MJC
Michigan Judicial Council

Generative AI and the Courts Workgroup

Report and Recommendations

October 2024

Notice of Disclaimer

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Letters from the Co-Chairs

Friends, colleagues, and fellow citizens,

Generative artificial intelligence (GenAI) has dominated the discussion of technology since the release of ChatGPT in November 2022 and has entered the legal arena in our practices and in our courts. As is often the case with new and disruptive technologies, the law has not kept up. This report is an effort to identify the issues confronting the judiciary and offer a current iteration of the benefits and risks of AI, and some useful steps for moving forward appropriately.

I am personally skeptical of requirements to disclose the use of GenAI in legal documents or courts due to the difficulty of enforcement, and the fact that GenAI is already embedded in many of the tools of our legal practices and court administration currently use. I would rather set our focus on GenAI being used to assist judges, lawyers, administrators, and court staff and other humans in the administration of justice, and not replace them. Human actors must retain professional and ethical responsibility for the work product enabled by GenAI and retain accountability for the consequences of its misuse.

We will no doubt see an increase in the forensic technology fields, as experts will be required to identify deepfakes when the public can no longer distinguish between an actual photograph or video and an AI-generated fabrication. Various jurisdictions will resolve the question whether a watermark or other metadata will be legally required in GenAI output. We hope you find the information in this report useful and beneficial, particularly if you are one of us having an ethical duty “to maintain technological competence” and to “understand AI’s ethical implications to ensure efficiency and quality of justice.” Many thanks to my co-chair, Emily Tait, to our Project Director, Hon. Sue Dobrich (ret.), to Emilie Tarsin, our SCAO analyst, and to the members of the workgroups who volunteered their time and talents in putting this report together.

Sincerely,
Hon. Jon Van Allsburg,
Workgroup Co-Chair
Chief Judge, 20th Circuit Court

To the distinguished members of the Michigan Judicial Council:

Over the past year, it has been an honor and pleasure to co-chair the Michigan Judicial Council's Workgroup on GenAI, working closely with co-chair Judge Van Allsburg, Project Director, Hon. Sue Dobrich (ret.), SCAO analyst Emilie Tarsin, and the numerous other insightful members of the Workgroup as we enhanced our collective understanding of GenAI and its evolving impact on the courts, lawyers, and other participants in the legal system. I thank these individuals for the opportunity to serve with this talented group and their efforts in putting this report together.

As an intellectual property and technology lawyer, I have long been interested in the disruptive impact of artificial intelligence on IP, particularly as GenAI tools now make it possible to independently innovate without human participation. I have likewise been intrigued by the ethical implications of AI, particularly as AI is increasingly used in the practice of law. When GenAI was first publicly released in late 2022, the conversation around AI and GenAI exploded as individuals across industries began to grapple with the implications. Over the past few years, we have seen daily headlines about the potential for GenAI tools to do good in a variety of fields (e.g., increasing access to justice, streamlining processes and otherwise enhancing efficiencies in business, identifying disease and creating new treatments in medicine, translating across languages and simplifying terminology to enhance customer service, etc.), as well as headlines about all of the negative consequences that may flow from use of these tools (e.g., the proliferation of inaccurate or "hallucinated" information, biased or discriminatory impacts, the use of digital replicas or "deepfakes" to influence elections or otherwise mislead consumers, etc.).

In the face of this uncertainty and information overload, it is understandable why some may long for the "good ol' days." Nevertheless, we know that technology will charge ahead regardless of whether we are ready for it – so it is essential that we move forward as a profession to enhance our collective understanding of AI and GenAI so as to ensure its legal and ethical implementation, to effectively ward off and mitigate risks that it presents, and to enhance its impact for good.

The conversation surrounding GenAI and its impact on the courts and the legal profession has in many respects only just begun. I look forward to continued conversations and collaborations. Thank you again for the opportunity to serve on this Workgroup.

Warmly,
Emily Tait
Workgroup Co-Chair
Partner, Jones Day International

Letter from the Project Director

Dear Colleagues,

I was nervous about this workgroup and my journey into AI. The topic was intimidating for me because I was less than a novice on the topic. The first thing I did was to begin reading articles before our first meeting so that I would at least have a basic understanding of AI. As a novice I was afraid of the unknown and believed that AI posed risks that were anxiety producing for me.

We had an amazing group of individuals on this workgroup who could see the benefits of AI and what it can do for court users. Instead of worrying about AI taking over jobs, it is now more widely understood that AI will allow staff in the courts to focus on things that require problem solving and empathy, and AI can replace mundane, repetitive tasks. Regarding access to justice, AI has the potential to be an effective tool that can inform citizens of their rights and make the court system more accessible for the user. The Standford Law School Legal Design Lab is a great justice tool that judges, court administrators, legal aid and Michigan Self Help can review to ensure enhanced access to justice for all. The opportunities that GenAI can provide in a responsible way for access to justice are far reaching than what we are currently able to accomplish. The future of AI models can help people who are in the need of legal help is yet to be fully determined. Will GenAI help with access to justice and fill the gaps or will it be cost prohibitive? That is yet to be determined, but it is important that we take the time to explore it further.

I am old enough to remember when legal offices used typewriters and when the fax machine came into existence. As an administrator of an office, I remember when we bought our first computer for the Prosecutors office. I have seen how technology has allowed the courts to better serve the public. The public policy question becomes how GenAI can better serve the millions of people who need legal help and ensure quality of assistance. We need to understand the risks and mitigate them so that our fear does not keep us from leveraging technology and capitalizing on the benefits GenAI can provide.

I want to thank all the members of this workgroup for their dedication and hard work. I particularly want to thank Judge Jon Van Allsburg for his leadership and guidance and Emily Tait for her organizational skills, knowledge and hard work on the report. She was willing to take on her role as Co-chair and excel.

Hon. Susan Dobrich (ret.)
MJC - Project Director

Executive Summary

Recognizing the transformative impact of Generative Artificial Intelligence on the judiciary, the Michigan Judicial Council's (MJC) 2024 Operational Plan identified the topic of "Generative Artificial Intelligence (GenAI) and the Courts" as a key strategic initiative – one that is, among other things, essential to fulfilling the MJC's goal of improving technology infrastructure for Michigan trial courts. The MJC had identified Court Funding and Technology Infrastructure as a key strategic goal in its 2022-2025 Strategic Agenda explaining that a "unified and integrated technology platform (including case processing and document and records management systems) will enhance information sharing, promote consistent data collection, analysis, and reporting, and will improve judicial and administrative decision-making."[1]

To prioritize the understanding of GenAI and its potential impact on the judiciary the MJC established the GenAI and the Courts Workgroup, and charged the Workgroup with:

(i) studying and identifying strategic opportunities and potential impacts of GenAI on the judiciary; and
(ii) studying and developing training and education opportunities for building statewide knowledge of GenAI and its applications among judicial officers, administrators, and court employees.

The Workgroup divided into four subcommittees that focused on key areas, including: Court Operations and Internal Uses, Risk Awareness, Ethics and Professional Responsibility, and Access to Justice and Rule of Law. The Workgroup met approximately two times per month over the course of nine months to discuss issues related to the Workgroup's charge. Members of the Workgroup also reviewed extensive written materials and oral presentations on the topic of GenAI.

The Workgroup recognizes that the volume of information related to GenAI is extensive and continuously evolving, and knowledge and awareness of GenAI significantly varies by individual. Accordingly, the Workgroup recommends a number of "next steps" in the MJC's analysis of GenAI and the courts so as to enhance education and awareness on the topic while also taking measured steps to ensure GenAI implementation occurs in a manner that is legal, ethical, and consistent with the objectives of the court.

[1] Michigan Judicial Council, *2022-2025 Strategic Agenda: Planning for the Future of the Michigan Judicial System,* 2022-michiganjc_strategicagendaproof_final-8-1-22.pdf, pg. 20, (accessed November 4, 2024).

Expand Training and Education on GenAI

First, the Workgroup recommends that training and educational opportunities be provided to individuals working within the Michigan Judicial system. At a high level, the training and educational sessions would focus on the following topics, though they could be tailored according to a particular court's preferences and needs: Gen AI Introduction and Overview, Operational / Internal Use of GenAI, Access to Justice and the Rule of Law, Professional Responsibility and Legal Ethics, and Risk Awareness.

Implement Pilot Programs for GenAI Tools

Second, insofar as any particular court is interested in testing a particular GenAI tool to enhance the court's operations or for some other internal use, the Workgroup recommends the use of pilot programs for testing and vetting such tool(s). Pilot programs will provide a controlled environment for human beings to test the tool before broader deployment.

Develop Feedback Loops and Iterations of GenAI Tools

Third, the Workgroup recommends that iterative feedback and testing by human users of GenAI is essential for evaluating GenAI tools used by the courts and ensuring that such use aligns with the expectations of the judiciary and the public. A process should be put in place to ensure that humans are kept "in the loop" to ensure that GenAI is being used in an appropriate and useful manner.

Develop Scaling and Integration Plans for the Use of GenAI Tools

Fourth, after successful pilot programs and iterative improvements, the Workgroup recommends a phase of scaling and integration whereby GenAI implementation is introduced across more areas of the judiciary. This process will involve, among other things, developing an integration roadmap for any such implementation, prioritizing areas for expansion based on pilot program results, ensuring interoperability with existing court management systems, and developing standardized protocols for GenAI use across different court divisions.

These recommendations are described in more detail at the conclusion of this Report.

