Application of artificial intelligence as a way of digitalizing the system of justice: legal, economic and social issues*

Aplicación de la inteligencia artificial como forma de digitalizar el sistema de justicia: cuestiones jurídicas, económicas y sociales

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Date of Receipt: November 8, 2024
Date of Approval: December 9, 2024

How to cite: Teremetskyi, V., Burylo, Y., Bandurka, S., Albul, S., & Riabchenko, Y. (2025). Aplicación de la inteligencia artificial como forma de digitalizar el sistema de justicia: cuestiones jurídicas, económicas y sociales. Via Inveniendi Et Iudicandi, 20(1), 122-132. https://doi.org/10.15332/19090528.11118

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Abstract

The article addresses legal, social, and economic issues arising from the introduction of artificial intelligence in the judiciary. The primary focus of the article is the protection of fundamental human rights and freedoms in the context of applying artificial intelligence in judicial proceedings. The methodology employed includes deductive, comparative, historical, prognostic, structural, and functional methods, as well as system analysis and scientific generalization. A wide range of international experiences in applying artificial intelligence systems within the judiciaries of various countries, such as the USA, China, India, Brazil, and the UK, is examined.

Significant attention is devoted to the legislation of countries that have already integrated artificial intelligence into their justice systems. Moreover, particular emphasis is placed on the first comprehensive act of international legislation dedicated to artificial intelligence—the AI Act of the European Union. It is demonstrated that the use of artificial intelligence can increase the efficiency of judicial proceedings and facilitate access to justice for ordinary people. However, concerns remain regarding technological accessibility and fairness, a lack of public trust, transparency, the potential compromising of judicial authority, and the financial costs associated with introducing AI tools in courts.

The conclusion drawn is that a robust legal framework, along with human oversight and ethical standards concerning artificial intelligence, is essential for protecting fundamental human rights and maintaining public confidence in the judiciary.

Keywords:

digitalization, artificial intelligence (AI), court, judiciary, justice system, judicial proceedings, human rights and freedoms, access to justice, legal regulation, legal framework.

Resumen

El artículo aborda las cuestiones jurídicas, sociales y económicas derivadas de la introducción de la inteligencia artificial en el sistema judicial. Se centra en la protección de los derechos humanos y las libertades fundamentales en el contexto de la aplicación de la inteligencia artificial en los procedimientos judiciales. La metodología del artículo incluye los métodos deductivo, comparativo, histórico, pronóstico, estructural y funcional, así como el análisis de sistemas y la generalización científica. Se examina la amplia experiencia internacional en la aplicación de sistemas de inteligencia artificial en el sistema judicial de numerosos países, como Estados Unidos, China, India, Brasil y el Reino Unido.

Se presta especial atención a la legislación de los países que ya han adoptado la inteligencia artificial en sus sistemas judiciales. Además, se presta especial atención a la primera ley integral de legislación internacional dedicada a la inteligencia artificial: la Ley de IA de la Unión Europea. Se ha demostrado que el uso de la inteligencia artificial puede aumentar la eficiencia de los procedimientos judiciales y facilitar el acceso a la justicia para la ciudadanía. Sin embargo, también existen preocupaciones sobre la accesibilidad y equidad tecnológica, la falta de confianza pública, la transparencia y la vulneración de la autoridad judicial, así como los costos financieros que supone la introducción de herramientas de IA en los tribunales.

Se concluye que un marco jurídico sólido, junto con la supervisión humana y los estándares éticos en materia de inteligencia artificial, son esenciales para la protección de los derechos humanos fundamentales y el mantenimiento de la confianza pública en el poder judicial.

Palabras clave:

digitalización, inteligencia artificial (IA), tribunal, poder judicial, sistema de justicia, procedimientos judiciales, derechos humanos y libertades, acceso a la justicia, regulación legal, marco legal.

Introducción

Nowadays, we live in the age of the information society, where digitalization and information technologies significantly impact everyone's life. Artificial intelligence (AI) technologies represent the latest generation of digital technologies, with the potential to drastically transform all aspects of life, including the economy, entertainment, education, public administration, and the judiciary" for clarity and to ensure proper parallel structure.

