revealed the following:

- AI is quickly becoming a pillar of the United States economy and labor markets. The uses of these technologies is significantly disrupting all aspects of personal and working life, including in legal and judicial practice.
- AI governance in the United States is only slowly emerging, but in a fragmented, complex manner, creating an unsettled and unpredictable legal landscape. Comprehensive international and state legislative examples exist, but the latter may soon be undermined by a threatened moratorium on states' enforcement of their AI laws in an executive order being telegraphed by the federal administration.
- Gaps exist in the definitional and conceptual framing of artificial intelligence; in the awareness of courts' AI exposures; and in the courts' AI governance. These gaps create barriers to the maximization of AI's positive impacts upon the judiciary and exacerbate its negative impacts.
- Both positive and negative current and future impacts of AI upon the judiciary exist and are projected, respectively, as detailed in separate sections below. Many of the current impacts of AI upon the judiciary will continue into the future, creating overlaps and rendering somewhat artificial attempts to temporally distinguish those current and future impacts.
- Recommendations for the courts' responsible governance of artificial intelligence are outlined below. If adopted, the recommended actions should help to maximize the positive impacts of AI uses upon the courts, and to mitigate AI's negative impacts and serious attendant consequences, upon the courts, the bar, the public, and the vital democratic roles that the judiciary inhabits.

AI Market Environment

The impacts of the AI revolution have been analogized to those of the Industrial Revolution, and the analogies are apt. “Transformative” and “sea change” are among the many terms used in attempts to describe just how profoundly the AI revolution is impacting and will further impact upon modern life. The advent, emergence, and now visibly rapid entry of AI systems and related tools into legal and judicial practice are unprecedented.

- **Orientation.** The global AI market is growing exponentially with a value projected to exceed \$1.8 trillion by 2032. Attracting private investments of some \$25.2 billion in 2023, generative AI companies have introduced a massive efficiency shock across industries and, increasingly, the economy.
- **Disruption.** Operations, business models, and language-intensive, AI-exposed professions, such as the legal profession, are experiencing major disruptions as AI technologies diffuse across North America and especially the United States, the single largest AI market.
- **Legal AI Market.** The legal AI market, valued at \$1.5 billion in 2024, acutely reflects this disruption. The efficiency gains expected from adoptions and uses of legal AI technologies are forecast to produce a major shock to the legal labor market, necessitating significant innovations in legal practice models and legal education. Although likely an outlier estimate, one commentator predicts that AI may cut the attorney workforce by at least 25% by 2028. Many opine that generative AI will operate as a force multiplier. For example, small legal teams making advanced uses of AI tools may have the productive capacity equivalent to that of ten to twenty lawyers using traditional work methods.

AI Legal Landscape

Other nations and jurisdictions within the United States are slowly developing laws and regulatory regimes by which to govern artificial intelligence and its uses and harmful impacts. In the United States, however, there is no coherent corresponding federal action, apart from executive orders that emphasize almost singularly AI industrialization in pursuit of economic development and global AI dominance. Those executive actions have stricken or otherwise lack measures to protect civil and human rights and the rule of law.

The U.S. Congress remains politically polarized and stagnated on many policy initiatives. It lacks any cohesive movement forward as to AI legislation with the exception of military funding for AI research, development, deployment, and workforce training; and with what seems to be a coalescing exception in

response to generative AI abuses impacting children and their safety and mental health. Some administrative agencies narrowly regulate artificial intelligence within certain economic sectors. For example, the U.S. Securities and Exchange Commission regulates AI-mediated stock transactions. AI systems are used in reaching health care finance and coverage decisions under Medicare and Medicaid programs. The U.S. Food and Drug Administration regulates AI-enabled medical devices. In addition, the U.S. Social Security Administration uses AI to review drafts of, provide feedback upon, and likely affect administrative law judges' decisions regarding disability benefits.

Absent coherent and comprehensive federal action, however, AI regulation in the United States is emerging, but slowly and in a fragmented and complex manner. This, in turn, creates an unsettled and unpredictable AI legal landscape.

Comprehensive international and foreign AI legislation exists, and some states have enacted AI laws. States' progress in AI regulation, however, may soon be undermined. A draft, and seemingly likely, executive order includes a moratorium on states' enforcement of their own AI laws and the establishment of a task force within the U.S. Department of Justice to litigate against states attempting to enact or enforce such laws.¹ To date, thirty-six state attorneys general have urged the U.S. Congress to again reject proposals supporting the threatened moratorium and usurpation of states' rights.²

Any such moratorium will likely face legal challenges. Even if legally permissible and permitted by, ultimately, the U.S. Supreme Court, such an executive order would impact, but not overcome the extraterritorial reach or influence of the European Union's Artificial Intelligence Act ("EU AI Act"), however. With the so-called "Brussels Effect" that the EU's privacy and other technology-focused legislation exert upon global technology markets and upon other countries' AI regulatory approaches, the EU AI Act may indirectly afford some *de facto* protections to people in this country. Such protections by extension of European law, however, would likely not be cognizable in the state or federal courts of this nation.

International voluntary standards also form part of the AI legal landscape. These "soft law" standards are developed through consensus and globally-distributed multiple stakeholder groups over the course of several years. They are also subject to and approved only upon satisfying the respective technology associations' review and promulgation standards. AI soft law contributors include the Institute of Electrical and Electronics Engineers, or IEEE; the International Organization for Standardization, or ISO; the International Electrotechnical Commission, or IEC; and others. Although adopted voluntarily and instituted via contract, such standards have rapidly been incorporated into the positive law. For example, the U.S. Federal Trade Commission has

incorporated such standards in its determinations of whether security and other consumer protection measures are “reasonable.” Courts also look to such standards to inform their “duty of care” analyses, for example.