Introduction

> *"As AI evolves, courts will need to consider its proper uses in litigation. . . . I predict that human judges will be around for a while. But with equal confidence I predict that judicial work—particularly at the trial level—will be significantly affected by AI."*
>
> *– Chief Justice of the U.S. Supreme Court John Roberts, December 31, 2023*

Since the first public release of ChatGPT in late 2022, interest in artificial intelligence and, in particular, Generative AI has skyrocketed, with stakeholders across industries touting the significant benefits of this new and evolving technology while also cautioning against its risks. The legal industry is no exception – judges, court administrators, lawyers, and litigants will be substantially impacted. Accordingly, throughout 2023 and into 2024, there has been a near-constant stream of discussions and developments related to AI, GenAI, and the practice of law. As Former Chief Justice of the Michigan Supreme Court, Bridget McCormack put it: generative AI is "undeniably going to be the biggest disruption to the business of law, the practice of law, and the way we resolve legal disputes that we've seen in our lifetimes."[2]

In 2023, Michigan was one of the first states to issue an advisory opinion on the ethical issues posed for judges by the use of artificial intelligence, in the Michigan State Bar Advisory Opinion JI-155 (2023). Chief Justice of the U.S. Supreme Court John Roberts made AI the focus of his 2023 *Year-End Report on the Federal Judiciary*, noting that AI is a "major issue relevant to the whole federal court system[]" while observing that "[t]he legal profession is, in general, notoriously averse to change."[3] In 2024, the American Bar Association Standing Committee on Ethics and Professional Responsibility issued its first formal opinion covering the growing use of GenAI in the practice of law.[4] After numerous headlines emerged about a lawyer who used GenAI to draft court filings that

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[2] Former Chief Justice Bridget McCormack Gives Her Thoughts on Access to Justice, Alternative Dispute Resolution, and Generative AI's Legal Future, Everlaw (Feb. 2024), https://www.everlaw.com/blog/ai-and-law/former-chief-justice-bridget-mccormack-gives-her-thoughts-on-access-to/ (accessed November 4, 2024).

[3] *See 2023 Year-End Report on the Federal Judiciary*, Roberts, C.J. (Dec. 31, 2023) at 2, 3, *available at* https://www.supremecourt.gov/publicinfo/year-end/2023year-endreport.pdf (accessed November 4, 2024).

[4] *See* American Bar Association Standing Committee on Ethics and Professional Responsibility, Formal Opinion 512 (Generative AI Tools) (July 29, 2024), *available at* https://www.americanbar.org/content/dam/aba/administrative/professional_responsibility/ethics-opinions/aba-formal-opinion-512.pdf (accessed November 4, 2024).

contained fake or "hallucinated" case citations,[5] many courts, individual judges, and bar associations have grappled with whether existing rules of professional responsibility were sufficient to address the challenges of GenAI or whether new rules were required to meet these challenges. At the same time, proponents of GenAI have touted how it can save time, improve outcomes, and enhance access to justice, as AI tools have "the welcome potential to smooth out any mismatch between available resources and urgent needs in our court system."[6]

There can be no doubt that strategic opportunities and potential impacts of GenAI on the judiciary are vast and in continuous flux as the technology evolves. With significant caseloads and complex legal questions, courts face the challenge of maintaining timely and accurate proceedings while ensuring equal access to justice.[7] Gen AI can assist in streamlining processes, reducing time-intensive tasks to free up valuable resources for other responsibilities, and providing data-driven insights to support fair and consistent decision-making.

While the uncertainty of navigating new and unfamiliar technology can be daunting, Michigan courts must embrace the challenges head-on in order to maximize the potential benefits while reducing risks. Notwithstanding any fear or aversion to new technology, judicial officers (like lawyers) are charged with an ethical obligation to "ethical duty to maintain technological competence and understand AI's ethical implications to ensure efficiency and quality of justice."[8] The good news is that, despite potential risks associated with GenAI, those risks can be mitigated and effectively managed. And, importantly, GenAI also presents numerous significant benefits that may meaningfully enhance the judicial process for judges, lawyers, and litigants alike.

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[5] Here's What Happens When Your Lawyer Uses ChatGPT, *New York Times* (Weiser, B.) (May 27, 2023), https://www.nytimes.com/2023/05/27/nyregion/avianca-airline-lawsuit-chatgpt.html (accessed November 4, 2024).

[6] *See 2023 Year-End Report on the Federal Judiciary*, Roberts, C.J. (Dec. 31, 2023) at 5, *available at* https://www.supremecourt.gov/publicinfo/year-end/2023year-endreport.pdf (accessed November 4, 2024).

[7] As Chief Justice Roberts observed in the Supreme Court's 2023 Year End Report, "For those who cannot afford a lawyer, AI can help. It drives new, highly accessible tools that provide answers to basic questions, including where to find templates and court forms, how to fill them out, and where to bring them for presentation to the judge—all without leaving home. These tools have the welcome potential to smooth out any mismatch between available resources and urgent needs in our court system." *See* https://www.supremecourt.gov/publicinfo/year-end/2023year-endreport.pdf, at 5. On the other hand, there is also a concern that "the most sophisticated tools will be in the hands of the most sophisticated, already well-resourced parties who will be able to leverage that technology to gain even further advantage." Neal, Jeff. The legal profession in 2024: AI, Havard Law Today (Feb. 14, 2024) https://hls.harvard.edu/today/harvard-law-expert-explains-how-ai-may-transform-the-legal-profession-in-2024/ (accessed November 4, 2024).

[8] Michigan Ethics Opinion, JI-155, https://www.michbar.org/opinions/ethics/numbered_opinions/JI-155 (accessed November 4, 2024).

The judiciary plays a vital role in ensuring that AI and GenAI technology is used a legal and ethical manner that promotes efficiency, access to justice, and the rule of law. The Workgroup recommends education and training opportunities for judicial officers, administrators, and court employees to identify strategic opportunities and potential impacts of GenAI on the judiciary, as well as risks and other issues associated with this technology.

Definitions: Artificial Intelligence and Gen AI

While there is no single accepted definition for either AI or GenAI, the following definitions have been used in President Biden's *Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence* (Oct. 2023) and are adequate for purposes of this report. Broadly, AI can be defined as "a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments."[9] GenAI refers to "the class of AI models that emulate the structure and characteristics of input data in order to generate derived synthetic content. This can include images, videos, audio, text, and other digital content."[10] The output of GenAI has a "human-like" quality, that may have the appearance of having been written or created by a human being. AI has been used in legal applications for decades and such applications will continue to evolve and expand. GenAI is a subset of AI and is the focus of the Workgroup's activities and this report.

Professional Responsibility & Legal Ethics

Before delving into both opportunities and risks associated with GenAI implementation by the courts, it is critical to note that any implementation or use of GenAI must be conducted in a manner that complies with canons of professional responsibility and legal ethics. The Workgroup formed the Professional Responsibility and Legal Ethics subcommittee to ensure that this essential value permeates all aspects of this report. As previously noted, the Michigan State Bar Advisory Opinion JI-155 (2023) addresses judicial officers' ethical obligation to maintain competence with new technology

[9] *See Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence* (Oct. 2023) at § 3(b) (quoting the definition of "artificial intelligence" from 5 U.S.C. § 9401(3)); *see* also Michigan Ethics Opinion, JI-155, https://www.michbar.org/opinions/ethics/numbered_opinions/JI-155 ("(AI) is not a single piece of hardware or software but a multitude of technologies that provide a computer system with the ability to perform tasks, solve problems, or draft documents that would otherwise require human intelligence.")

[10] *Id.* at § 3(b).

(including AI) and the American Bar Association issued Formal Opinion 512 in 2024 to address ethical issues and GenAI. Both of these are valuable resources for the MJC on this topic.

There are currently a variety of views as to whether existing rules of professional responsibility are sufficient to address issues related to GenAI or whether any particular court should adopt additional GenAI-specific guidance or rules. Courts across the United States have adopted different approaches on this issue and members of this Workgroup had different opinions on this topic. Notwithstanding these differences, it has become increasingly apparent that blanket prohibitions on AI (which has been used in legal research tools for many years) and GenAI (which can confer many benefits, provided a human continues to be "in the loop") are overreaching and not sustainable. At this time, the Workgroup was not tasked with investigating which approach should be undertaken by any particular Michigan court, but notes that it is preliminarily of the view that existing rules are likely sufficiently broad at this time to capture the legal and ethical use of GenAI tools by judicial officers and attorneys who practice before the courts. That said, the Professional Responsibility and Legal Ethics subcommittee of this Workgroup spent significant time analyzing various rules and preparing materials that could be used in the future for further exploration on this topic if, for example, the MJC sought out formal recommendations on whether existing rules are adequate and/or whether new rules should be considered. The Workgroup has also flagged Professional Responsibility and Legal Ethics as an area where future training and education opportunities would be potentially beneficial in order to educate judges and other court participants of existing rules and guidance that relates to the ethical and responsible use of GenAI.

In the meantime, any GenAI use (whether by court personnel or attorneys) must be premised upon two conditions being met: first, GenAI users must have knowledge of the risks inherent in using whatever technology they are using, which of course extends to any GenAI technology. Second, GenAI users must have knowledge of, and be bound by, existing ethical rules and understand how to comply with those rules while using technology tools, including GenAI.[11] Ultimately, the human judge or lawyer is responsible for the technology s/he uses and/or relies upon.

[11] See Michigan Rules of Professional Conduct (https://www.courts.michigan.gov/siteassets/rules-instructions-administrative-orders/rules-of-professional-conduct/michigan-rules-of-professional-conduct.pdf?404%3bhttps%3a%2f%2fmisc01mstrtu25qprod__d17f%3a80%2fcourts%2fmichigansupremecourt%2frules%2fdocuments%2fmichigan+rules+of+professional+conduct.pdf=&r=1) and Michigan Code of Judicial Conduct (https://www.courts.michigan.gov/siteassets/rules-instructions-administrative-orders/code-of-judicial-conduct/code-of-judicial-conduct.pdf?404%3bhttps%3a%2f%2fmisc01mstrtu25qprod__d17f%3a80%2fcourts%2fmichigansupremecourt%2frules%2fdocuments%2fmichigan+code+of+judicial+conduct.pdf=&r=1) (accessed November 4, 2024).