In recent years, AI tools have been introduced into the judicial systems of many countries, including the USA, Great Britain, India, and China. As a result, there is already some practical experience in using AI systems in court proceedings, which needs to be thoroughly analyzed. At the same time, many other countries, including Ukraine, are examining the possibility of adopting AI in their judicial systems.

There are many ways of using AI in courts to facilitate the execution of routine tasks typically performed by judges, their assistants, and court clerks, such as searching for relevant legislation and court practices, drafting legal documents, and providing automatic translation, text recognition, and voice recognition. Thus, the digitalization and application of AI systems can significantly improve the efficiency of the justice system, expedite judicial proceedings, enhance access to justice for many individuals, and help save substantial financial resources (Latorre, Donzis, Caamaño and Lindo, 2023).

However, along with the numerous benefits and advantages offered by AI, there are also many risks and challenges associated with its use in judicial proceedings. The lack of clarity regarding AI algorithms poses a risk of producing unpredictable and unex-

pected results in judicial decision-making, which may lead to violations of human rights, restrictions on access to justice, and unfair trials. Furthermore, there is an issue of accountability for AI-assisted decisions, as the law stipulates that it is always the responsibility of a judge to make court decisions.

Clearly, the current trend of digitalization and the widespread application of AI in courts will have far-reaching consequences for the judiciary, as well as for many other areas that are directly or indirectly dependent on the system of justice. Therefore, the purpose of this article is to examine the legal, economic, and social issues and implications of using AI in the system of justice (Acosta and Gual Acosta, 2021; Fernández, 2021).

First of all, this study focuses on the use of AI systems in the decision-making processes of courts. At the same time, it addresses the application of AI with regard to other activities of court personnel, including data processing, document management, and the technical support of judicial proceedings. The article also highlights the differences in the application of AI tools across the judicial systems of the European Union, the United States of America, India, and China.

The study is based on the examination of relevant legislation and literature dealing with AI and its application in the justice system.

First of all, some general studies on the impact of digitalization and AI on the transformation of the judicial system were examined (Teremetskyi and Kovalchuk, 2024). The issues of legal regulation of AI in judicial proceedings were analyzed based on the works of O. Shevchuk (2024). Many studies of international experiences in the application of AI in the justice systems of various countries were also utilized (Brehm et al., 2020; Chen and Li, 2020; Mehra, 2021; Rasheed, 2022; Khan, 2023; Lotysh, 2024). The studies on the impact of AI, including its benefits and advantages as well as the risks and challenges for the judiciary, were examined (Garrett and Monahan, 2019; Deeks, 2019; Hill, 2020; Brunette, 2024). Additionally, studies suggesting the need to consider the social, cultural, economic, and political realities of individual countries in their legal frameworks for AI were also reviewed (Sánchez Acevedo, 2024).

To a large extent, the article is based on the analysis of legislation regarding artificial intelligence (AI) adopted in the USA, China, and Europe. In particular, it considers the Chinese legislation on AI, specifically the "Ethical Norms for New Generation AI" and the "Conclusions on Strengthening the Ethical Governance of Science and Technology," which outline principles for responsible AI use (General Office of the CCP Central Committee y State Council, 2022). Additionally, the article pays attention to national legislation in the USA concerning AI, namely the President's Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence in the USA (The White House Administration, 2023). The development of the legal framework for AI in Europe is also analyzed, with a particular focus on the European Convention on Human Rights (Council of Europe, 1950), the European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems (CEPEJ, 2018), and the Artificial Intelligence Act (European Parliament, 2024).

The study involves the use of several scientific research methods, including the deductive method, the comparative method, the historical method, the structural and functional method, the method of system analysis, the prognostic method, and the method of scientific generalization. The deductive method proved useful for drawing conclusions about the benefits and risks of applying AI systems in judicial proceedings based on an understanding of the general principles of the judicial system. The comparative method was employed to examine legal frameworks and the practical applications of AI in the judicial systems of different countries. The historical method was utilized to trace the development of AI legislation in Europe. The structural and functional method of scientific research was applied to identify the role and functionality of AI systems in the judicial process. The method of system analysis served as a foundation for examining AI tools as part of the justice system. The assessment of potential future developments in the legislation governing the use of AI in the justice system is based on the prognostic method. Finally, the method of scientific generalization was used to formulate final conclusions and recommendations.

Results and Discussion

Practical experience of AI application in courts

Over the past several years, a number of countries in different parts of the world have introduced AI systems in the judiciary. In most cases, AI is used as an auxiliary tool that does not directly affect court decisions. For example, "The Solution Explorer" is an AI application that has been available on the Civil Resolution Tribunal (CRT) website in Canada since 2016. It is a straightforward AI system that can imitate the activities of legal professionals to address legal matters during the pre-trial phase. By using this AI tool, individuals can better understand their legal situations and possible legal solutions, which may result in the settlement of a dispute even before taking legal action. As it turns out, people are generally more satisfied with the results produced by this AI system than with the decisions made by the tribunal. As a rule, claims are withdrawn once a settlement of a dispute has been reached through this AI system, even though there is a possibility of formalizing this settlement through a legally binding order of the CRT (British Columbia Civil Resolution Tribunal, 2023; Zabala and Gómez, 2024).

China has a similar AI-powered system that can provide legal guidance during the pre-trial phase and during hearings. This system is called "Xiao Fa." It offers a broad range of legal services, including access to various legal information, such as a database of court cases and decisions, guidance on how to initiate litigation and navigate all of its stages, summaries of relevant legislation, explanations of legal terminology, success rates of claims, and financial costs of litigation. This AI system has proven to be a handy tool, providing useful legal information and facilitating the pre-trial settlement of disputes without the need for legal representation (Chen y Li, 2020).

The United States of America is a leading country in terms of AI adoption in the judicial system. It has diverse experience in using AI for the purposes of serving justice. This experience includes the use of AI to streamline legal document processing and to make recommendations for human judges who make final decisions. According to Allyson Brunette, AI-powered tools have been used in courts and clerks' offices over the past several years, allowing clerks to reduce inefficiencies and errors that largely occur in a human-run filing process. In particular, Palm Beach County uses software called Lights-Out Document Processing, which enables users to analyze document filings and tag and index them with appropriate case information. The Office of the Miami-Dade County Public Defender was one of the first in the USA to apply an AI system that can assist attorneys in legal research, preparation of documents, and memo drafting. At the same time, AI software is capable of generating recommendations for human judges. This kind of AI software was used in the State of Virginia, where it assessed offenders' risk of reoffending and advised judges on how to punish offenders—with jail terms or alternative punishments. According to a study by Tulane University, this AI software can help correct gender and racial bias in sentences made by judges who are reluctant to offer alternative punishments to defendants of color. Additionally, an AI system called COMPAS (Correctional Offender Management Profiling for Alternative Sanction) is used in the State of New York and several other states to assist in making decisions on parole and to assess the likelihood of reoffending. However, there are studies suggesting that the algorithm of COMPAS may be no better than human judgment and is also susceptible to bias (Brunette, 2024).

In Brazil, many courts have artificial intelligence (AI) systems either in use or under development (Coimbra Campos, 2023). The Supreme Federal Tribunal of Brazil employs software that automates appeals and provides recommendations on legal precedents and potential courses of action for resolving legal issues. Similarly, the Minas Gerais State Court of Justice utilizes software capable of identifying and classifying legal resources that address similar issues or are subject to applicable precedents (Brehm et al., 2020). The Supreme Court of India launched the Supreme Court Portal for Promoting Judicial Efficiency (SUPACE) in 2020, which helps judges gain access to information (Khan, 2023). This machine learning-based application offers a variety of features, including file previews, a chatbot for reviewing cases and requests, a universal search function, real-time progress tracking, detailed work information, a logic matrix for extract-

ing facts, and a notepad for preparing summary documents (Mehra, 2021).

In the United Arab Emirates, the Abu Dhabi Judicial Department has introduced AI-powered software to monitor cases in the criminal courts with the aim of increasing the rate of case resolution and the speed of adjudication of criminal cases (Rasheed, 2022). There is also an interesting case study in the United Kingdom using an AI system named HART (Harm Assessment Risk Tool) in its justice system. HART is a risk assessment tool designed to assist in evaluating the potential harm or risk associated with an individual. Built on the integration of advanced data analysis and predictive modeling techniques, HART aims to provide a systematic and standardized approach to risk assessment. Its main function is to assist judges and parole boards in making more informed decisions regarding pretrial release, sentencing, and the parole of convicted persons (CEPEJ, 2018). One of the notable advantages of HART is its ability to objectify the decision-making process by reducing the influence of human judgment. HART uses big data and predictive modeling techniques to create risk assessments. This data-driven approach allows the AI tool to identify patterns and trends that may not be immediately apparent to the decision-maker. This can improve the accuracy of risk forecasting. Although HART aims to predict the likelihood of harm or risk, it cannot capture the full complexity of human behavior. Factors such as personal growth, rehabilitation, and external influences cannot be fully accounted for in a predictive model. The use of AI tools in judicial decision-making also raises ethical questions about delegating power to algorithms. There is a risk that relying solely on an algorithmic approach could violate human rights or contribute to discriminatory practices, especially if the application of AI is not carefully monitored and regulated (Lotysh, 2024).

Legal framework

The legislation on AI with regard to the judicial system constantly evolves to align legal provisions with changing moral and social standards, thereby ensuring the protection of human rights. Some countries have already introduced AI regulations into their legal systems.

China, for instance, adopted the Ethical Norms for New Generation AI and the Conclusions on Strengthening the Ethical Governance of Science and Technology, which outline principles for responsible AI use (General Office of the CCP Central Committee and State Council, 2022). In June 2023, China's State Council initiated the drafting of a general AI law to establish a long-term regulatory framework.

The U.S. is also taking steps to develop its AI legislation. The President's Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence (The White House, 2023) establishes mandatory risk management practices for AI in government and courts, which impact human rights and safety. It emphasizes public consultations, data quality assessments, safeguards against bias and external influence, notification of use, continuous monitoring, and human oversight in order to prevent unfair AI-driven decisions.

The widespread use of AI also makes international legal regulation crucial. Over the last decade, different institutions and organizations in Europe, including the European Union, have been developing a legislative framework for AI.

In 2018, the European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems was adopted, stating that AI cannot replace judges but may assist in decision-making (CEPEJ, 2018). In October 2021, the Resolution on Artificial Intelligence in Criminal Law and its Use by the Police and Judicial Authorities in Criminal Matters was passed, highlighting both the benefits and risks of AI in the judiciary and emphasizing the need for compliance with fundamental human rights (European Parliament, 2021).

In December 2021, the Action Plan: "Digitalization for a Better Justice" was introduced to enhance law enforcement and justice through digital technology while upholding human rights (CEPEJ, 2021). In 2022, the Report on Artificial Intelligence in the Digital Age stressed the need for a clear legal framework for AI in criminal justice (European Parliament, 2022).

In April 2021, the Proposal on a Regulation of the European Parliament and the Council Laying Down Harmonized Rules on Artificial Intelligence was adopted

(European Commission, 2021). In March 2024, it was passed as the Artificial Intelligence Act by the EU Council (European Parliament, 2024). Compared to the Proposal of 2021, which was merely a draft for further elaboration, the AI Act of 2024 is a legally binding piece of the EU legislation, which builds upon the Proposal introducing an improved definition of AI systems, broadening the list of high-risk AI uses, clarifying the obligations of different actors (developers, deployers and users), adding regulations for general purpose AI and foundation models etc.

The AI Act defines AI systems as software that generates outputs such as content, predictions, recommendations, or decisions affecting the environment in which they operate. The law aims to uphold the right to a fair trial by ensuring access to a court, impartial hearings, equality of arms, public proceedings, timely decisions, and legal representation. These guarantees fall into two categories: procedural safeguards (e.g., party equality, trial timeliness) and institutional protections (e.g., judicial independence, accountability). Judicial impartiality is also essential. Additionally, fundamental human rights, such as those enshrined in Article 5 of the European Convention on Human Rights, ensure that detainees can appear before a competent judge. This legal framework integrates procedural, institutional, and personal safeguards to maintain fairness and legality, including the use of AI in judicial processes (Council of Europe, 1950).