State AI Laws and Policies

Fifty-three states and other U.S. jurisdictions have considered 1028 AI-related bills in 2024 through October 8, 2025. States’ approaches to AI regulation vary widely. Colorado, for example, has enacted a comprehensive consumer protection AI legal regime. Legislation in other states, such as in California and earlier in Illinois, has focused on a specific type of AI or personal data used in facial recognition and other artificial intelligence systems. Brief descriptions of these three exemplars follow.

- **Colorado’s Act Concerning Consumer Protections in Interactions with Artificial Intelligence Systems (SB 24-205).** This framework mandates, among other requirements, that deployers of “high-risk AI systems” exercise reasonable care to prevent algorithmic discrimination, a defined term; conduct annual impact assessments; and provide consumers with notice and appeal rights. Colorado’s AI law went into effect on May 17, 2024.
- **California’s Transparency in Frontier Artificial Intelligence Act (SB 53).** This law focuses on large high-capability AI models that underlie generative AI systems and tools, requiring developers to publish a “frontier AI framework” that details how catastrophic risks are identified and mitigated. This law enters into effect on January 1, 2026.
- **Illinois’ Biometric Information Privacy Act (740 ILCS 14/1).** This national first and model legislation governs private companies’ collection, use, storage, and destruction of biometric data, enabling individuals and class litigants to enforce against illegal uses of the personal data associated with these unique and immutable characteristics. Initially entering into effect in 2008, the law was amended in 2024 to significantly curtail damage claims and to elaborate upon electronic consent requirements.

Federal AI Laws and Policies

To add to the discussion *supra*, federal action toward regulating artificial intelligence has been marked by legislative stagnation, political polarization, and shifting executive priorities. The prior administration’s AI policy called for reasonable precautions centered around a constitution- and civil rights-mirroring AI Bill of Rights. The current administration’s policies focus on

global AI dominance, most frequently discussed in comparison with China; and on industry and economic growth with little to no regard for the protection of constitutional or civil rights.

- **Legislative Action.** There is no comprehensive federal AI legislation and no legislative proposal in the current Congress that specifically addresses the judiciary and matters of AI governance.
- **Executive Branch Action.** The current administration revoked a rights-protective executive order and issued a new one that eliminated mentions of civil rights and bias (except “ideological bias”), injecting policy uncertainty. As recently as November 20, 2025, multiple news outlets reported that a new executive order (currently in draft form) may attempt to foreclose the enforcement or additional enactments of state AI laws.
- **Judicial Branch Action.** The Federal Judicial Center has undertaken some court-focused AI communications and educational activities, most recently in 2023. Although a few district courts and judges have issued GenAI orders, the U.S. Supreme Court has not issued any AI guidance or governance policies. Chief Justice Roberts dedicated a portion of his 2023 year-end report on the federal judiciary to artificial intelligence, urging caution and humility, but providing no further guidance.

International AI Laws and Guidance

Countries and international governmental bodies have established AI laws and guidance, including, for example:

- **EU.** The European Union’s Artificial Intelligence Act is the first comprehensive AI legislation in the world. It institutes a risk-based classification and governance system and includes protections against AI bias(es) and AI-mediated discrimination. As described above, the EU AI Act has extraterritorial reach and applies to, among others, providers and deployers who make AI systems and tools available in the European Union, regardless of where the provider or deployer is located.
- **Korea.** The Republic of Korea has enacted the world’s second comprehensive AI legislation: the Act on the Development of Artificial Intelligence and Establishment of Trust, or AI Basic Act. This law will enter into effect in January 2026.
- **Council of Europe.** In 2018, the Council’s European Commission for the Efficiency of Justice adopted the *European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and Their Environment*. The Charter emphasizes five core principles for ethical AI use: (1) respect for

fundamental rights; (2) non-discrimination; (3) quality and security; (4) transparency; and (5) impartiality.

- **UNESCO.** The United Nations Educational, Scientific and Cultural Organization's *Global Toolkit on AI and the Rule of Law* provides a comprehensive curriculum directed toward national judicial training institutions, universities, and other legal education organizations.

International Voluntary AI Standards

Voluntary technical standards bodies and organizations have established globally applicable AI standards, best and recommended practices, toolkits, ethics certification programs, and other AI governance instruments, including, for example:

- **IEEE.** Within and supportive of its global ethical technology framework, the *Global Initiative 2.0 on Ethics of Autonomous and Intelligent Systems*, IEEE members and other contributors have developed and promulgated numerous AI standards and continue to do so. Such standards include:
 - As to AI procurement, a fundamental component of responsible AI governance, IEEE 3119-2025, *Standard for the Procurement of Artificial Intelligence and Automated Decision Systems*;
 - As relevant to chatbots, for example, IEEE 3128-2025, *Recommended Practice for the Evaluation of Artificial Intelligence (AI) Dialogue System Capabilities*; and
 - As relevant to judicial ethical prohibitions on biased decision-making, IEEE 7003-2024, *Standard for Algorithmic Bias Considerations*.
- **ISO and IEC.** These two intergovernmental organizations often promulgate joint standards of which an AI exemplar follows:
 - As to courts' AI-mediated operational systems, ISO/IEC 42001:2023(en), *Information technology - Artificial intelligence - Management system*, which sets requirements for organizations' establishment, implementation, impact assessment, maintenance, security, and continual improvement of AI management systems; and for the vendor and other third-party relationships involved.

