

Models of AI Use in the Judiciary^{*}

Abstract

Artificial intelligence is entering new areas of social life. It is therefore not surprising that it is also becoming present in the judiciary. However, its development in this field is not uniform across the world, which has led to the emergence of three different models of AI use in the judiciary. The criteria for grouping these models are, on the one hand, the role and participation of the algorithm in the decision-making process and, on the other hand, the role of the judge in this process. These criteria have led to the identification of three basic models, namely the active, auxiliary and preventive models. The models were selected on the basis of research on countries where the use of AI in the judiciary is currently at a high level, i.e. China, Brazil and the US. The paper presents the operation of each model on the basis of specific examples of algorithms operating in the judiciary. The key research methods are the theoretical-legal and dogmatic-legal methods.

KEYWORDS: judiciary, new technologies, algorithms, replacement of judges.

SŁOWA KLUCZOWE: sądownictwo, nowe technologie, algorytmy, zastępowanie sędziów.

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* This text was written as part of a research grant from the University of Rzeszów's Humanities and Social Sciences Development Program.

1 | Introduction

No one needs to be convinced that AI is taking over more and more areas of social life. In fact, it was only a matter of time before it would enter the justice system and the judiciary. The beginnings of this process date back 15 years, when, on the one hand, experiments began with predicting court decisions in Europe and the US, but also when some of the first algorithms used in the judiciary began to operate^[1].

¹ Ummey Tahura, Niloufer Selvadurai, „The Use of Artificial Intelligence in Judicial Decisionmaking: The Example of China” *International Journal of Law, Ethics, and Technology*, no. 4 (2023): 10. <https://www.researchgate.net/publication/368930076> [accessed: 15.01.2026].

In 2016, 584 cases pending before the European Court of Human Rights were analyzed using an algorithm. After analyzing the files, the algorithm predicted 79% of the court's rulings on complaints lodged under Article 3 (prohibition of torture, inhuman and degrading treatment), Article 6 (right to a fair trial), and Article 8 (right to respect for private and family life) of the European Convention on Human Rights. A similar test was also conducted in the United States of America a year later. In 2017, artificial intelligence analyzed more than 28,000 cases pending before the US Supreme Court between 1816 and 2015. The algorithm predicted the outcome of 70.2% of the rulings. A similar study to the above was conducted again based on the case law of the European Court of Human Rights in 2020. This time, however, the study was based on as many as 8,400 cases concerning the rights and freedoms protected by the European Convention on Human Rights. After analyzing them, the algorithm predicted the outcome of over 75% of cases based on machine learning technology (Support Vector Machine). However, the real acceleration in this area is happening before our very eyes. There are studies in which, for example, in criminal cases involving murder, a computer predicted the outcome of 98% of court cases. This result is achieved by Victor in Brazil based on the regression tree method (this algorithm analyzes the relationships between variables and is used to predict the value of the target variable)[2].

These „experiments” have evolved into the actual, practical use of algorithms in the judiciary in many countries. However, the implementation of modern technological systems in the judiciary varies around the world, and the scope of algorithms also differs from country to country. This state of affairs has made it possible to group algorithms. Therefore, the scientific objective of this article is to conduct a comparative analysis of models of artificial intelligence use in the judiciary, distinguished on the basis of the criterion of the scope of algorithmic interference in the adjudication process and the degree of decision-making autonomy of the judiciary, and then to determine the significance of these models for the reconstruction of the contemporary understanding of judicial power and procedural guarantees for individuals. The article aims to identify

2 Beata Stępień-Załucka, *AI and the Exercise of Judicial Authority ex Machina. Towards Efficient Artificial Judiciary in a Democratic State* (Murcia: Laborum, 2025), 146–147; