

Legal Scholarship as a Foundation for the Next Steps Towards Integrating Artificial Intelligence into the Justice System

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Abstract

LEGAL SCHOLARSHIP AS A FOUNDATION FOR THE NEXT STEPS TOWARDS INTEGRATING ARTIFICIAL INTELLIGENCE INTO THE JUSTICE SYSTEM

While preparing my first publication on the use of artificial intelligence (AI) in the justice system (<https://constitutionalist.com.ua/shtuchnyj-intelekt-ta-systema-pravosuddia-ukrainy-rezultaty-spivpratsi-u-rotsi-shcho-mynuv>), I was impressed by the quality and quantity of scholarly research conducted in Ukraine during only the last two years, as well as by expert legal commentaries outlining the main advantages and risks that should be taken into account when using new digital technologies in the judicial system.

Most of these studies and publications draw attention to the absence of a proper regulatory framework in this area and to the significant number of risks that may arise from the unsystematic implementation of AI. At the same time, the majority of authors already note the real and remarkable opportunities for increasing the effectiveness of the use of modern technologies in the legal environment.

It is expected that, in the near future, substantial progress will be made in integrating AI into the justice system, which will require proper regulatory, methodological, technological, educational and training support. It is scholars and practitioners who professionally research these issues who may become the intellectual foundation for the implementation of such changes.

The study by Konstantin Dzehtsiarou, Professor of Human Rights Law at the University of Liverpool, and Niccolò Ridi, Senior Lecturer in Public International Law at King's College London, "The Use of Scholarship by the European Court of Human Rights" (<https://www.cambridge.org/core/journals/international-and-comparative-law-quarterly/article/use-of-scholarship-by-the-european-court-of-human-rights/4DA574D11FFEC49B0BB16CA52B2B6496> ; <https://justtalk.com.ua/post/vikoristannya-literaturnih-ta-naukovih-dzherel-espl-pri-uhvalenni-rishen>), which was separately discussed within the framework of JustTalk Context Special at the initiative of Rasim Babanly (<https://so.supreme.court.gov.ua/news/858/arhumentatsiia-rishen-sudu-koly-na-dopomohu-prykhodiat-knyhy>), advances the broader idea that scholarly works are important because they serve as a valuable source for the interpretation of international and national law, contribute to a deeper understanding of the context of legal issues, and provide academic support for the adoption of well-reasoned decisions.

It is important to take into account that Ukraine already holds leading positions in the relevant global rankings. In 2024, Ukraine ranked first in the world in terms of citizens' engagement in public online services, namely E-Participation, and fifth in terms of the development of digital public services, according to the Ministry of Digital Transformation, with reference to the E-Government Development Index, an international United Nations ranking

that assesses the level of e-government in 193 countries and citizens' engagement in interaction with the State through electronic services (<https://publicadministration.un.org/egovkb/en-us/Data-Center>).

Yuliia Moskvityn and Agnė Limantė, Institute of Law of the Lithuanian Centre for Social Sciences, in their study "Integrating Artificial Intelligence in Ukraine's Courts. State of Play and Future Prospects" ("Інтеграція штучного інтелекту в судову систему України: стан і перспективи") (<https://verfassungsblog.de/ai-ukraine-judiciary>), rightly draw attention to the progress and challenges of integrating artificial intelligence into Ukraine's judicial system in the context of war and European integration, emphasising the potential of these technologies to enhance efficiency, transparency and access to justice. Important developments in this area include the development of a database of Supreme Court decisions using AI in 2023: a tool was created that enables the effective retrieval of relevant legal information, in particular by analysing and comparing legal terms in documents with the relevant decisions of the Supreme Court (<https://supreme.court.gov.ua/supreme/pres-centr/news/1155509>), as well as the discussion of the use of generative AI at the All-Ukrainian Seminar of Judges in April 2024: the Supreme Court considered the possibilities of using such tools as OpenAI ChatGPT and Google Gemini to assist judges in searching for legislation, translating judgments of the ECtHR, checking texts of judicial decisions for errors, and verifying the authenticity of evidence (https://supreme.court.gov.ua/supreme/pokazniki-diyalnosti/navch_suddiv_praciv_aparativ_2021/1593651).

News about the latest discoveries and forecasts concerning the capabilities of AI is impressive, although it requires critical assessment.

Thus, researchers from Stanford University and Google DeepMind claim that new AI capabilities make it possible, after two hours of analysing any person, to create a digital agent that reproduces that person's personality with 85 per cent accuracy (<https://www.livescience.com/technology/artificial-intelligence/just-2-hours-is-all-it-takes-for-ai-agents-to-replicate-your-personality-with-85-percent-accuracy>). This appears to be a sensational technological breakthrough which, however, opens up extensive prospects for personalised electronic services, while at the same time raising serious questions regarding confidentiality, ethics and the potential misuse of personal data.

Elon Musk, in turn, suggests that "the probability that artificial intelligence would surpass the intelligence of any individual human by the end of 2025 was becoming increasingly high, and possibly that of all humanity by 2027–2028. The probability that AI will exceed the aggregate intelligence of all humanity by 2030 is approximately 100%" (https://x.com/elonmusk/status/1871083864111919134?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1871083864111919134%7Ctwgr%5Eef859a4e9719f82ce08d371dbdeb6dc355f0e0a4%7Ctwcon%5Es1_&ref_url=https%3A%2F%2Fbukinfo.com.ua%2Fcikavyanky%2Fshi-bude-rozumnishym-za-lyudynu-vzhe-do-2025-roku-a-do-2030-roku-obzhene-vse-lyudstvo-ilon-mask&mx=2). Such forecasts should not be treated as established scientific conclusions, but they illustrate the scale of the technological expectations and concerns that accompany the development of AI.

Returning to Ukraine's theoretical developments, it should be noted that an undoubtedly significant impetus for this progress and for the involvement of leading as well as young progressive scholars in the study of issues related to the use of AI in the justice system was provided by three specialised scientific and practical events held in 2024 at the initiative of higher education institutions and research institutions.

The result of these events was three separate conference proceedings, which included the views, ideas and proposals of dozens of scholars and practitioners directly interested in AI and its integration into the justice system:

(1) Digital Development of Ukraine: Problems and Prospects: materials of reports by participants of the round table, Odesa, 22 March 2024 / compilers: D. H. Manko, Ya. O. Tytska, A. O. Zghama; International Humanitarian University. Odesa: Feniks, 2024. 57 p.
<https://dspace.onua.edu.ua/server/api/core/bitstreams/91274484-f67f-416b-bebe-542d51d328ab/content>;

(2) Artificial Intelligence in Science and Education (AISE 2024). Artificial intelligence in science and education: collection of materials of the International Scientific Conference, Kyiv, 1–2 March 2024 / editors: A. Yatsyshyn, V. Matusevych, V. Kovalenko. Kyiv: Ukrainian Institute of Scientific and Technical Expertise and Information, 2024. 600 p. http://www.uintei.kiev.ua/sites/default/files/mat-konf-schi_2024.pdf

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(3) Artificial Intelligence in Legal Practice: Limits and Possibilities: collection of abstracts of the All-Ukrainian Round Table, Lviv, 15 March 2024 / editor O. O. Barabash. Lviv State University of Internal Affairs, 2024. 214 p. <https://www.lvduvs.edu.ua/uk/karta-dokumentiv/category/391-conference-2024-magazine.html?download=5479:shtuchnyi-intelekt-u-pravovii-praktytsi-mezhi-ta-mozhlyvosti-materialy-kruhloho-stolu-15-bereznia-2024-roku>

A significant impetus to professional discussions is provided by the project “Artificial Intelligence and Justice”, implemented by the Stanislav Dnistrianskyi Centre for Law and Policy with the support of the European Union and the International Renaissance Foundation within the framework of the joint initiative “European Renaissance of Ukraine”. Within this Project, a number of analytical reviews have already been prepared and the views of leading specialists working in the field of justice or related areas have been collected

(<https://dc.org.ua/category/shtuchnyy-intelekt-u-pravosuddi>), including “Prospects and Limits of the Use of Artificial Intelligence in Criminal Proceedings” (<https://dc.org.ua/uploads/material/ai.pdf?f>), as well as the article by Daryna Boiko and Ivan Horodyskyi “Catching Up with Europe: How the United States Is Trying to Regulate the Artificial Intelligence Industry” (<https://www.eurointegration.com.ua/experts/2024/11/18/7198475>).