Gap Analyses

Several gaps exist that render incomplete the view of AI's current impacts upon the judiciary and obscure the line of sight as to how AI uses may impact the courts in future. These gaps lie in:

- The definitional and conceptual understandings of AI;
- The judiciary's degree of awareness of its and its judges' and staff members' exposures to court-relevant types of AI; and
- The scope and reach of the courts' AI governance efforts to date.

These gaps interdigitate and compound one another. In particular, gaps as to the foundational definition and conception of AI cascade to further contribute to and complicate the other two gap areas.

Definitional and Conceptual Gaps

- Where attempts have been made to define “artificial intelligence,” those definitions are inadequate to the Study's purposes because they lack clarity, are incomplete, or exhibit conceptual shortcomings.
- I crafted and adopted the definition for the Study, as set forth in the accompanying note* and further detailed in Appendix II, *infra*.
- An accurate and actionable definition of artificial intelligence is foundational to the courts' responsible governance of AI; and to the recognition, determination, and monitoring of the impacts of AI uses upon the judiciary and, by extension, upon the democracy-sustaining purposes and public that it serves.
- As discussed more [here](#), artificial intelligence is unlike any other technological advance[†] in that its use creates a new form of cognition in which humans and machines interoperate. The human actors within the

* Artificial intelligence is a human-machine system comprised of:

- (a) computers and related technologies, data, and software expressing and potentially modifying, including autonomously, that is, without human action, mathematical models through algorithms and other means that, together as a computational system, function to detect patterns in data, correlate and further analyze those patterns, and compute predictive and other results based upon those models toward the intended purpose of that system; and
- (b) the humans who design, develop, deploy, acquire access to, and use those systems and their computed results to conduct automated decision-making or to augment or otherwise support human decision-making.

[†] One exception might be the internet and the online content that it renders pervasively distributed and continually available.

human-machine cognitive system that is artificial intelligence have greater, lesser, or likely often no, awareness of the impacts that this interoperation has upon their own human cognition, biases and their perpetuation or interruption, intellectual independence, and decision-making. Because AI uses impact upon critical reading and thinking skills and have impacted upon judicial decision-making,³ it is crucial that courts conceptualize artificial intelligence and consider what it means to responsibly govern AI through the lens of human-machine cognition.

AI Exposure Awareness Gaps

- The Study addresses three principal types of artificial intelligence as relevant to the courts: (1) generative artificial intelligence, or **GenAI**, including text, voice, image, and video generators; (2) **predictive AI**, such as risk predictors; and (3) non-generative **natural language processing AI**, or NLP AI, the last of which may increasingly incorporate GenAI functionality.
- The current discourse about AI and the courts, however, almost exclusively relates to text GenAI, or text generators. Significantly absent from most discussions and reports are the other court-relevant types of AI. Of these largely unaddressed types, **image, video, and voice GenAI[‡]** and predictive AI present the greatest risk of negative impacts upon the courts.

AI Governance Gaps

- **Topical Gaps.** Courts across the country are issuing orders and establishing local rules with increasing frequency. This means of AI governance, however, shares the same gaps discussed in relation to the courts' exposure to AI in that these orders and rules address the use of text generators and almost never address other types of court-relevant AI.
- **Subject Gaps.** These AI governance measures also exhibit gaps as to whom is made subject to the courts' AI orders and rules. Those requirements are almost entirely directed to the bar and self-represented parties, but not to judges and court personnel. That said, a few states' supreme courts have begun to issue AI guidelines to inform and, in some

[‡] The impacts of image, video, and voice GenAI upon the judiciary loom large, particularly due to the evidentiary complications that outputs of these types of AI raise for authenticating, determining the admissibility of, and proving the reality and truth of facts; the potential of these outputs to unfairly prejudice juries; and their potential to impact and infringe upon the independence of judicial decision-making.

instances, govern AI use by their state courts. Although sparse and slow to emerge, such measures may begin to close the subject gaps by bringing judges and those under their direction and control under the purview of the supreme courts' statewide AI guidelines. Even where state supreme courts have issued such guidelines, however, those guidelines still exhibit the topical gaps, discussed *supra*: They focus almost entirely upon text generators.

- **Ethics Opinions.** Ethics opinions addressing artificial intelligence fall within the penumbra of the judiciary's AI governance. Only two ethics opinions, both issued in 2023, have addressed the courts' uses of AI. Michigan's state bar association released Ethics Opinion No. JI-155, which expressly incorporated technological competence within the scope of judges' overall ethical duty of competence.⁴ Although helpful, that opinion provided no specific AI reference or guidance and, thus, AI competence may only be implied as an aspect of technological competence. In the second relevant ethics opinion, West Virginia's Judicial Investigation Commission concluded that, although research use of AI is permissible, its use in judicial decision-making is prohibited. The Commission also issued an "extreme caution" warning for drafting uses of AI.⁵ That opinion clearly, but by implication only, indicated the confines of its coverage to text GenAI, thus exhibiting the above-referenced topical AI governance gap.

Current AI Impacts upon the Judiciary

As a contextual baseline, the Study surveyed and summarized previously-reported AI-mediated impacts upon the courts, as further informed by my other work. Many of AI's current impacts upon the judiciary will continue into the future, creating overlaps and rendering somewhat artificial any attempt to temporally distinguish current and future impacts. Accordingly, this section and the next should be read and understood together.

Further, every AI use likely has the concurrent potential to positively and negatively impact the courts. These impacts may be respectively enhanced or exacerbated depending upon the quality of the AI system or tool's design, development, and governance. For example, the degree of transparency and rigor in AI procurement and verification processes, and AI users' training, methods of usage, and continuous quality improvement ("CQI") measures as to those usages implicate both positive and negative AI impacts upon the judiciary.