Strategic Opportunities and Potential Impacts of Gen AI on the Judiciary

Summarized below are some of these strategic opportunities and potential impacts of GenAI on the judiciary.

Exploration of How GenAI can Enhance Court Operations and Services

Document Management and Automation

AI-driven document analysis to streamline case file management. GenAI is revolutionizing document management in the judiciary by providing advanced tools for document analysis. Traditional methods of handling legal documents involve extensive manual labor, which is not only time-consuming but also prone to human error. GenAI-driven document analysis can streamline these processes significantly. By leveraging Natural Language Processing (NLP) and machine learning algorithms, GenAI systems can quickly analyze and categorize vast amounts of legal documents, such as case files, contracts, and evidence. This automation reduces the time required for document review and ensures that relevant information is easily accessible to legal professionals when needed.

GenAI tools can extract pertinent information from legal texts, identify patterns, and even predict the relevance of documents to specific cases. This capability is particularly beneficial in complex legal scenarios where the volume of documentation can be overwhelming. By automating these tasks, GenAI not only enhances efficiency but also improves the accuracy of document management, reducing the likelihood of errors that can occur with manual handling.

Automation of routine paperwork to reduce human error and free up resources. Routine paperwork is a significant part of the judicial process, encompassing tasks such as filing, record-keeping, and data entry. These tasks, though essential, are repetitive and can divert valuable human resources from more critical activities. GenAI can automate these routine tasks, thereby freeing up court employees to focus on more substantive work. For instance, Optical Character Recognition (OCR) technology can be used to digitize and automatically categorize incoming documents, reducing the need for manual data entry.

Several court systems have already begun to implement AI-driven document management solutions with promising results. For example, in Palm Beach County, Florida, and Tarrant County, Texas, OCR technology is being used to scan and automatically docket e-filed documents. This not only expedites the

filing process but also ensures that documents are accurately categorized and easily retrievable.[12]

Automation of routine paperwork not only speeds up administrative processes but also minimizes human error. Errors in legal documentation can have serious implications, potentially affecting the outcomes of cases. By automating these processes, GenAI ensures higher accuracy and reliability in legal documentation. An example of a possible application could be for the use of personally identifiable information (PII). GenAI could potentially have the ability to analyze court documents that contain PII, identify that information and redact it. Practices like this, in turn, contribute to a more efficient and responsive judicial system, capable of handling complex caseloads without compromising on quality.

Case Prioritization and Management Systems

AI for Case Analysis and Prioritization. Traditionally, case prioritization has been a manual process, relying on human judgment and assessment of factors such as the severity of the case, legal precedents, and potential consequences. However, this approach can be time-consuming and subjective, leading to potential inconsistencies or delays.

GenAI offers a solution by enabling automated case analysis and prioritization. By training GenAI models on vast legal datasets and historical case records, these systems can quickly identify and classify cases based on their complexity, urgency, and potential impact. This process can take into account various factors, such as the nature of the charges, the number of parties involved, and the potential societal implications.

Furthermore, GenAI can be integrated with existing case management systems to dynamically update case priorities as new information becomes available or circumstances change, ensuring that the most critical cases are addressed promptly.

AI systems for optimal schedules for hearings and trials. Effective court scheduling is crucial for efficient case management and resource allocation. However, manually coordinating hearings and trials while considering factors such as judge availability, courtroom capacity, and case priorities can be a daunting task, particularly in high-volume jurisdictions.

[12] Joint Technology Committee (JTC), Introduction to AI for Courts, Version 2.0 (Mar. 5, 2024), Introduction to AI for Courts (ncsc.org) (accessed November 4, 2024).

Gen AI can be leveraged to develop intelligent scheduling systems that analyze case data, resource availability, and other relevant factors to suggest optimal schedules for hearings and trials. These systems can consider various constraints, such as the estimated duration of proceedings, the availability of legal representatives, and the need for interpreters or special accommodation.

By automating the scheduling process, Gen AI can help reduce potential conflicts, minimize delays, and ensure that cases are heard in a timely and efficient manner, ultimately contributing to a more effective and equitable judicial system.

It is important to note that while Gen AI can provide valuable insights and recommendations, human oversight and decision-making should remain central to the case prioritization and scheduling processes, particularly in high-stakes or complex cases. Moreover, AI-powered systems can assist in legal research by quickly retrieving relevant case law, statutes, and legal precedents. This capability enhances the efficiency of legal professionals, allowing them to focus on case strategy and analysis rather than spending excessive time on document retrieval and review.[13]

Additionally, the integration of AI technology with existing judicial case management systems poses technical challenges. Courts must ensure that AI systems are compatible with their current infrastructure and that appropriate data privacy and security measures are in place. Training judiciary personnel to effectively use AI tools is also critical to maximizing their potential benefits.[14]

AI-driven document management and automation hold significant promise for improving the efficiency and accuracy of judicial processes. By automating routine paperwork and enhancing document analysis, AI can free up valuable resources, reduce human error, and expedite case resolutions. However, it is essential to address the technical challenges associated with AI implementation to ensure these technologies contribute to a fair and just legal system. As courts continue to explore and adopt AI solutions, they must prioritize transparency,

[13] Dr. A Sreelatha, Dr. Gyandeep Choudhary, Exploring The Use of AI In Legal Decision Making: Benefits and Ethical Implications, Woxsen University (Sept 2023), https://woxsen.edu.in/research/white-papers/exploring-the-use-of-ai-in-legal-decision-making-benefits-and-ethical-implications/ (accessed November 4, 2024).

[14] Joint Technology Committee (JTC), Introduction to AI for Courts, Version 2.0 (Mar. 5, 2024), Introduction to AI for Courts (ncsc.org) (accessed November 4, 2024).

accountability, and continuous improvement to fully realize the potential of AI in transforming the judiciary.

Virtual Assistance

Customer Assistance. In the realm of virtual assistance, Gen AI presents significant opportunities to enhance court operations and services. By implementing AI-powered chatbots, courts can provide round-the-clock assistance to the public for general inquiries, significantly improving accessibility and reducing the workload on court staff.[15]

These chatbots can be trained on vast amounts of legal information and court-specific data, enabling them to answer a wide range of questions accurately and consistently. For instance, they could provide information on court procedures, filing requirements, and case status updates. This 24/7 availability is particularly beneficial for individuals who may have difficulty accessing court services during regular business hours.[16]

For internal court operations, one of the key advantages of virtual assistants is their ability to provide consistent and accurate information, reducing the risk of human error or inconsistencies in the responses provided by different court staff members. Furthermore, these GenAI systems can be trained on vast legal databases, enabling them to provide up-to-date and comprehensive information on relevant laws, regulations, and court procedures.

Document Preparation. Moreover, public facing GenAI tools can be developed to assist in filling out legal forms and applications, a task that often proves challenging for self-represented litigants. While it should be made clear that these tools cannot and do not provide legal advice, they can nevertheless guide users through complex forms, define legal terminology, and ensure all necessary information has been provided.[17] This not only improves the accuracy of

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[15] Kauffman, Brittany, *The Implications of Generative AI: From the Delivery of Legal Services to the Delivery of Justice*, IAALS (Mar. 29 2023) https://iaals.du.edu/blog/implications-generative-ai-delivery-legal-services-delivery-justice (accessed November 4, 2024).

[16] Martinson, Sarach, How Courts Can Use Generative AI To Help Pro Se Litigants, LAW360 (May 3, 2024) https://www.law360.com/pulse/articles/1833092/how-courts-can-use-generative-ai-to-help-pro-se-litigants (accessed November 4, 2024).

[17] *Id*.

submitted documents but also reduces the time court staff spend correcting errors or following up on incomplete submissions.

Language Access. Implementing AI-powered virtual assistants can also help address language barriers and accessibility challenges. These GenAI systems can be designed to communicate in multiple languages, ensuring that individuals with limited English proficiency can still access court services and information. Additionally, virtual assistants can be integrated with assistive technologies, such as screen readers or voice recognition software, to support individuals with disabilities.

Dispute Resolution. The Michigan courts' MI-Resolve online dispute resolution system provides a model that could be enhanced with GenAI. Similar to the way that Amazon and eBay automate the dispute resolution process for customer complaints on their platforms, by incorporating GenAI into such systems, courts can offer more sophisticated assistance in resolving disputes, potentially expanding the types of cases that can be handled through online platforms.[18] Gen AI can be used to create personalized information packets for litigants based on their specific case type and circumstances. This could include tailored explanations of legal processes, deadlines, and required documents, helping to demystify the court process for non-lawyers.

It is important to note that while these AI-powered virtual assistants can significantly improve court operations, they should be designed to complement rather than replace human staff. Proper implementation would involve clear disclaimers about the limitations of AI assistance and easy pathways for users to access human help when needed.

By leveraging GenAI in virtual assistance, courts can significantly enhance their service delivery, improve accessibility, and ultimately contribute to a more efficient and user-friendly judicial system. While the implementation of virtual assistants in the judiciary may require significant upfront investment and training, the long-term benefits in terms of improved accessibility, efficiency, and cost savings can be substantial. By reducing the workload on court staff and providing consistent and accurate information to the public, AI-powered virtual assistants can contribute to a more efficient and transparent judicial system.

[18] LAW360, *supra*.

Identification of Areas Within the Judiciary Where Gen AI can be Most Impactful

Pre-Trial Procedures

In pre-trial procedures, GenAI can play a crucial role in evidence assessment and verification, as well as risk assessment for bail and remand decisions.

Evidence Assessment and Verification. AI tools can revolutionize the way evidence is processed and analyzed in the pre-trial phase. These systems can rapidly scan and categorize large volumes of documents, images, and audio/video files, identifying relevant information and potential discrepancies. This capability not only saves time but also reduces the risk of human error in evidence review.

Moreover, AI can assist in detecting manipulated or falsified evidence. Advanced image and video analysis algorithms can identify potential forgeries or alterations, enhancing the integrity of the evidence presented in court.

Risk Assessment for Bail and Remand Decisions. Gen AI can significantly improve the accuracy and fairness of pre-trial risk assessments. By analyzing vast amounts of historical data, AI systems can provide more objective and consistent evaluations of a defendant's flight risk or likelihood of reoffending. These AI-driven risk assessments can help judges make more informed decisions about bail and remand, potentially reducing bias and improving public safety outcomes.

However, it's crucial to note that while AI can provide valuable insights, the final decision-making authority should remain with human judges who can consider nuanced factors that may not be captured by AI algorithms. [19] Courts and lawmakers will also need to decide what rights litigants have to know that a decision was assisted by an algorithm, and what rights they might have to know how the algorithm works.[20]

Trial and Hearing Processes

During trials and hearings, GenAI can enhance efficiency and accuracy through real-time transcription services and advanced legal research capabilities.

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[19] Joint Technology Committee (JTC), Introduction to AI for Courts, Version 2.0, at 4 (Mar. 5, 2024), Introduction to AI for Courts (ncsc.org) (accessed November 4, 2024).

[20] Coglianese, Cary and Ben Dor, Lavi, AI in Adjudication and Administration (2021). Brooklyn Law Review, Vol. 86, p. 791, 2021, U of Penn Law School, Public Law Research Paper No. 19-41, Available at SSRN: https://ssrn.com/abstract=3501067 or http://dx.doi.org/10.2139/ssrn.3501067 (accessed November 4, 2024).

AI-enabled Transcription and Translation Services. AI-powered transcription services can provide real-time, highly accurate court records. These systems can transcribe spoken words into text with remarkable speed and precision. This technology preserves the quality of court records but also makes them immediately available for review, potentially expediting post-hearing processes.

Furthermore, GenAI transcription services can be particularly beneficial in multilingual proceedings, offering real-time translation capabilities that can enhance access to justice for non-English speakers.

AI Systems for Legal Research and Case Referencing. GenAI can significantly augment legal research capabilities within the courtroom. AI-powered legal research tools can quickly analyze vast databases of case law, statutes, and legal commentaries to provide relevant precedents and legal arguments in real-time. This capability can assist judges and legal professionals in making more informed decisions and ensuring consistency with previous rulings.

These GenAI systems can also help identify emerging legal trends and potential conflicts in case law, providing a more comprehensive view of the legal landscape surrounding a particular case.

Post-Trial Processes

In post-trial processes, GenAI can enhance compliance monitoring and improve decision-making in parole and probation cases.

AI for Monitoring Compliance with Court Orders. GenAI systems can be employed to monitor and enforce compliance with court orders more effectively. For instance, in cases involving restraining orders or probation conditions, GenAI can analyze data from various sources (e.g., GPS tracking, social media activity) to detect potential violations and alert relevant authorities promptly.

Moreover, GenAI can assist in managing and tracking the fulfillment of court-mandated programs or community service, ensuring more accurate and timely completion of these requirements.

Predictive Analytics for Parole and Probation Decisions. GenAI can provide valuable insights to support parole and probation decision-making processes. By analyzing historical data and identifying patterns associated with successful rehabilitation or recidivism, GenAI systems can offer data-driven recommendations to parole boards and probation officers.

These predictive analytics can help assess an individual's risk of reoffending and their likelihood of successful reintegration into society. However, it's crucial to ensure that these GenAI systems are regularly audited and updated to mitigate potential biases and maintain fairness in decision-making.

GenAI has the potential to significantly enhance various areas within the judiciary, from pre-trial procedures to post-trial processes. By leveraging GenAI's capabilities in evidence assessment, risk evaluation, transcription, legal research, and predictive analytics, courts can improve efficiency, accuracy, and fairness in judicial proceedings. However, it is essential to implement these technologies thoughtfully, ensuring they complement rather than replace human judgment and expertise in the legal system.

Potential Benefits of Gen AI Adoption for the Public and Courts

When assessing AI tools, especially for improving access to justice, courts and regulators should compare them to current realities, not perfection. AI technology is rapidly advancing, and its benefits may soon outweigh drawbacks even before reaching human-level performance.

Consider the actual accessibility of services for those with limited resources. Many may already rely on free but imperfect tools. As AI improves, adopting higher-quality AI services could be more beneficial than maintaining the status quo. In some cases, imperfect AI assistance might be preferable to no access at all, particularly in urgent situations.

For the Public

Enhanced Accessibility to Legal Assistance and Court Resources. Gen AI has the potential to democratize access to legal information and services. By leveraging AI-powered tools, individuals can obtain legal information without the need for costly legal representation. AI-driven chatbots and virtual assistants can provide 24/7 support, answering common legal questions and guiding users through complex legal processes. This increased accessibility ensures that more people can understand their rights and obligations, thereby promoting justice and legal literacy.[21] This can be especially beneficial for individuals who lack the resources to seek professional legal advice.

According to the National Center for State Courts, more than 70% of low-income households experience at least one civil legal problem per year, and 25% of

[21] Martinson, Sarach, *How Courts Can Use Generative AI To Help Pro Se Litigants*, LAW360 (May 3, 2024) https://www.law360.com/pulse/articles/1833092/how-courts-can-use-generative-ai-to-help-pro-se-litigants (accessed November 4, 2024).

those households experience six or more.[22] Eighty-six percent of the civil legal problems of low-income Americans receive inadequate or no legal help. According to a study by the Pew Research Center, nearly 80% of low-income individuals in the United States do not receive the legal help they need for civil legal problems (Legal Services Corporation, 2017). AI tools can bridge this gap by offering immediate and accurate information.

Reduced Waiting Times and Faster Case Resolutions. GenAI can significantly expedite various judicial processes. For instance, traditional court processes are often plagued by delays due to backlogs and inefficiencies. GenAI systems can analyze case backlogs and prioritize cases based on urgency and complexity, ensuring that critical cases are addressed promptly. This not only benefits the public by speeding up the resolution process but also enhances the overall efficiency of the judiciary.[23]

Additionally, GenAI can automate routine administrative tasks, such as document management and scheduling, which traditionally consume a significant amount of time. A study conducted by the National Center for State Courts found that courts implementing traditional AI tools saw a reduction in case processing times by up to 30%.[24]. The evolution of GenAI promises much higher boosts in productivity.[25] By streamlining these processes, GenAI can help reduce waiting times for court proceedings and accelerate the resolution of cases.

Increased Transparency in the Judicial Process. Transparency is a cornerstone of a fair judicial system. GenAI can enhance transparency by providing clear and consistent explanations for its decisions and recommendations. For example, GenAI systems used in risk assessment for bail and remand decisions can offer

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[22] McClymont, Mary, *Nonlawyer Navigators in State Courts: An Emerging Consensus*, The Justice Lab at Georgetown Law Center (June 2019) https://www.ncsc.org/__data/assets/pdf_file/0024/53691/Justice-Lab-Navigator-Report-6.11.19.pdf (accessed November 4, 2024).

[23] Kennedy, Dennis. *Ethical Implications of Generative AI for the Michigan Lawyer: Navigating the Digital Landscape* (Dec. 14, 2023) https://www.denniskennedy.com/blog/2023/12/handout-from-ethical-implications-of-generative-ai-for-the-michigan-lawyer-presentation/ (accessed November 4, 2024).

[24] National Center for State Courts. "AI in the Courts: Case Studies and Best Practices", (2019) https://www.ncsc.org/consulting-and-research/areas-of-expertise/technology/artificial-intelligence (accessed November 4, 2024).

[25] Nielsen, Jakob, *AI Improves Employee Productivity by 66%*, NN/G (Jul. 16, 2023) https://www.nngroup.com/articles/ai-tools-productivity-gains/ (accessed November 4, 2024).

detailed justifications for their assessments, making the decision-making process more understandable and accountable.

GenAI can also facilitate better record-keeping and data management, making court proceedings more transparent and accessible to the public. AI-enabled transcription services can provide real-time, accurate court records, which can be made available to the public, ensuring that the judicial process is open and accountable. Transparency in the judiciary is essential for maintaining public trust and confidence in the legal system.

For the Courts

Improved Operational Efficiency and Reduced Costs. The integration of Gen AI into court operations can lead to substantial improvements in efficiency and cost savings. AI can automate repetitive and time-consuming tasks, such as data entry, document analysis, and legal research. This automation not only speeds up these processes but also reduces the likelihood of human error. Consequently, court staff can focus on more complex and value-added activities, leading to a more efficient allocation of resources and reduced operational costs. [26]

Higher Accuracy in Legal Documentation and Record-Keeping. GenAI systems excel at handling large volumes of data with high precision. In the context of the judiciary, GenAI can ensure that legal documents are accurately drafted, reviewed, and stored. AI-driven tools can identify inconsistencies, errors, and omissions in legal documents, thereby enhancing the quality and reliability of court records. This increased accuracy is crucial for maintaining the integrity of the judicial process and ensuring that legal decisions are based on accurate and complete information. [27]

Enhanced Ability to Handle Larger and/or More Complex Caseloads Effectively. Courts may face the challenge of managing larger caseloads and/or cases having significant complexities, and a key concern is effectively managing these case demands without compromising on the quality of justice. GenAI can assist in this regard by providing advanced case management systems that can

[26] Martinson, Sarach, *How Courts Can Use Generative AI To Help Pro Se Litigants*, LAW360 (May 3, 2024) https://www.law360.com/pulse/articles/1833092/how-courts-can-use-generative-ai-to-help-pro-se-litigants (accessed November 4, 2024).