Special attention should also be paid to the dissertation defended in 2024 by Ye. A. Tymoshenko, State Scientific Institution “Institute of Information, Security and Law of the National Academy of Legal Sciences of Ukraine”, on the topic “Legal Support for the Application of Artificial Intelligence in Ukraine”

(https://ippi.org.ua/sites/default/files/disertaciya_tymoshenko_ie_a.pdf), which is mainly devoted to the study of the legal nature and legal support for the application of AI in Ukraine, as well as to a comprehensive theoretical and practical analysis of foreign legislation, in particular EU legislation, concerning the determination of the legal foundations for the application of AI.

I will try to dwell separately on publications in which the state of development, the main risks and prospects of involving new digital technologies in the judicial system were covered in detail and with the use of real examples of the practical application of AI.

Maksym Voinov, in his study “Artificial Intelligence and the Legal Sphere: Will Technology Be Able to Replace Judges?” (<https://www.helsinki.org.ua/articles/shtuchnyy-intelekt-ta-iurydychna-sfera-chy-zmozhut-tekhnologii-zaminyty-suddiv>), characterises the possibility of using AI in the legal sphere, in particular in judicial proceedings, to improve the efficiency of processes and relieve the burden on the judicial system, and also emphasises the potential risks associated with the opacity of decisions, discrimination and threats to fundamental human rights, which requires a cautious approach to the implementation of such technologies.

Olha Petriv’s work “The Role of Artificial Intelligence in the Modernisation of the Judicial System: Tools for Judges” (<https://cedem.org.ua/consultations/shtuchnyi-intelekt-sud>) is devoted to analysing the role of AI in modernising the judicial system, emphasising its potential to improve the efficiency, speed and accessibility of justice, and also draws attention to the risks associated with the use of AI, in particular the possibility of providing false information.

Alina Sichkar, in her publication “Regulation of AI in the EU. The Artificial Intelligence Act” (https://jurliga.ligazakon.net/analitics/228365_vrontegratsya-regulyuvannya-shtuchnogo-ntelektu-v-ukran-ta-s), analyses the process of harmonising AI regulation in Ukraine and the European Union, in particular the implementation into Ukrainian legislation by 2027 of the provisions of the EU Artificial Intelligence Regulation, the recommendations of the Council of Europe, as well as the standards of the Organisation for Economic Co-operation and Development and UNESCO, emphasising the importance of gradual integration of European norms, taking into account national specificities, in order to ensure the safe and ethical use of AI in Ukraine.

Valeriia Shemshuchenko, in her work “Artificial Intelligence in Justice” (<https://cedem.org.ua/analitics/shtuchnyj-intelekt-pravosuddia>), which is one of the most cited, conducted a study of the opportunities and challenges associated with the implementation of artificial intelligence in the judicial system, with an emphasis on compliance with the fundamental principles of justice, such as non-discrimination, impartiality and the rule of law. The author believes that artificial intelligence has significant potential for automating judicial processes and increasing the efficiency of justice, but its use requires adherence to fundamental principles, regulatory framework and ensuring the transparency of algorithms in order to avoid discrimination and human rights violations.

Also quite valuable are dozens of scholarly studies directly related to the integration of AI into the justice system. The scope of this publication allows me to dwell only on the most extensive and substantive of them, without diminishing the role and significance of other scholarly works.

M. I. Bielikova, in her study “Artificial Intelligence in Administrative Proceedings” (<http://repository.vsau.org/getfile.php/38219.pdf>), analysed the prospects for the implementation of AI in administrative proceedings in Ukraine, including determining its potential, risks and compliance with constitutional and legal norms. At the same time, the author emphasises that the fully automatic resolution of administrative cases without the participation of a judge does not comply with constitutional norms, and proposes that AI be regarded as a tool that enhances the efficiency of judicial proceedings but does not replace the human factor.

The joint scholarly study by D. M. Bielov and M. V. Bielova “Artificial Intelligence in Judicial Proceedings and Judicial Decisions: Potential and Risks” (<http://visnyk-pravo.uzhnu.edu.ua/article/view/286487/280342>) is one of the most cited in other studies and is aimed at outlining the role of the application of AI in judicial proceedings, its impact on the process of adopting judicial decisions, as well as identifying potential risks associated with its use. The authors conclude that, despite the significant potential of AI to accelerate judicial processes and improve access to justice, there are substantial risks, such as algorithmic injustice, insufficient transparency and problems of responsibility, which must be taken into account when implementing AI in the judicial system.

The joint work by O. M. Borshchevska and I. O. Zasnov “Legal Grounds and Prospects for the Use of Artificial Intelligence in Judicial Proceedings in Ukraine” (<http://pd.onu.edu.ua/article/view/280278>) presents an analysis of existing legislation and identifies prospects for its development with a view to the effective implementation of AI in judicial proceedings. The main conclusion of the publication is that, for the full integration of AI into the judicial system of Ukraine, it is necessary to develop a separate law that would regulate the specific features and methods of using this technology, taking into account international experience and the potential risks associated with its implementation.

S. S. Vozniuk and V. I. Hryshko, in their work “Problematic Aspects of the Implementation of Artificial Intelligence in the Field of Jurisprudence” (<https://app-journal.in.ua/wp-content/uploads/2024/04/5.pdf>), conducted a scholarly inquiry into the challenges and obstacles associated with the integration of AI into various branches of law and focused attention on the fact that, despite the potential of AI to increase the efficiency of legal processes, there are significant problems, such as the absence of a single definition of AI, ethical dilemmas and risks to the independence of the judicial system, which require careful consideration before its implementation in the field of jurisprudence.

A. O. Hachkevych’s work “Prerequisites for the Safe Use of Artificial Intelligence Tools by Judges” (<http://slovo.nsj.gov.ua/index.php/ua/arkhiv-nomeriv/2024/2-47-2024/34-2024ukr/959-peredumovi-bezpechnogo-vikoristannya-instrumentiv-shtuchnogo-intelektu-suddiyami>) identifies and summarises the conditions for the safe use of AI tools by Ukrainian judges in order to optimise the performance of tasks while minimising substantial risks. The author demonstrates a cautiously positive attitude of judges towards new technologies, which is a prerequisite for increasing the efficiency of the judicial system, automating complex tasks and minimising the negative consequences of technological progress.

In turn, O. I. Hafych, in the article “On the Issue of Eliminating Risks Associated with the Use of Artificial Intelligence in Judicial Proceedings” (<https://molodyivchenyi.ua/omp/index.php/conference/catalog/download/117/1661/3458-1>), identifies the prospects, challenges and risks associated with the implementation of AI in the judicial system, and also determines ways to ensure its safe and effective use within justice. The work also emphasises that AI in the judicial system opens up broad opportunities for improving the efficiency and quality of justice, but requires clear regulatory framework, special training of the judiciary and monitoring in order to minimise ethical, legal and security risks.

The collective work by O. M. Drozdov, O. V. Malozemova and A. S. Mkhitarian “Research on the State and Prospects of the Use of AI in the Field of Justice” (http://www.lsej.org.ua/5_2024/124.pdf) provides for an analysis of national and international experience in the regulation and application of AI systems in judicial proceedings, as well as the identification of potential directions for the development of these technologies in the legal sphere. The authors argue that, despite the significant potential of AI to improve the efficiency of judicial processes, there are substantial challenges related to legal regulation, ethics and trust in such systems.

Among the most valuable conclusions of I. V. Zhukevych's article "The Application of Artificial Intelligence in the Mechanism of Judicial Control over the Enforcement of Decisions in Civil Proceedings of Ukraine" (<http://journal-app.uzhnu.edu.ua/article/view/303185>), it should be noted that AI may be an effective tool for assisting judges in searching for and processing information; however, its application must comply with European standards, preserve the independence of judges and ensure respect for human rights.

The article by Nataliia Kalyniuk and Kateryna Melnykova "Legal Aspects of the Application of Artificial Intelligence in Jurisprudence: The Experience of Ukraine" (<https://journals.uran.ua/journal-vjhr/article/view/308533/300111>) raises the issue of the role of artificial intelligence in Ukrainian jurisprudence in the context of European integration and the challenges caused by the war, emphasising its potential to improve the effectiveness of law enforcement and counteract crime.