The AI Act follows a risk-based approach, imposing different legal and technical obligations based on whether AI is classified as low, medium, or high risk. Some AI uses are outright banned. Prohibited AI systems include:

- manipulative AI that subliminally influences human behavior, causing psychological or physical harm;
- exploitive AI that targets vulnerable groups of people based on age or disabilities, leading to harm.
- social credit scoring by governments.
- real-time remote biometric identification in public spaces by law enforcement, except in limited public safety cases.

It is necessary to emphasize that, in order to mitigate bias and errors, AI assisting judicial authorities in legal research, interpretation, and application of the law is classified by the AI Act as high-risk (European Parliament, 2024). However, AI used solely for administrative tasks—such as anonymizing documents, facilitating communication, or resource allocation—is exempt from this classification.

High-risk AI systems cannot be used unless they meet a number of strict technical and regulatory standards, including safeguards against bias, proper data management, verifiable and traceable results, transparency, and human oversight. Ex ante testing, risk management, and human control are required to protect fundamental human rights and reduce the risk of biased or erroneous AI decisions in critical areas such as education, employment, law enforcement, and justice.

The Resolution of the European Parliament on the Use of Artificial Intelligence in Criminal Law and its Use by the Police and Judicial Authorities in Criminal Matters stresses the need for thorough regulation of AI, particularly in crime prediction, in order to avoid threats to fundamental human rights (European Parliament, 2021). The AI Act also bans social scoring and real-time biometric identification (European Parliament, 2024).

The benefits of AI for the judiciary

The potential benefits and risks of AI in the judicial system reflect concerns about efficiency and fairness. AI can optimize court processes by addressing issues such as heavy workloads and resource shortages, offering consistent and quick solutions. AI technologies are already simplifying procedures for filing lawsuits and obtaining legal advice. It is evident that AI can help speed up legal proceedings and reduce the financial costs of litigation. Therefore, the application of AI can facilitate access to justice for many people.

AI's ability to process large amounts of data and identify patterns quickly and objectively surpasses human capabilities, balancing efficiency and objectivity. While new AI-based procedures in courts can make decision-making more complex and resource-intensive,

AI can automate many tasks, thereby improving efficiency.

AI can reduce the impact of factors such as fatigue or personal biases on judicial decisions, thereby promoting fairness. It can also assist judges during pre-trial investigations by organizing documents, searching for relevant case law, and drafting decisions. In hearings, AI can generate transcriptions, and during the decision-making process, it can provide valuable insights or recommendations to judges and clerks (data-informed quidance on sentencing consistency, risk assessments for pretrial release decisions, etc.).

AI tools in the judicial system can assess the likelihood of repeated offenses and assist in sentencing or probation decisions. Some argue that AI systems using checklists to outline factors in risk assessments promote transparency in criminal decisions (Garrett and Monahan, 2019). However, we partly disagree, as checklists may be limited, oversimplified, or outdated, failing to account for complex, dynamic real-world factors. Additionally, they may introduce historical, racial and other biases or overlook important contextual elements (individual circumstances, recent behavioural change, cultural and social dynamics), making risk assessments subjective.

AI-generated statistical reports enhance transparency in judicial decisions. They can increase court accessibility, improve efficiency, reduce human bias, predict errors, and ensure consistency in decisions. While the benefits depend on the context, AI offers great potential for improving legal services and protecting human rights by enhancing efficiency, reducing systemic errors and biases in judicial decision-making, personalizing decisions, and making legal services more accessible to ordinary people.

Risks and challenges posed by AI

Along with some benefits the use of AI in the judiciary creates some risks and challenges that require careful legal regulation.