[27] Kennedy, Dennis. *Ethical Implications of Generative AI for the Michigan Lawyer: Navigating the Digital Landscape* (Dec. 14, 2023) https://www.denniskennedy.com/blog/2023/12/handout-from-ethical-implications-of-generative-ai-for-the-michigan-lawyer-presentation/ (accessed November 4, 2024).

analyze and categorize cases based on various criteria. These systems can suggest optimal schedules for hearings and trials, ensuring that court resources are utilized efficiently. Additionally, GenAI can monitor compliance with court orders and predict outcomes for parole and probation decisions, helping courts to manage post-trial processes more effectively.[28]

The adoption of GenAI in the judiciary offers numerous benefits for both the public and the courts. By enhancing accessibility, reducing waiting times, and increasing transparency, GenAI can make the judicial process more equitable and efficient for the public. For the courts, GenAI promises improved operational efficiency, higher accuracy in documentation, and the ability to handle larger caseloads effectively. Embracing these technologies can lead to a more responsive and just legal system, ultimately benefiting society as a whole.

Challenges and Considerations

Implementation Challenges

Integration of AI technology with existing systems. The integration of Gen AI technology within the judiciary presents several challenges. One of the primary concerns is the integration of GenAI technology with existing court systems and processes. This may require significant investment in infrastructure, data migration, and training of personnel. Integration of AI technology with existing systems presents a significant challenge. Many courts still rely on legacy systems that may not be compatible with cutting-edge AI technologies. The process of modernizing these systems while ensuring continuity of operations can be complex and costly. Moreover, there's a risk of data loss or corruption during migration, which could have serious legal implications.

Training judiciary personnel to use AI tools effectively. It is crucial to ensure that judiciary personnel are adequately trained to use AI tools effectively and understand their limitations and potential biases. Failure to do so could lead to misuse or overreliance on AI systems, potentially compromising the integrity of court proceedings.

Training judiciary personnel to use GenAI tools effectively is another major consideration. The legal profession has traditionally been slow to adopt new technologies, and there may be resistance from some staff members. Comprehensive training programs will be necessary to ensure that all personnel,

[28] Martinson, Sarach, *How Courts Can Use Generative AI To Help Pro Se Litigants*, LAW360 (May 3, 2024) https://www.law360.com/pulse/articles/1833092/how-courts-can-use-generative-ai-to-help-pro-se-litigants (accessed November 4, 2024).

from judges to administrative staff, are comfortable and proficient with GenAI tools. This training must not only cover the technical aspects but also address the ethical considerations of GenAI use in legal settings.

In addressing the challenges and considerations of implementing GenAI in the Michigan judiciary, it is crucial to recognize both the technical and ethical hurdles that must be overcome.

Data quality and data privacy. Data privacy and security pose significant challenges when implementing AI in the judiciary. Courts handle sensitive personal information, and any GenAI system must comply with stringent data protection regulations. There's a need for robust encryption, secure data storage, and strict access controls to prevent unauthorized use or breaches.

Bias. The issue of bias in GenAI systems is particularly critical in a judicial context. GenAI models can perpetuate or even amplify existing biases if not carefully designed and monitored. This could lead to unfair outcomes, especially in areas like risk assessment for bail decisions or sentencing recommendations. Regular audits and bias testing of AI systems will be necessary to ensure fairness and maintain public trust in the judicial system.

Transparency and Explainability. Transparency and explainability of GenAI decision-making processes are crucial considerations. The "black box" nature of some GenAI algorithms can make it difficult to understand how decisions are reached. This lack of transparency could potentially conflict with the principle of open justice and the right to a fair trial. Developing GenAI systems that can provide clear explanations for their outputs will be essential.

Ethical considerations extend beyond bias and transparency. There are concerns about the appropriate limits of AI use in the judiciary. For instance, while AI can assist in legal research and case analysis, there's a debate about whether it should play any role in actual decision-making processes. Establishing clear boundaries and ethical guidelines for AI use will be crucial.

Cost Considerations. The cost of implementing and maintaining GenAI systems is a significant consideration. While the use of GenAI can lead to long-term cost savings, the initial investment in technology, infrastructure, and training can be substantial. Securing funding and demonstrating return on investment may be challenging, especially in the public sector where budgets are often constrained.

Impact on public trust and confidence in Courts. The introduction of GenAI into the judicial system may be met with skepticism or fear from the public. There

could be concerns about job displacement, the dehumanization of the legal process, or a perceived loss of human judgment in legal matters. A comprehensive public education and engagement strategy will be necessary to build trust and acceptance of GenAI in the judiciary.

In conclusion, while GenAI holds great promise for enhancing judicial operations, its implementation comes with significant challenges. Addressing these technical, ethical, and social considerations will be crucial for the successful and responsible integration of GenAI into the Michigan judiciary.

Risk Awareness

While there is notable excitement about the myriad benefits that GenAI may confer, this section summarizes some of the potential risks associated with GenAI and proposes strategic policy recommendations to mitigate these risks. Staying abreast of risks will be an ongoing, iterative process as technology continues to evolve and new use cases emerge.

By way of background, the federal government, through the National Institute of Standards and Technology (NIST), has published an AI Risk Management Framework (AI RMF).[29] that identifies seven key factors for reducing AI risk by enhancing AI trustworthiness. The AI RMF explains that AI trustworthiness depends on it being: Valid and Reliable; Safe; Secure, and Resilient, Accountable and Transparent; Explainable and Interpretable; Privacy-Enhanced; and Fair (with Harmful Bias Managed).[30] The AI RMF provides a useful framework for evaluating the risks of GenAI in the judiciary,[31] and has been updated with the issuance of a companion resource identifying specific risk management practices.[32]

[29] *Artificial Intelligence Risk Management Framework* (hereinafter AI RMF 1.0), January 2023, https://doi.org/10.6028/NIST.AI.100-1 (accessed August 7, 2024).

[30] *Artificial Intelligence Risk Management Framework: Generative Artificial Intelligence Profile*, July 2024, https://doi.org/10.6028/NIST.AI.600-1 (accessed August 7, 2024).

[31] See, for example, *Benefits and Risks of Generative Artificial Intelligence Report*, California Government Operations Agency, November 2023, p. 14-26.

[32] The Massachusetts Institute of Technology (MIT) has also developed the AI Risk Repository, a comprehensive living database of over 700 AI risks categorized by cause and risk domain, and offers it for free copying and useThe AI Risk Repository divides AI risks into causal and domain taxonomies. The Causal Taxonomy of AI classifies how, when, and why an AI risk occurs, while the Domain Taxonomy of AI Risks classifies risks from AI into seven domains and 23 subdomains. http://airisk.mit.edu (accessed August 15, 2024).

Validity and Reliability

Validation refers to the "confirmation through evidence that the requirements for a specific intended use or application have been fulfilled."[33] Reliability is the "ability of an item to perform as required, without failure, for a given time interval, under given conditions."[34]

Validity requires that the output of a GenAI tool be accurate. The risk to the judiciary arises from the potential for AI-generated output to be used in judicial proceedings or the administration of justice, leading to inaccurate results, incorrect outcomes, and the decline of public faith in the judiciary. Similarly, hallucinations and deepfakes are two expressed concerns that compromise the validity and reliability of GenAI.

Hallucinations. When a user inputs or "prompts" a GenAI tool to provide a response, it is possible for the tool to generate a response that includes misleading, false or even fabricated data and presenting it as if it were true. The potential for a GenAI "hallucination" (referred to by the NIST as a confabulation[35]) underscores the need for human review and oversight of any GenAI tool output. For example, there are well-known (and notorious) stories about lawyers who have used a GenAI tool to draft briefs, resulting in fabricated, non-existent case citations to be included in court filings (apparently the lawyers in question did not review the output of the tool to ensure the accuracy of the cited cases, resulting in sanctions by the court).[36] The need to check the accuracy of case citations provided by a GenAI tool is often compared to the need to check the work of a first-year law firm associate. While successive iterations of GenAI tools are expected to reduce the potential for hallucinations, they are not predicted to become perfect. An online Hallucination Index now rates the relative error rates of the

[33] ISO 9000:2022, quoted in NIST IA RMF 1.0, Artificial Intelligence Risk Management Framework (AI RMF 1.0) (nist.gov), p. 13 (accessed August 7, 2024).

[34] ISO/IEC TS 5723:2022, quoted in NIST IA RMF 1.0, Artificial Intelligence Risk Management Framework (AI RMF 1.0) (nist.gov), p. 13 (accessed August 7, 2024).

[35] *Artificial Intelligence Risk Management Framework: Generative Artificial Intelligence Profile*, https://doi.org/10.6028/NIST.AI.600-1, p. 6 (July 2024, accessed August 7, 2024).

[36] *See Mata v Avianca, Inc.*, 1:22-cv-01461 (S.D.N.Y.), July 7, 2023.

leading LLMs.[37] A recent study from Cornell researchers[38] found that LLMs consistently hallucinate at a higher rate on queries not involving Wikipedia-accessible information.[39]

Deepfakes. Another area of concern regarding validity is that GenAI tools may be used by bad actors to create false or dishonest output.[40] This poses a risk to the judiciary through the use of fabricated or altered but realistic audio, videos, or images, commonly known as "deepfakes."[41] Fabricated evidence could thus be offered as authentic evidence (or authentic evidence could be challenged as fabricated), resulting in an increased need for expert testimony to authenticate challenged evidence, and replacing "seeing is believing" with greater evidentiary burdens for judges and juries.[42] One commentator notes that juries may be biased by exposure to video evidence even when they know it may be fabricated, and calls for amending the rules of evidence to reallocate responsibility for authenticating and admitting digital audiovisual evidence from the jury to the judge, instructing the jury on its use of that evidence, and limiting counsel's efforts to exploit the existence of deepfakes.[43]

Information integrity is crucial to public perceptions of fairness and competence in the judiciary. The NIST describes information integrity as the "spectrum of information and associated patterns of its creation, exchange, and consumption in society." High-integrity information, of the kind expected from judicial decisions and courtroom proceedings, is trustworthy, it "distinguishes fact from fiction, opinion, and inference; acknowledges uncertainties; and is transparent about its level of vetting. This

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[37] *The Hallucination Index: A Ranking & Evaluation Framework for LLM Hallucinations*, LLM Hallucination Index - Galileo (rungalileo.io) (accessed August 7, 2024).