- **Positive Impacts.** Currently, most positive AI impacts are still anticipatory. That said, positive impacts have been realized through at least two use cases, producing benefits for the public, the bar, and the courts.
 - In the first use case, some courts have implemented AI-powered chatbots to help users more easily navigate court web sites; retrieve forms and information; and, in some instances, engage in guided question-and-response sessions by which to complete and submit forms to the court. This use case improves the success and efficiency with which the public and attorneys carry out online interactions with the courts. In addition, the AI chatbot use case may benefit the public by enhancing access to justice. The courts benefit by rendering the justice system more transparent and responsive to their constituencies. In turn, this enhances the legitimacy of the courts and strengthens respect for the law.
 - In the second use case, some courts have used NLP AI to extract data from forms and other filings and then use those data to populate the courts' operational databases and to automate docketing. Although there has been some concern about docketing prioritization via such automated means, this use case serves to optimize the courts' operational efficiency and frees the time and attention of court personnel for other tasks. Such AI use may also produce downstream benefits for the public and members of the bar.
- **Negative Impacts.** Among the negative impacts of artificial intelligence and its uses upon the judiciary include the following:
 - **Erosion of Foundational Skills.** The use of GenAI has been shown to degrade essential cognitive skills, such as critical reading, critical thinking, writing, legal reasoning, and contextualization. It is currently unknown whether such degradations may also occur with the use of other court-relevant types of AI. Uninterrupted, such skill erosion increases the risks of negatively impacting judges' abilities to exercise discernment and independent judicial decision-making.
 - **Automation Bias and Loss of Judicial Autonomy.** If AI-mediated skill erosion and its negative impacts are not flagged for intervention, over-reliance upon AI-generated outputs will increase. Consequently, automation bias—the tendency to uncritically accept and defer to those outputs—and other cognitive and societal AI biases also may increase. These cascading impacts risk the substitution of machine-mediated authority for that of human judges and the courts.

- **Erroneous AI Outputs and Uses.** The use of AI technologies to assist with judicial or other legal work adds the risk of new types of errors, including inaccurate, misrepresented, false, or entirely fictitious AI outputs, or so-called “hallucinations.” Failures to detect and eliminate such errors fundamentally conflicts with the judicial mandates for due process, the discovery of truth, and the pursuit of justice. Unabated AI errors also undermine the judiciary’s independence, legitimacy, and appearance of propriety. “Off-label uses”^s of AI systems and tools likewise negatively impact the courts.
- **Inability to Pinpoint Causes and Assign Responsibility.** The underlying data, models, functions, and means by which AI systems and tools produce outputs are veiled by technical complexities that are often dynamic, such as in machine learning-based AI, and by commercial contracting practices, often irrespective of whether trade secret law could be validly invoked to protect such underlying information. This lack of transparency, and outright obfuscation, produces the “black box” problem that makes it difficult to assign accountability for AI errors and AI-mediated harms among and between the vendor or developer, user, judge, and others involved in the AI lifecycle. Further, it does not appear that courts routinely institute professional CQI practices, which are essential to the ability to determine the sources of errors, measure their frequency and impacts, and take the necessary corrective measures. The absence of such professional practices exacerbate and complicate the distributed responsibility conundrum and its impacts upon the courts.
- **Substantiation of AI Productivity Claims.** To the extent that the courts have not implemented quantitative managerial methods of assessing their operational efficiencies, they may be negatively affected by unsubstantiated claims of AI efficiency gains by vendors and legislators. Without productivity metrics, the courts may lack the information by which to best design human-machine workflows, maximize efficiency gains and returns from AI uses, and inform budgetary decision-making.

^s Off-label use occurs when users make operate or apply the AI system or tool outside that for which it was intended or designed, including as to the curation of its underlying data; or in ways for which its developer or vendor has issued a disclaimer or other precautionary use advisory.

Future AI Impacts upon the Judiciary

The vision as to what future impacts that AI uses may visit upon the judiciary is murky and unpredictable. This is particularly so, given the highly dynamic states of AI technological developments and use cases, and of the law and policy landscapes within which the courts operate and should work to responsibly govern AI.

- **Positive Impacts.** If the judiciary appropriately selects, deploys, and governs AI for the courts' use and sponsored external uses, then these positive impacts should increasingly accrue: (1) **greater operational efficiency**; (2) **greater transparency** of the courts; (3) **improved interchanges** between the courts, the bar, and the public; and (4) **expanded access to justice** for the public. In short, the positive current impacts may be expected to increase and expand, subject to the judiciary's appropriate AI governance actions. Concomitant with the first of these, courts may be able to manage their financial appropriations to produce improved margins that could be invested toward other judicial priorities.
- **Negative Impacts.** Here, I emphasize three negative future impacts of artificial intelligence and its uses upon the courts.
 - First, the complexities and need for greater understanding of **human-machine cognition** present the most significant future impact upon the courts as they begin to use and be ever-increasingly exposed to AI systems, tools, use cases, and AI-mediated information. Human-machine cognition will continue to increase in its prevalence and complexity, and AI uses will impact mightily upon, and likely degrade, information literacy; critical reading, writing, and thinking; the discernment of truth; and independent decision-making. Judges will face these unavoidable challenges, as will the bar, legal educators, and law students. Over the long term, human capacity and machine-supported cognition may greatly advance and may lead to positive impacts. That remains to be seen. Until then, however, very significant struggles should be expected as all actors try to develop capacities and systems to adapt to this challenging evolution in the way human minds work in tandem with machines, and in what that evolution means to the purposes, roles, and operations of the courts.
 - Second, and related to the human-machine cognition impacts and other aspects of AI uses, these technologies may present a significant negative future, as well as current, impact upon **judicial ethics**. Discussions of the interpretation and application of the codes of judicial ethics within AI contexts are only now beginning in the United States.⁶ For example, at

least eighteen (18) judicial ethical rules may be triggered and breached within just a small range of possible AI use cases.⁷ Contextualized judicial ethics education, time, and effort are needed to inculcate the required knowledge and the ability to spot ethical triggers in the new and seemingly innumerable AI-mediated scenarios that may arise.