First of all, there is an issue of technological accessibility and fairness. Rapid technological advancements may disadvantage those with limited internet access or digital literacy. AI-driven legal processes, such as online filings, could create inequalities, undermining fundamental rights such as the right to a fair trial and the presumption of innocence.

Another major problem is the lack of public trust and transparency regarding AI-driven court decisions. Court decisions are often complex, and AI-based rulings may increase mistrust. Ensuring that AI-driven decisions are explainable and understandable is crucial to maintaining public confidence in the justice system. This can be achieved by providing auditable algorithms and scoring criteria, plain-language disclosures of how AI was used in court decisions, periodic public reports or summaries of AI use in court decision-making.

AI has the potential to enhance judicial transparency but also poses risks of increasing opacity. Public trust in the justice system depends on the ability to track, verify, and predict court decisions. However, the complexity of AI, particularly in the realms of machine learning and neural networks, complicates validation efforts.

Many AI algorithms, such as those used for speech-to-text or risk assessments, are protected as trade secrets, rendering them “black boxes” (Garrett y Monahan, 2019). The developers of AI-powered systems typically do not disclose the details of how their algorithms function, as such information is confidential. Therefore, a reasonable balance is needed between ensuring the patent rights of developers and the fundamental rights of individuals whose information is processed by AI algorithms (Teremetskyi y Kovalchuk, 2024). Even government-developed AI, if fully transparent, could be vulnerable to manipulation. Moreover, AI’s decision-making process is often too complex for most people to comprehend.

To address this issue, courts should adopt explainable AI, ensuring that algorithms provide reasoning behind their decisions (Deeks, 2018). However, balancing explainability with efficiency remains a challenge. For instance, advanced AI models offer higher accuracy but are less interpretable whereas simpler AI models are easier to explain but may not perform well enough in complex cases. Given the critical need for accuracy, reliability, and accountability in judicial AI, its implementation should proceed with caution.

The use of AI in the judicial system can also pose certain risks to fundamental human rights and freedoms. In particular, AI can reinforce biases present in the available data, leading to unfair decisions based on race, gender, socioeconomic status, or geographic location. Judges relying on AI recommendations, such as in the COMPAS case, may struggle to verify the accuracy of the system while bearing responsibility for final rulings, which undermines judicial independence and fairness.

Transparency in AI decision-making is crucial, especially as legal disputes over AI rulings increase. Some U.S. states have introduced regulations to enhance AI transparency in criminal cases. AI's crime prediction capabilities are limited. It identifies patterns but cannot establish causation or reliably predict individual behavior. Due to concerns over bias and inefficacy, some U.S. cities have abandoned AI-based crime prediction systems.

Privacy risks also arise from the misuse of AI in court proceedings, such as improper data sharing or insufficient anonymization, which could potentially lead to unauthorized surveillance. Additionally, AI errors can have severe consequences, as illustrated by the case in which facial recognition software incorrectly identified an individual, resulting in his wrongful arrest (Hill, 2020). In judicial contexts, biased AI decisions may have widespread legal repercussions.

Among other things, there is also an issue of undermining judicial authority and the financial costs associated with AI. It is clear that AI cannot fully replace judges, as legal decisions require human expertise in interpreting unstructured information. Delegating legal research to AI risks compromising judicial authority and the legitimacy of decision-making. Therefore, early discussions on AI integration in courts are essential to ensure a balance between human judgment and AI assistance.

From a financial perspective, the adoption of AI in the judiciary demands investment in digital technology, software, infrastructure, security, and personnel training. While courts should not evaluate AI solely based on cost, its benefits must justify the expenses, particularly in terms of improving efficiency and service quality. To protect fundamental human rights and maintain public trust in the judiciary assisted by AI, a comprehensive regulatory approach is necessary. The regulatory framework for AI in the judiciary must ensure safety, transparency, fairness, and ethical considerations, particularly in cases where its impact is uncertain.