[38] Zhao, Goyal, et al., *Wild Hallucinations: Evaluating Long-form Factuality in LLMs with Real-World Entity Queries,* https://doi.org/10.48550/arXiv.2407.17468 (accessed August 15, 2024).

[39] One of the co-authors concluded, "At present, even the best models can generate hallucination-free text only about 35% of the time." *Study suggests that even the best AI models hallucinate a bunch*," TechCrunch, August 14, 2024, Study suggests that even the best AI models hallucinate a bunch | TechCrunch (accessed August 15, 2024).

[40] *AI Systems are Learning to Lie and Deceive, Scientists Find*, Futurism, June 7, 2024, https://futurism.com/ai-systems-lie-deceive (accessed July 7, 2024).

[41] See *AI and the Courts: Digital Evidence and Deepfakes in the Age of AI*, AI Rapid Response Team, NCSC, June 2024, AI and the Courts: Digital Evidence and Deepfakes in the Age of AI (ncsc.org) (accessed August 7, 2024).

[42] *Keeping Deepfakes Out of Court May Take Shared Effort*, GovTech, January 24, 2024, https://www.govtech.com/artificial-intelligence/keeping-deepfakes-out-of-court-may-take-shared-effort (accessed August 10, 2024).

[43] Rebecca A. Delfino, *Deepfakes on Trial: A Call To Expand the Trial Judge's Gatekeeping Role To Protect Legal Proceedings from Technological Fakery*, 74 Hastings L.J. 293 (2023), https://repository.uclawsf.edu/hastings_law_journal/vol74/iss2/3 (accessed August 7, 2024).

information can be linked to the original source(s) with appropriate evidence. High-integrity information is also accurate and reliable, can be verified and authenticated, has a clear chain of custody, and creates reasonable expectations about when its validity may expire."[44]

Reliability addresses the ability of a GenAI tool to perform as required when needed. This pertains to reliable infrastructure as well as reliable output. With growing dependency on computer-based systems within the judiciary, computer reliability and electrical power are vital components. Such dependency leads many courts to design emergency generators into courthouse design to enable vital processes to continue in the event of a power failure. LLMs, however, are massive databases generally residing "in the cloud," exposing the user of such tools to internet disruptions. As a recent example, a massive cybersecurity fail occurred on July 19, 2024. A faulty software update from cybersecurity firm Crowdstrike caused computers running Microsoft's Windows operating systems to lock up and, among other consequences, grounded 5,000+ flights around the world, slowed healthcare systems, and forced many retailers to revert to cash-only transactions.[45] Most major systems were back online within a day, although airlines and others were still catching up days later. One estimate is that the cost of the failure will be over $5 billion. A single point of failure can have massive consequences. One writer put it this way:

> "Imagine today's AI as a new operating system. In 5-10 years, it'll likely be as integrated into our economy as Microsoft's cloud servers are now. This isn't that far-fetched—Microsoft is already planning to embed AI into all its programs.
> So what if a Crowdstrike-like incident happens with a more powerful AI system? Some experts predict an AI-powered IT outage could be 10x worse than Friday's fiasco.
> This is why we need extreme caution when deploying AI in consequential areas like healthcare, transportation, military, or justice. "AGI will fix it" isn't a real solution, and if Friday proved

[44] This definition of information integrity is derived from the 2022 White House Roadmap for Researchers on Priorities Related to Information Integrity Research and Development, quoted in *Artificial Intelligence Risk Management Framework: Generative Artificial Intelligence Profile*, July 2024, https://doi.org/10.6028/NIST.AI.600-1, p. 9.

[45] Vox, *The "largest IT outage in history," briefly* , (accessed August 7, 2024).

> anything, it's that removing humans from the loop entirely could spell disaster."[46]

Aaron L. Judy, chief of innovation and emerging technologies for Maricopa County, Arizona, promotes "adoption with agility." In other words, try not to adopt a technology you can't pivot away from quickly.[47]

Model Collapse. Some researchers have also raised theoretical concerns about the phenomenon of "model collapse," which occurs when a large language model is continuously trained on internet data, a growing proportion of which has been artificially generated by AI systems. It refers to the degenerative process affecting LLMs and GenAI tools when artificially generated data pollutes the training set of subsequent models, leading to a misperception of reality.[48] The challenge will be for developers to continue to improve the models without losing hold of reality.

Safety

The development of GenAI may result in an existential risk to human life, as highly advanced computers may be capable of decisions that put human life, at risk either through the actions of bad actors using the technology, or through the unintended consequences of misuse. In a May 2023 open letter, top technology company executives from OpenAI, Microsoft, Google, and others advised that "mitigating the risk of extinction from GenAI should be a global priority alongside other societal-scale risks such as pandemics and nuclear war."[49] While the existential concern arising from GenAI seems beyond the scope of a report over the use of GenAI within the judiciary, such issues are likely to result in litigation, and are already generating legal regulation,

[46] The Neuron Newsletter, July 22, 2024, https://www.theneurondaily.com/p/agi-break-world?utm_source=www.theneurondaily.com&utm_medium=newsletter&utm_campaign=could-agi-break-the-world (accessed July 22, 2024).

[47] Webinar, "Court Use Cases and Actionable Road Map," February 22, 2024, p.7.

[48] *Research Finds ChatGPT and Bard Headed for "Model Collapse,"* AI Magazine, June 20, 2023, https://aimagazine.com/articles/research-finds-chatgpt-headed-for-model-collapse. See also *Benefits and Risks of Generative Artificial Intelligence Report*, California Government Operations Agency, November 2023, p. 15 (accessed July 7, 2024).

[49] *Downplaying AI's Existential Risks is a Fatal Error*, Roll Call, June 11, 2024 Downplaying AI's existential risks is a fatal error, some say - Roll Call (accessed November 4, 2024).

including the President's Executive Order issued October 20, 2023,[50] and the European Union's AI Act.[51]

The continuing advances in GenAI and the competing versions available in the marketplace have been described as an "arms race," sparking concerns over the end result of continuing improvements and worldwide adoption of the technology. The ability of government and technology industry experts to correctly evaluate the safety of GenAI tools remains in question. One study concludes that:

> "… evaluations alone are not sufficient for determining the safety of foundational models, the systems built from them and their applications for people and society in real-world conditions. There is no agreed terminology or set of methods for evaluating foundation models, and evaluations need to be used alongside other tools including codes of practice, incident reporting and post-market monitoring. In practice, AI model evaluations are currently voluntary and subject to company discretion, leading to inconsistencies in quality and limited access for evaluators without pre-existing company relationships. Current policy proposals allow companies to selectively choose what evaluations to conduct, and fail to ensure evaluation results lead to meaningful action that prevents unsafe products from entering the market."[52]

Security and Resiliency

Security and resiliency are related but distinct characteristics. Security in the use of GenAI systems requires that the organization can maintain the confidentiality, integrity, and availability of its data and prevent unauthorized access and use. A resilient GenAI system is one that can withstand unexpected adverse events or unexpected changes in their environment or use. The risks of insecure or non-resilient systems are well-known to the information technology (IT) professionals already working in the judiciary, but the addition of GenAI tools enhance these risks beyond unauthorized user access and data breaches. These enhanced risks include:

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[50] Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence | The White House, (accessed August 7, 2024).

[51] Council of the EU, *Artificial Intelligence (AI) Act: Council gives final green light to the first worldwide rules on AI,* Press Release 21May2024, Artificial intelligence (AI) act: Council gives final green light to the first worldwide rules on AI (europa.eu) (accessed August 7, 2024).

[52] Jones, Hardalupas, Agnew, *Under the Radar: Examining the Evaluation of Foundational Models*, Ada Lovelace Institute, July 26, 2024, Under the radar? | Ada Lovelace Institute (accessed August 10, 2024).

- *Data poisoning*, when low quality or biased data is intentionally or unintentionally leaked into a training dataset for a GenAI model;

- *Model inversion*, when malicious actors can steal sensitive personal data through the GenAI model's outputs;

- *Model skewing*, when malicious actors intentionally amplify biased training data to skew model decisions;

- *Adversarial attacks*, when malicious actors can supply inputs to the GenAI model designed to break the system;

- *Supply chain vulnerabilities* through third-party services, plug-ins, and libraries;

- *Adversarial prompt attacks* that can cause GenAI model to produce unwanted content, including dangerous, violent, or hateful content;

- *Remote execution of harmful code* through the GenAI model to modify access permissions, delete, or steal data;

- *Prompt injection attacks,* which can manipulate the model into taking undesirable actions;

- *Generated content* which may be indistinguishable from content created by a human, which could extend the scope of harm by bad actors across sectors.

Protecting the judicial branch from these risks requires a combination of effective data security measures and policies, training of judicial officers and court staff, and efficient and rapid reporting of any suspected breach to the appropriate personnel or agency.

Resiliency requires preplanning the response of the judiciary to the occurrence of any of the potential risks arising from the use of GenAI. The "adoption with agility" model applies to the creation of back-up plans, providing the judiciary with the ability to pivot to systems and procedures not requiring the use of GenAI.

Accountability and Transparency

Accountability for answers generated by AI systems must remain in human hands. Decisions made by GenAI are difficult to explain due to their complex, opaque nature, arising from the complex interaction of millions of algorithms within the LLMs (often called the "black box" of GenAI). Public confidence in the judiciary requires

transparency, and the reasons and citations behind judicial decisions must remain accessible.