A similar position is held by O. Ya. Kovalchuk, since the work "Legal Frameworks for the Application of Artificial Intelligence in the Judicial System" (<https://www.inter-nauka.com/uploads/public/17179636116454.pdf>) is mainly aimed at finding a balanced approach to the legal regulation of the use of AI in judicial proceedings, which would make it possible to maximise its advantages while at the same time protecting human rights and the rule of law.

These and other important aspects of the study of the issue of involving AI in the judicial system are also covered in two other works prepared jointly with V. I. Teremetskyi: "Artificial Intelligence as a Factor in the Digital Transformation of the Judicial System" (https://repository.ndipp.gov.ua/bitstream/handle/765432198/913/106-115-2024-1-FP-Teremetskyi%2cKovalchuk_13.pdf?sequence=1&isAllowed=y).

In the scholarly study by T. V. Ohneviuk "Artificial Intelligence and the Rule of Law: Global Practice and Opportunities for Ukraine" (http://slovo.nsj.gov.ua/images/pdf/2023_4_45/Ognevyuk.pdf), the conclusion is drawn that the rapid development of artificial intelligence in justice opens up prospects for resolving standard cases and automating routine processes, but requires cautious implementation with due regard to possible threats to the principle of the rule of law, transparency of decisions and human rights, as well as the need to train employees of the judicial system for the effective and ethical use of new technologies.

Also of importance for the topic under study is the work prepared by O. V. Plakhotnik and O. A. Lokhmatov "Artificial Intelligence as an Assistive Technology in the Work of a Lawyer and Prosecutor" (http://www.lsej.org.ua/8_2024/106.pdf), in which the authors draw their own conclusions concerning the possibilities and limitations of using AI in the judicial system, in particular in assessing its assistive role and influence on judicial practice, and also conclude that although AI may serve as a useful tool to support judges in decision-making, its application must be limited to an auxiliary role in order to preserve judicial independence and compliance with the principles of justice. Similar conclusions may be found in the work by V. I. Chaban "The Role and Limits of the Application of Artificial Intelligence in Judicial Proceedings" (http://www.lsej.org.ua/8_2024/108.pdf).

Yu. S. Razmetaeva, in her work "Artificial Intelligence for Judicial Decision-Making: Some Potential Risks" (<http://plaw.nlu.edu.ua/article/download/311749/307011/732802>), draws attention to the fact that, although AI can increase the efficiency of judicial proceedings, its use must be based on the principles of fairness and the rule of law, taking into account possible algorithmic biases and the need for prudent algorithmisation; she emphasises the need to integrate ethical principles into the development and application of AI in the judicial system, which is critically important for ensuring fairness and trust in justice.

Conclusions

Ukraine demonstrates significant progress in researching and implementing artificial intelligence (AI) in the justice system. Over the past two years, more than three scientific and practical conferences have been organised, specialised collections of papers have been created, dissertations have been defended, and specialised projects have been implemented, including a database of Supreme Court decisions using AI. Such activity demonstrates the formation of a solid scholarly basis and increased practical interest in integrating digital technologies into justice.

The integration of AI is viewed as a promising direction for the development of Ukraine's judicial system, corresponding to global trends. The use of AI opens up opportunities for automating routine tasks, improving the efficiency of judicial processes and enhancing access to justice. By analysing large datasets and assisting with

routine or analytical tasks, AI can significantly optimise the work of the judiciary, provided that judicial decision-making remains under human control.

The implementation of AI requires a comprehensive approach that includes regulatory framework, technological support, educational training of specialists and analysis of potential risks. In order to minimise such risks as algorithmic bias, opacity of decisions and negative impact on human rights, it is necessary to develop standards for algorithmic transparency, mechanisms for assessing bias, and legal guarantees of responsibility for the results of the use of AI.

The scholarly community is a key driving force behind the integration of AI into justice. Scholars and practitioners conduct research, propose recommendations, analyse international experience and create an expert basis for the formation of regulatory approaches. For example, the development of ethical principles for the use of AI and the assessment of its impact on the judicial system help ensure transparency and compliance of technologies with legal standards.

Ukraine has unique prerequisites for leadership in the implementation of AI in justice due to its high level of digitalisation, active scholarly activity and course towards European integration. These factors stimulate the creation of a regulatory framework that complies with European standards and make it possible to maximise the potential of AI to enhance the transparency, efficiency and accessibility of judicial processes.

Material files

[Original author file](#)