- The potential for this species of negative AI impact should diminish over time if and as judges and judiciaries become more AI-aware and -competent. As further developed in my other works, the codes of judicial conduct may function importantly as the “backbone” of courts’ responsible AI governance approaches. Although the elaboration of this thesis and its underlying rationale are beyond the scope of the Study, I welcome discussion and provide my contact information on the inside cover page of this document.
- Third, AI may produce challenging **financial impacts** for the courts in the near term. There are widespread and sometimes fantastical public discussions underway about AI-mediated efficiencies. Consequently, some legislators and other budgetary authorities may seek to curtail appropriations for or expenditures by the judiciary, holding up AI as a seemingly magical solution by which courts may operate with greater productivity and even further reduced appropriations.
- Shades of an analogous trend have already arisen where judges, in considering the reasonableness of claimed attorneys’ fees and costs, have been unfavorably disposed toward traditional time-based claims where the subject attorneys used GenAI tools. The asserted logic is that GenAI tools enable attorneys to prepare documents in seconds, rather than the hours required to do so with traditional work methods. Although that supposition may be facially accurate, the logic is overly simplified where it fails to account for the work required to verify, iterate upon, and refine AI-generated outputs to produce the final work product.
- In an alternative scenario, legislators may be willing to, and should, increase the courts’ allocations to pay for capital, training, and other investments to enable the judiciary to appropriately pilot and adopt AI technologies.

Recommendations to the Judiciary

Although beyond the scope of the Study, I offer these recommendations to the judiciary to establish and implement responsible AI governance systems with the following and other attributes. Such AI governance should help the judiciary to avoid, eliminate, or detect and mitigate the negative impacts of AI uses while maximizing the positive impacts of those uses.

- **Responsible AI Governance.** Courts should institute responsible AI governance frameworks and procedures as soon as reasonably possible. At least preliminarily adequate forms of AI governance and control systems should be in place prior to the courts' deployments of AI for internal uses or sponsored external uses. Those systems should be advanced toward more mature forms as thoughtfully, but as quickly as possible and ideally within a year of their initial establishment. Further, responsible AI governance and professional managerial practices mean that these systems of governance and control should periodically iterate and be adapted to current conditions.
- **Ethically-grounded AI Governance.** The judiciary should build its system of responsible AI governance upon the well-established and applicable codes of judicial conduct, those being read atop the corresponding codes of professional responsibility. Holding adherence to those codes as sacrosanct, the courts should carry out thorough reviews and analyses of those codes to contextualize their operations with an appropriate range and diversity of AI use cases. Guidance in the form of ethics opinions or other communications and regularly-required AI education for judges and court personnel should inform them and others as to such AI-contextualized applications of the judicial ethical codes.
- **Comprehensive AI Governance.** Judicial leaders should strategically expand their AI orders, rules, and other AI governance measures to encompass all court-relevant types of AI—generative, predictive, and NLP, whether non-generational or increasingly generative—to ensure the appropriately comprehensive awareness of AI impacts and risks. These priority recommendations bear consideration:
 - **A formal definition of “artificial intelligence”** should be developed and instituted so as to clearly identify which types and uses of AI fall under the courts' responsible AI governance. In addition to the discussion in Appendix II hereof, the judiciary should consider the roles or potential roles of agentic AI in internal operations, court-sponsored external uses of AI, and matters brought before the courts. The definition adopted by the courts should be mindful of

the rapid integration of AI tools and functionalities into online search engines and commonly used legal research systems, such as WestLaw and Lexis. Further, the judiciary should consider the extent to which non-automated algorithmic systems should be brought within the scope of “artificial intelligence.”

- **Text generative AI** use by attorneys and self-represented parties; and, to the ethical and otherwise controlled extent permitted, by the courts. Per the codes of judicial conduct, court AI uses encompass uses by judges, court personnel, and others under judges’ direction and control.⁸ In line with the West Virginia ethics opinion, discussed *supra*, text GenAI should not be used in judicial decision-making. Courts should establish clear and demonstrable guidelines as to whether and, if so, when, how, and to what extent text GenAI may be used in drafting bench memoranda or other documents.
- **Image, video, or audio generative AI** use by attorneys and self-represented parties. The courts should issue or expand their text GenAI-focused orders and rules to similarly require certification disclosing whether any such GenAI system or tool has been used to modify or create materials for evidentiary or demonstrative purposes.
- **Predictive AI** use, including facial recognition and other biometric recognition or identity determination tools, by attorneys, and particularly agency and other government attorneys and, if applicable, self-represented parties.
 - ▶ The rules of evidence and associated decisional precedents should be applied to all uses of predictive AI and its outputs in matters before the courts.
 - ▶ The courts should issue or expand their AI orders and rules to require certification disclosing whether any predictive system or tool has been used to modify or create any information or materials in discovery or presented to the courts.
 - ▶ For information and materials presented to the courts, attorneys and, as applicable, self-represented parties should be required to disclose, under protective orders if reasonably necessary, the data, models, and other bases for such predicted information or materials and the assessments by which qualified and objective third parties have validated those bases and the accuracy, including confidence level, of the predicted outputs.