Transparency alone, however, is insufficient to provide accountability. In the Dutch province of Gelderland, a judge in June 2024 used ChatGPT to determine the reduced efficiency of solar panels in a suit brought by a plaintiff alleging that a neighbor's construction of an additional floor on an adjacent building put their solar panels in perpetual shade, causing damages. The judge, while transparent about the use of ChatGPT, used factual information provided by GenAI – not introduced during the legal proceedings – to decide the case, causing concern and consternation.[53]

In the United Kingdom, the Courts and Tribunals Judiciary in December 2023 authorized judges to use GenAI tools to help write opinions but stressed it shouldn't be used for research or legal analyses because the technology can fabricate information and provide misleading, inaccurate and biased information.[54] "Judges do not need to shun the careful use of AI," said Master of the Rolls Geoffrey Vos, the second-highest ranking judge in England and Wales. "But they must ensure that they protect confidence and take full personal responsibility for everything they produce."

The American Bar Association issued its formal opinion on generative artificial intelligence tools on July 29, 2024, stating:

> To ensure clients are protected, lawyers using generative artificial intelligence tools must fully consider their applicable ethical obligations, including their duties to provide competent legal representation, to protect client information, to communicate with clients, to supervise their employees and agents, to advance only meritorious claims and contentions, to ensure candor toward the tribunal, and to charge reasonable fees.[55]

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[53] *Dutch Judge's Use of ChatGPT Prompts Outrage, Disbelief in the Netherlands*, Law.com, August 7, 2024, https://www.law.com/legaltechnews/2024/08/07/dutch-judges-use-of-chatgpt-prompts-outrage-disbelief-in-the-netherlands-397-88471/?kw=Dutch%20Judge%27s%20Use%20of%20ChatGPT%20Prompts%20Outrage,%20Disbelief%20in%20the%20Netherlands (accessed August 7, 2024).

[54] *Judges in England and Wales are given cautious approval to use AI in writing legal opinions,* Associated Press, January 8, 2024, https://abcnews.go.com/Technology/wireStory/judges-england-wales-cautious-approval-ai-writing-legal-106185194 (accessed January 22, 2024).

[55] Formal Opinion 512: Generative Artificial Intelligence Tools, July 29, 2024, Formal Opinion 512 (americanbar.org) (accessed August 7, 2024).

Michigan was one of the first states to issue an advisory opinion on the ethical issues posed for judges by the use of artificial intelligence, in Michigan State Bar Advisory Opinion JI-155 (2023). The Michigan committee explains that the ethics requirement that judicial officers competently handle their administrative duties includes "competency with advancing technology," including "knowing the benefits and risks associated with the technology that judicial officers and their staff use daily, as well as the technology used by lawyers who come before the bench." The Michigan State Bar's opinion also describes why knowledge of AI technology is essential to ensuring that a judge's use of AI does not conflict with other provisions in the code. For example, it states that the code requirements could be implicated if the algorithm or training data for an AI tool is biased:

> Specifically, if an AI tool's algorithm's output deviates from accepted norms, would the output influence judicial decisions ...? An algorithm may weigh factors that the law or society deem inappropriate or do so with a weight that is inappropriate in the context presented .... AI does not understand the world as humans do, and unless instructed otherwise, its results may reflect an ignorance of norms or case law precedent.

The Michigan State Bar's opinion concludes:

> AI is becoming more advanced every day and is rapidly integrating within the judicial system, which requires continual thought and ethical assessment of the use, risks, and benefits of each tool. The most important thing courts can do today is ask the right questions and place their analysis and application of how they reached their conclusion on the record.[56]

Explainability and Interpretability

Explainability refers to a representation of the mechanisms underlying GenAI systems' operation. Interpretability refers to the meaning of GenAI systems' output in the context of their designed functional purposes.[57] Both terms address the "black box" problem presented by the use of LLM generative AI tools: the interaction of millions of algorithms accessing billions of bits and bytes of data from unknown sources to produce a requested output.

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[56] As reported in the *Judicial Conduct Reporter*, Vol. 45, No. 4, pp. 16-18 (NCSC: Winter 2024).

[57] *Benefits and Risks of Generative Artificial Intelligence Report*, California Government Operations Agency, November 2023, p. 21.

Privacy

Privacy generally refers to the right of individuals and entities to protect and safeguard information pertaining to identity, human autonomy, and dignity. The rights associated with privacy include the right to freedom from intrusion and from observation, and the right to control the use or dissemination of certain information. The risk to privacy in the use of GenAI tools arises first from the source materials used in the building of the LLMs on which they are based. Billions of documents and images derived from internet-based sources contain personal information, some of which may reappear in response to requests from users of those tools. Second, the use of free versions of GenAI tools also results in the data contained in the user's prompt, or information request, being incorporated into the LLM as additional data for future use. Some GenAI tools claim to offer opportunities to prevent the use of the user's data from being incorporated into the tool's data for other use, though this may require using the paid version of the GenAI tool. These tools can leak personal data either by design or inadvertence, and may raise novel privacy issues such as:

- Re-identification risk, by synthesizing new datasets from previously unintegrated sources;
- Third-party plug-ins and browser extensions, which may collect data about a user's use of GenAI tools and share that data with the third-party developer or others;
- Government ability to respond to consumer privacy requests. The right of consumers to request privacy of information within government databases may become too difficult or administratively difficult to carry out.
- The security of government and other databases containing personal information may be subject to more sophisticated attacks by bad actors using GenAI tools.

Fairness

The LLM models underlying current GenAI tools are based on massive quantities of internet-based data, including the good, the bad, and the ugly. Outputs from such training data may be unintentionally amplified, leading to biased, discriminatory, or homogenized outcomes. An early and now classic example of this is when Amazon used AI to enhance its employee recruitment process. The AI program looked at Amazon's past hiring data, saw that males were over-represented among Amazon's employees, and concluded that males should therefore be favored in the hiring process.[58]

[58] *Amazon's Sexist Hiring Algorithm Could Still be Better than a Human*, International Inst. for Management Development, 2018, tc061-18-print.pdf (widen.net), (accessed July 7, 2024).

Biases have also been shown in the use of facial recognition technology (FRT). Facial recognition technology is software that uses a person's facial features and features to verify that person's identity. The National Institute of Science and Technology showed that FRT systems resulted in higher rates of false positives for certain demographic groups of people. For the purposes of that study, a false positive indicated that the FRT incorrectly considered images of two different people to be the same person. The research showed higher rates of false positives were reported for Asians, African Americans and also native groups compared to Caucasian groups for U.S. developed FRT algorithms. In fact, the American Indian demographic had the highest rates of false positives.[59]

Biases contained in historical data may thus be perpetuated in GenAI tools trained on that data. Such bias can exist in many forms and may result in over-representation of certain groups or under-representation of protected classes of people. GenAI tools may also under perform in non-English languages, resulting in poorer outcomes for those using non-English languages. This selection bias may lead to homogenization of data, and reduced content diversity.

The potential for bias in GenAI models must be recognized and all AI-assisted output should be reviewed before use or publication. AI-assisted decisions, whether in legal research or in sentencing and bond determinations, must be evaluated with the potential for both explicit and implicit bias in mind, to assure that judicial decisions are fair and just and do not disproportionately affect specific groups.

Recommendations and Next Steps

The implementation of GenAI in the Michigan judiciary should be approached strategically and methodically. To ensure successful integration and maximize the benefits while mitigating risks, the following next steps are recommended:

1. Expand Training and Education on GenAI

As discussed above, GenAI has tremendous potential for enhancing access to justice and improving court operations. However, it is crucial to approach implementation with caution, acknowledging potential risks such as deepfakes, hallucinations, and unintended biases. These concerns underscore the need for robust verification processes, human oversight, and continuous evaluation of AI-driven systems. Despite these challenges, the potential benefits of GenAI in the judiciary are substantial and

[59] *NIST Study Evaluates Effects of Race, Age, Sex on Face Recognition Software*, National Institute of Standards and Technology, December 19, 2019 at ttps://www.nist.gov/news-events/news/2019/12/nist-study-evaluates-effects-race-age-sex-face-recognition-software (accessed November 4, 2024).

warrant careful exploration. Training and education are a critical first step to building statewide knowledge of GenAI and its applications among judicial officers, administrators, and court employees.

As part of the Workgroup's investigation of training and education opportunities, the Workgroup surveyed numerous online and written resources, discussed these issues by topic in subcommittees, and heard from two guest speakers on how GenAI is impacting the judiciary and legal practice. One of these speakers was Aaron Judy, Chief of Innovation and Artificial Intelligence for the Clerk of the Superior Court of Maricopa County, Arizona. Mr. Judy is a recognized leader[60] on the topic of how state and local governments are approaching emerging technologies such as GenAI and shared his thoughts on how Maricopa County Clerk of the Superior Court has benefited from these technologies while managing their risks associated. The Workgroup also benefited from the insights of Pablo Arrendondo, co-founder and Chief Innovation Officer at Casetext, which was acquired by Thomson Reuters and is "dedicated to building legal AI to improve the practice of law and expand access to justice for everyone."[61] *Fast Company* noted that CoCounsel can "read, analyze, and summarize legal documents at a postgraduate level" and "can generate—at a blazing speed—legal research memos, review thousands of documents to answer questions during discovery, and find specific contract items in vast databases of information."[62]

Because GenAI is a hot and continuously evolving topic, training and education opportunities are significant. However, as a starting point, the Workgroup recommends that the following training modules be considered (which could then be tailored for the particular court depending on its internal existing awareness of GenAI, the particular challenges and opportunities it believes should be prioritized, etc.):

- **Introduction and Overview:** Provide overview of key issues related to GenAI and the courts and increase overall awareness of how GenAI is impacting and will continue to impact the judiciary and provide high level summary of opportunities and risks.