Recommendations

Taking into account the global trend of using AI in the judiciary, an increasing number of countries are considering the introduction of AI into their judicial systems. In particular, Ukraine is preparing to officially allow the use of AI by its judges, provided that it does not affect their independence and impartiality, the assessment of evidence, the decision-making process, and does not violate the requirements of legislation (Khrypun, 2024). In this regard, it might be worth mentioning the recommendations of USAID for the implementation of AI in Ukraine's Single Court Information and Communication System. These recommendations encompass the following methods of using AI in courts: recognition of texts uploaded to the system (Optical Character Recognition), classification of such documents, detection of information entities in the texts of documents that may have legal significance (Entity Recognition), depersonalization (PII Removal), and masking of confidential information (Data Masking); transcription of court hearings and official meetings, as well as other conversions of speech into text at the user's request (Speech to Text); voice-over of court decisions and other documents at the user's request, and voice-over of the system's interface elements, particularly for individuals with visual impairments (Text to Speech); summarization of document content; checking content for semantic, grammatical, spelling, and punctuation errors; verifying the relevance of the legal norms referred to by the document's author; automatic translation of documents; contextual semantic search for relevant documents; selection of judicial practice; recommendation of methodologies for researching materials and considering a court case; drafting procedural documents; identification of deviations during the consideration of a court case, particularly regarding the ignoring of context, evidence, and arguments presented, as well as deviations from general judicial practice in similar cases; and providing basic legal assistance to users (USAID, 2024). These practical applications of AI in

courts' digital platforms are quite universal and appear to be acceptable for most countries.

In a broader context, the integration of AI into the justice system requires legal safeguards that uphold judicial independence, prevent bias, ensure transparency, and protect fundamental human rights and freedoms. As some legal scholars rightly point out, in addition to technical improvements, AI technologies need effective legal regulation because these technologies can limit the rights of individuals (Shevchuk, 2024). This is why a robust legal framework, combined with human oversight and ethical AI principles, is essential for maintaining public confidence in the judicial system assisted by AI and for ensuring that the use of AI does not undermine justice. At the same time, each country should take into account its own social, cultural, economic, and political realities associated with the implementation of AI solutions (Sánchez Acevedo, 2024) when elaborating the relevant legal framework.

Conclusions

In recent years, there has been widespread adoption of AI in the judicial systems of various countries. These AI systems are utilized in the pre-trial phases of legal proceedings, legal research, document processing, risk assessment, and generating recommendations for judicial decision-making.

There are many benefits to using AI in judicial systems. In particular, AI can enhance judicial efficiency by streamlining processes, assisting in legal research, reducing human error, and supporting risk assessments in criminal justice. It offers potential advantages in improving the consistency, fairness, and accessibility of justice. AI also facilitates the preparation of procedural documents and document management. However, the use of AI in courts raises significant concerns. There is a risk of reinforcing biases, which may result in unfair decisions based on factors such as race, gender, or socioeconomic status. Moreover, AI's "black-box" nature makes it difficult to fully understand how decisions are made, potentially undermining public confidence in the justice system. Additionally, privacy and data protection risks exist, especially with the improper use or sharing of personal data.

Legal frameworks are evolving globally to regulate the use of AI in judicial systems. Countries like China and the United States have introduced or are in the process of drafting regulations that ensure AI is used in a responsible manner, with legal safeguards against bias, data manipulation, and human rights violations. The European Union has implemented the AI Act, which categorizes AI systems based on their risk level and imposes stringent requirements for high-risk AI, such as those used in the judiciary.

In order to successfully integrate AI into the judicial system, special attention must be given to maintaining judicial independence, transparency, and fairness. A robust legal framework is crucial, along with human oversight to prevent AI from abusing its role, in particular from replacing human judgment in making court decision concerning fundamental human rights. AI tools should be used for specific tasks, such as document processing, transcription, and legal research, while ensuring that their use does not compromise decision-making authority or fairness. Furthermore, ethical principles and safeguards must be put in place to protect fundamental human rights and prevent discrimination.

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Datos artículo

* El presente artículo es producto de la investigación: APPLICATION OF ARTIFICIAL INTELLIGENCE AS A WAY OF DIGITALIZING THE SYSTEM OF JUSTICE: LEGAL, ECONOMIC AND SOCIAL ISSUES, gestionada en National Academy of Legal Sciences of Ukraine.

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