- **Natural language processing, or NLP, AI**, where the courts are planning or carrying out uses of these AI types for internal operations or for court-sponsored external uses.
- **Transparency.** To comply with government transparency laws, to protect the legitimacy of the courts, and to avoid the appearance of impropriety, the courts should not permit or engage in any AI uses with personal devices by judges or court personnel or others under the courts' direction or control. Further, courts should develop policies and procedures by which its AI uses may be demonstrably shown to comply with transparency laws and ethical requirements. Corresponding compliance documentation should be preserved for required or otherwise reasonable periods of time, whichever is longer.
- **Responsible AI Procurement.** The judiciary should establish standard operating procedures and systems for the responsible procurement of AI systems and tools. Toward same, the Institute of Electrical and Electronics Engineers' recently approved *IEEE Standard 3119-2025, Procurement of Artificial Intelligence and Automated Decision Systems* provides thorough technologically-sound and -vetted guidance.⁹ The procurement process also serves as an excellent point in the AI lifecycle in which to incorporate the recommendation for independent evaluations, as follows next.
- **Independent Evaluations.** In addition to the predictive AI -specific recommendation emphasized *supra*, judicial leaders should mandate qualified and independent third-party evaluations of AI systems and tools to verify and validate the appropriateness and fitness for intended tasks of the underlying data, models, and bases for such systems and tools; the compliance of same with legal and security requirements; and the accuracy, including with confidence levels, repeatability, and reliability of the outputs of such systems and tools. These evaluations should be carried out prior to the deployment and use of any AI system or tool, and should be regularly conducted post-deployment, thereby protecting and preserving public trust in the judiciary.
- **Human-in-the-Loop Best Practices.** Courts should implement standards that ensure meaningful human review and oversight for all AI-mediated processes and decisions. Such practices will protect due process and serve to flag and intercede where automation bias and other artificial intelligence biases may undermine the fairness, unbiased nature, and independence of judicial decision-making, which is the cornerstone of the judiciary's legitimacy and democracy-essential role. In developing or selecting AI governance standards for implementation, courts should consider existing technical standards, as discussed *supra*, that

incorporate human-in-the-loop principles. In these ways, the judiciary may expedite the establishment and refinement of its AI governance measures by the adoption and implementation of existing technologically-sound and -vetted measures.

- **Training and Collaboration.** The courts should institute AI-related trainings as a regular and required part of any responsible AI governance framework. Such education will enable judges and those under their supervision and control to meet and continue to satisfy established ethical duties, including as to technological competence regarding AI and its uses. Important, too, is an ongoing collaborative discourse between judges, scholars, and others as to how to creatively and appropriately render principled applications of substantive and procedural law to the novel and complex AI-related factual contexts that likely were never contemplated by lawmakers.
- **Increased Deterrence Through Education and Sanctions.** Responsible AI governance by the courts should continue efforts to educate members of the bar and self-represented parties and should establish and continue specific requirements to deter them from submitting filings that contain AI-mediated errors, including so-called “hallucinations.” Where courts have not initiated this aspect of responsible AI governance, they should do so. In all, courts should emphasize and reiterate the starting assumption that any GenAI use may produce outputs containing such errors. They also should reinforce the message that human review, verification, and, as necessary, correction of AI outputs are required prior to the use of those outputs in any submissions to the courts. For more than two years, the nation’s courts have been dealing with irresponsible AI uses by attorneys and self-represented parties and with the corresponding breaches of duty to the courts. Despite measures already undertaken by courts and bar associations and despite press coverage of these issues, instances of such violative behaviors persist. Accordingly, the courts should strengthen their deterrence measures. For example, courts, working with bar associations, should mandate annual AI education for attorneys. In addition, courts should begin to more frequently impose sanctions, and more rigorous ones, to further educate the bar and self-represented parties and to better deter irresponsible AI uses and the attendant breaches.
- **National Center for State Courts.** In addition to the matters discussed here, the courts should consider and avail themselves of the NCSC’s educational resources and guidance for courts’ AI implementations.

Conclusion

This landmark study sponsored by the American Judicature Society provided a remarkable and important opportunity to gain, create, and share knowledge about artificial intelligence and its current and anticipated future impacts upon the judiciary. This knowledge and the observations and recommendations shared in this Executive Summary offer to our nation's judges and judicial leaders an important thought model by which to inform their awareness, consideration, and planning as to AI uses by the courts; and the courts' exposures to AI-mediated information and materials. The desired result is to inform, encourage, and support the judiciary toward the adoption of comprehensive, ethics-centered, responsible AI governance frameworks, policies, and procedures as soon as reasonably possible.

In many ways, responsible AI governance applies existing professional leadership and managerial practices. It combines strategic planning, administrative, and managerial functions, including well-established CQI practices. Responsible AI governance, however, goes far beyond such professional practices, beyond efficiencies, and beyond even the important AI-mediated opportunities to improve access to justice. This is true for three principal reasons. First, the technologies and methodologies that underlie artificial intelligence are complex and ever-advancing, presenting a constant and daunting challenge for the law to adapt and the judiciary to remain informed and competent. Second, the rapid adoption of GenAI, in particular, is driving a sea change across virtually all aspects of modern life. Third and driven by the foregoing, human-machine cognition has landed squarely upon the legal, judicial, legal education, and, indeed, all professions, but has done so before the enormity of its functioning, implications, and necessary precautionary interventions has been understood.