- **Operational/Internal Use of GenAI:** Identify key use cases where the court may prioritize in order to enhance/streamline court/internal operations; consider guest

[60] *See, e.g.,* The Impact of Automation and AI at the County Level: Interview with Aaron Judy, Maricopa County Clerk of the Superior Court [GovFuture Podcast], https://www.govfuture.com/the-impact-of-automation-and-ai-at-the-county-level-interview-with-aaron-judy-maricopa-county-clerk-of-the-superior-court-govfuture-podcast/ (accessed November 4, 2024).

[61] *See* https://casetext.com/about/ (accessed November 4, 2024).

[62] *Id.*

speaker from another court who can explain how such tool was successfully implemented; receive demonstrations on existing tools.

- **Access to Justice/Rule of Law:** Discuss how GenAI can be used by litigants and other participants in the court system; explore how GenAI can improve access to justice for litigants, particularly for self-represented litigants (SRLs). On the other hand, discuss how SRLs may be especially vulnerable to the consequences of AI-driven missteps in their legal proceedings.

- **Professional Responsibility and Legal Ethics:** Discuss existing rules of professional ethics and canons of legal ethics and how they intersect with GenAI use and implementation.

- **Risk Awareness – Bias, Hallucinations, Inadvertent Disclosure, Deepfakes, and Fake Evidence:** Provide a deeper dive on the risks / red flag issues associated with Gen AI and how to manage emerging risks as technology continues to evolve.

To ensure thoughtful and effective GenAI integration and training / education on related topics, courts should consider collaborating with established institutions specializing in legal innovation. Courts may also want to consider working in cohorts together with academic or other trusted institutions. The Stanford Legal Design Lab[63] stands out as an excellent potential partner for such initiatives, particularly with respect to GenAI and access to justice issues. These partnerships can help courts to:

- Conduct user research to identify pain points in current court processes
- Design GenAI solutions that address specific, well-defined problems
- Prototype and test GenAI implementations before full-scale adoption
- Develop ethical guidelines for AI use in the justice system

2. Implement Pilot Programs for Gen AI Tools

Initiating small-scale pilot programs is crucial for testing GenAI applications in non-critical areas of court operations. These pilots serve as controlled environments to

[63] *See* https://justiceinnovation.law.stanford.edu/projects/ai-access-to-justice/. The Stanford Legal Design Lab provides a valuable starting point for courts to identify and prioritize AI applications that can meaningfully improve access to justice. By aligning with these use cases, courts can facilitate benchmarking, encourage collaboration, and share best practices, ultimately accelerating the responsible adoption of AI technologies across the judicial system.

assess the effectiveness, identify potential issues, and refine implementation strategies before broader deployment.[64] Potential pilot programs could include:

1. AI-assisted document management in a specific court division
2. Chatbot implementation for basic public inquiries in select courthouses
3. AI-powered transcription services for a limited number of hearings

These pilot programs should be carefully designed with clear objectives, metrics for success, and rigorous evaluation protocols.[65]

3. Develop Feedback Loops and Iteration for Gen AI Tools

Establishing robust feedback mechanisms is essential to assess the effectiveness of GenAI implementations and make necessary adjustments. This iterative approach allows for continuous improvement and adaptation.[66] Key components of this process include:

1. Regular surveys of court staff and users to gather qualitative feedback
2. Quantitative analysis of performance metrics (e.g., time saved, error rates)
3. Periodic review meetings with stakeholders to discuss findings and propose improvements

The feedback gathered should inform iterative refinements to the GenAI systems and implementation strategies, ensuring that the technology aligns with the needs and expectations of the judiciary and the public.[67]

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[64] Sourdin, T. (2018). Judge v. Robot? Artificial Intelligence and Judicial Decision-Making. University of New South Wales Law Journal, 41(4), 1114-1133.

[65] See McGill, Hon. W. Kearse, Ethical Rules to Consider When Using Generative Artificial Intelligence as a Judge, ABA Technology Column (Apr. 23, 2024); See also, Susskind, R. (2019). Online Courts and the Future of Justice. Oxford University Press.

[66] See AI and the practice of law: Major impacts to be aware of in 2024, Thomson Reuters (Jul. 1, 2024); See also, Re, R. M., & Solow-Niederman, A. (2019). Developing Artificially Intelligent Justice. Stanford Technology Law Review, 22, 242-289.

[67] *See* Michigan Ethics Opinion, JI-155; *see also* Zeleznikow, J. (2017). Can Artificial Intelligence and Online Dispute Resolution Enhance Efficiency and Effectiveness in Courts. International Journal for Court Administration, 8(2), 30-45.

4. Develop Scaling and Integration Plans for the Use of GenAI Tools

Following successful pilot programs and iterative improvements, planning for gradual scaling of GenAI implementations across more areas of the judiciary is crucial. This phase should include:

1. Developing a comprehensive integration roadmap with clear milestones and timelines
2. Prioritizing areas for expansion based on pilot program results and potential impact
3. Ensuring interoperability with existing court management systems
4. Developing standardized protocols for GenAI use across different court divisions

The scaling process should be accompanied by comprehensive training programs for judiciary personnel to ensure effective use of GenAI tools and maintain the integrity of court operations.[68]

As the Michigan judiciary moves forward with GenAI integration, it is crucial to maintain transparency, adhere to ethical guidelines, and prioritize the fair administration of justice. Regular assessments of the GenAI systems' impact on court operations and public trust should be conducted to ensure that the technology enhances rather than compromises the judicial process.[69]

Conclusion

The application of GenAI to the practice of law and delivery of justice are emerging and important issues facing the judiciary. GenAI models are already being used in the practice of law and are evolving at a rapid pace. Leaders in the judiciary must have the necessary knowledge and skills to effectively engage in conversations about GenAI so as to increase efficiency and access to justice while mitigating risks associated with unsupervised and undisciplined use of this technology. Education and training on GenAI and its implications on the justice system are a crucial component of the judiciary's awareness adoption of this rapidly evolving technology across Michigan

[68] Reiling, D. (2020). Courts and Artificial Intelligence. International Journal for Court Administration, 11(2), 8.

[69] Tashea, J. (2019). Courts Are Using AI to Sentence Criminals. That Must Stop Now. Wired. https://www.wired.com/2017/04/courts-using-ai-sentence-criminals-must-stop-now/.

courts. The identification of strategic applications for the use of AI is needed to ensure AI is leveraged in an intentional and thoughtful way that best serves the public and the courts.

Acknowledgements and Workgroup Membership

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Workgroup Members

Hon. Nicholas Ayoub	61st District Court
Hon. Carol M. Bealor	Cass County Probate Court
Kevin J. Bowling	20th Circuit and Ottawa County Probate Courts (Ret)
Hon. Monte Burmeister	Crawford County Probate
Geremy Burns	12th District Court
Kim Cramer	Michigan Legal Help
Hon. AT Frank	70th District Court
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Sarah Roth	Michigan Supreme Court
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Robert Steinoff	Alger County Prosecutor's Office
Hon. Paul Stutesman	45th Circuit Court
Emily Tait	Jones Day International
Hon. Jon Van Allsburg	20th Circuit Court
Darth Vaughn	Ford Motor Company

Appendix A – Glossary of AI Terms

AIgorithm – A set of rules or steps that a computer follows to complete a task.

Artificial Intelligence – The capability of a machine to imitate intelligent human behavior.

Chatbots – Software applications designed to simulate human conversation.

Data Mining – The process of discovering patterns and knowledge from large amounts of data.

Data Scrubbing – The process of detecting and correcting (or removing) errors and inconsistencies in data to improve its quality.

Data Training – The phase in which an AI system learns from data to make predictions or decisions without being specifically programed.

Deepfakes – Digitally crafted images, recordings, or videos that convincingly misrepresent someone's actions or words.

Deep Learning – A subset of machine learning, using neural networks with many layers.

Generative Adversarial Networks (GAN) – GenAI models that put two AI models against one another to generate increasingly convincing fake output data, such as audio, images, and videos.

Generative AI (GenAI) – AI models that can generate new content, such as images, sounds, or texts.

Hallucination – When an LLM system responds to a prompt with an inaccurate, irrelevant, or illogical answer.

Large Language Model (LLM) – A kind of neural network designed, essentially, to predict the next word; often used to power chatbots.

Machine Leaming (ML) - A type of artificial intelligence where computers learn from data without being explicitly programmed.

Natural Language Processing (NLP) - The ability of computers to understand and generate human language.

Prompt Engineering - The art and science of designing specific input structures to guide machine learning models, especially language models, to produce desired outputs.

Reinforcement Learning - One of the three core machine-learning paradigms, it involves algorithms independently using trial-and-error to determine behaviors that maximize a desired reward.

Retrieval Augmented Generation (RAG) - A technique for optimizing LLMs for particular use cases, by feeding them certain targeted information (for instance, by uploading all of a company's contracts).

Singularity - A hypothetical point in the future when technological growth becomes uncontrollable and irreversible, leading to unforeseeable changes to human civilization; sometimes described as artificial intelligence surpassing human intelligence.

Superintelligence - An entity, often envisioned as a computer, that exceeds human capability in terms of overall intelligence or specific intellectual measures.

Supervised Learning - A method of AI training where algorithms are taught using labeled input data, such as training an algorithm to recognize cats using images explicitly labeled as cats.

Symbolic Reasoning - An approach in AI where symbolic representations of problems are used, in contrast to neural networks or statistical methods.

Training Computation - The computational work involved in training a machine learning model on a dataset, typically measured in terms of the number of operations or the energy consumed.

Transformers - Introduced by Google researchers in 2017, transformers are models trained on huge quanti-ties of data to understand context, selectively retaining relevant information similar to human memory; they form the foundation of ChatGPT.

Unsupervised Learning - A method of AI training where algorithms identify patterns and similarities in unlabeled data, grouping information without prior training or explicit labeling.