Consequently, responsible AI governance by the courts should be more rigorous than in many other contexts. Lives, liberty, and democracy are at stake and in new and unprecedented ways. The impacts of AI reach to the very core of the judiciary's democracy-essential roles. These impacts affect the operation and preservation of the rule of just law; the independence of unbiased judicial decision-making; the courts' legitimacy and the critically important public trust in the courts; and more. The magnitude and complexity of AI impacts upon the judiciary are existential.

The task ahead for the judiciary is challenging, but need not be overwhelming. Responsible AI governance does not need to be constructed anew from whole cloth. For a century and more, the codes of judicial conduct, and careful compliance with and rigorous enforcement of them, have served to protect, preserve, and strengthen the judiciary in service of its quintessential

democratic functions. These ethical codes retain the power and guiding principles by which to do so in this new AI age. The judiciary should leverage these cornerstone codes of judicial conduct and AI-contextualize them to serve as the foundation for its responsible governance of artificial intelligence.

Thus grounded, responsible AI governance will constitute a wise, positive, and appropriately adaptive response by the courts. This response, coupled with adjunct measures as AI technology, law, and policy environments change, will enable the judiciary to anticipate AI impacts upon the courts, judicial processes, and the judiciary's democratic functions; and to measure and maximize the beneficial impacts while doing likewise to eliminate or responsibly minimize the detrimental impacts.

Toward these aims, this Study is offered.

Appendices

I. About the Study and Supporting Work

This section summarizes the objectives, geographic scope, timing, language and topical scope, support, study methodology, and outputs of the AJS Study.

Objectives: The Study's objectives were:

1. To positively impact upon the legal community;
2. To provide knowledge and serve as a thought model with potential national impact upon courts; and
3. To positively influence the future of the judiciary by enabling artificial intelligence impacts upon the courts and judicial decision-making to be identified and anticipated; and by enabling prospective strategies and actions to be developed and undertaken toward maximizing positive such impacts and eliminating or appropriately minimizing the converse.

Geographic Scope: The Study was entitled, "The Impacts of Artificial Intelligence upon the Judiciary: A National Survey and What It Portends for Hawai'i's Courts." This document adopts a shorter and more generalized title. The Study principally focused upon the judiciary in the United States of America with the Study's interim and final reports including particular references and developments related to the Hawai'i State Judiciary, the Hawai'i bar, and the federal courts in Hawai'i. This Executive Summary incorporates aspects of that Hawai'i-specific content where generally applicable across the judiciary as a whole.

Timing: The current state of artificial intelligence and its impacts upon the judiciary is constantly and rapidly evolving. Therefore, it is important to document the timing of the Study and to contextualize its findings within that time frame. With the work beginning in the summer of 2024, the Study's first and second interim reports were delivered in September and November 2024, respectively, and its final report in February 2025. The evaluated court decisions were issued from 2022 through about mid-2024. This Executive Summary provides information as was current as of the date of the Study's final report partially updated through November 2025. In addition, I have expanded upon the Study findings through my extensive related work.

Language and Topical Scope: The Study's researches were principally conducted with English language materials. Given the Study timeframe and the rapidity of changes within artificial intelligence domains, the Study does not elaborate some topics, such as agentic AI,¹⁰ which has been recently

popularized. After many years of slow to no legal developments regarding artificial intelligence, the European Union’s Artificial Intelligence Act, the world’s first comprehensive AI regulation, was adopted in the summer of 2024. That event and the subsequent events toward implementing the EU AI Act served as an impetus for other domestic governments and international bodies to adopt artificial intelligence rules. Due to its timing and principal jurisdictional focus, the Study does not discuss post-EU AI Act legal developments in the European Union or its member states.

Support: To enhance the Study reports’ readability, the guidance was to minimize notations and citations. Even so, the Study reports and this Executive Summary collectively contain **326** notes and citations to **249** unique references.

Study Methodology and Outputs: The Study principally employed qualitative methods, along with some quantitative analyses to, for example, measure the development of trends over time and to analyze and score court decisions as to their substantive applicability to the Study objectives. The Study followed a phased approach with principal deliverables and other outputs to include the following:

1. A fixed and technologically comprehensive and sound definition of “artificial intelligence”;
2. A “level set” for the Study;
 - a. Here, a baseline of collective understanding was established by carrying out review of existing, mostly nationally-focused, reports, white papers, and other materials and of relevant technology-focused media reports from trusted sources, as well as listening and inquiry sessions with judges and others on the topic of artificial intelligence and the courts. My other work contributed to this baseline understanding.
3. A survey of substantive AI-related jurisprudence and selected AI-related legal scholarship;
 - a. Here, we identified, reviewed, and analyzed court opinions that had been issued in recent years through mid-2024 and that substantively addressed artificial intelligence, except in claims construction or other patent matters. Reviews of selected legal scholarship also informed the development of an increasingly comprehensive understanding of how the uses of artificial intelligence do or may impact upon the courts.
4. Trends in AI markets and technology developments and in the development of AI law and policy as any of the foregoing may impact the courts or judicial administrative or other functions; and

- a. Upon the change in federal administration in January 2024, a sudden and almost complete reversal of existing and developing AI policy was announced and with far-reaching significance.
 - b. Courts across the United States have begun to issue AI orders, local rules, and decisions and with increasing rapidity. Almost all of these orders and rule changes have been confined to text-generative AI use by attorneys and self-represented parties in the production of court filings.
 - i. As of January 31, 2025, state and federal courts in 20 states had issued 71 AI orders and rules. By November 12, 2025, courts in Puerto Rico and 32 states had issued 286 such orders and rules.
5. A summary of key impacts of AI technologies and uses upon the courts and the extrapolation of such impacts in the future; and provided some beginning suggestions as to how courts may anticipate and start to address those impacts.

Summary of Author's Supporting Work: This Study and Executive Summary are informed by other work, including:

- Teaching and course development work on my “Artificial Intelligence and Social Justice” and “Global Governance of Artificial Intelligence” courses at the William S. Richardson School of Law, University of Hawai'i at Mānoa (“Richardson Law”) and elsewhere;
- My engagement with and writing and other feedback to Richardson Law students in my Artificial Intelligence and Social Justice course, a number of those students being referenced in the Study reports;
- My researches, writings, publications, and presentations on artificial intelligence, judicial ethics, judicial impacts, pedagogy, and professional identity formation, including presentations at the Herb and Karen Baum Symposium on Ethics in the Professions for the Drake University School of Law; Annual Meetings of the Association of American Law Schools; the Law and Society Annual Meeting; and the U.S. Patent and Trademark Office's international judicial colloquia for the Thai judiciary and the Association of Southeast Asian Nations, or ASEAN, judiciaries;
- My service on the Hawai'i Supreme Court's Artificial Intelligence and the Courts, noting that this Study reflects my professional opinion and expertise and not those of the Committee and reflects only public information about the Committee's work;
- My service on the Institute of Electrical and Electronic Engineers, or IEEE, Artificial Intelligence Policy Committee and various of its subcommittees, such as addressed Privacy, Equity, and Justice in Artificial Intelligence

and the Discovery of Evidence Regarding the Fairness, Safety, and Effectiveness of Artificial Intelligence Systems and Use; and

- My service on various IEEE Standards Association (“IEEE SA”) AI working groups, particularly the P2863 working group, which developed through a five-year process and a ninety-some member global team of volunteers the IEEE SA’s forthcoming recommended practice for the organizational governance of artificial intelligence.

Generative AI Notice: The Study is about artificial intelligence. It was not generated using AI, except for demonstrative output from a Grammarly AI summarization tool as appended to the Second Interim Report and an attributed GenAI image in the First Interim Report. As to this Executive Summary, I used a Gigapixel AI tool to enhance the resolution of my cover photograph and Google’s Gemini AI to compile an initial rough draft of the bibliography.

II. What Is Artificial Intelligence?

“Artificial intelligence” is a varied term representing multiple perspectives. The term is often undefined, including in legislative proposals. Frequently, the term is defined strictly as to the “machine” aspects of the technologies. Finally, artificial intelligence is often discussed as a singularity when, in reality, it exists in complex and numerous forms and types. For convenience, this Executive Summary addresses artificial intelligence in the singular, unless otherwise specified.

The Study adopted a technologically comprehensive and sound definition for **artificial intelligence**.¹¹ Importantly, the adopted definition includes a machine component and a human component.* Cognitive engineering’s foundational theory¹² informs this understanding of artificial intelligence as a human-machine cognitive system across which responsible AI governance should operate.

The Study’s definitional framing is important for two reasons. Commentators have frequently focused AI governance proposals only upon the “machine” of artificial intelligence and those who develop that aspect.¹³ Such machine-focused proposals are problematic because they are incomplete and, consequently, will be ineffective. Such proposals obviate the “human” aspect of AI, that is, human actions and agency to which all responsibility must be proscribed.

By contrast and as its primary and substantive reason, the Study’s definition of artificial intelligence reflects that responsible AI governance, including by courts, requires the comprehensive perception of the human-machine system that comprises all AI systems and the lifecycles across which those systems come into being and are procured, implemented, used, archived, and decommissioned.¹⁴ By framing artificial intelligence as a human-machine system, courts and other organizations then may recognize, consider, and

* Artificial intelligence is a human-machine system comprised of:

- (a) computers and related technologies, data, and software expressing and potentially modifying, including autonomously, that is, without human action, mathematical models through algorithms and other means that, together as a computational system, function to detect patterns in data, correlate and further analyze those patterns, and compute predictive and other results based upon those models toward the intended purpose of that system; and
- (b) the humans who design, develop, deploy, acquire access to, and use those systems and their computed results to conduct automated decision-making or to augment or otherwise support human decision-making.

determine the AI governance controls that are needed at which points along those lifecycles.

Second, the Study's AI definition delineated the proper scope and bounds for the Study's inquiries. Through this discipline, the Study avoided over-inclusiveness, for example, of algorithms that may be applied outside the context of artificial intelligence systems and tools.¹⁵ It thus avoided muddling the understanding and articulation of AI's potential benefits and risks to the judiciary, its roles in democracy and civil society, and the public to which it is bound in service.

III. Table of Cases

Note: The Study's three reports and this Executive Summary cited to the following court decisions, the citations to which have been updated here, as needed. We also reviewed, evaluated, and classified more than one hundred additional decisions as to their importance and relevance to the Study's topics; substantive contribution to understanding; or of demonstrative value. The Study reports did not discuss or cite these additional decisions.

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Online calculators are helpful tools by which to the application of the algorithms expressed in the sentencing guidelines may be carried out more rapidly and efficiently. See *id.* Those calculators do not constitute artificial intelligence tools, however. See Kaya Ismail, *AI vs. Algorithms: What’s the Difference?*, CMSWIRE (Oct. 26, 2018), <https://www.cmswire.com/information-management/ai-vs-algorithms-whats-the-difference/>; Emile Loza de Siles, *AI, On the Law of the Elephant: Toward Understanding Artificial Intelligence*, 69 BUFF. L. REV. 1389, 1458-68 (2021), <https://digitalcommons.law.buffalo.edu/buffalolawreview/vol69/iss5/3/>.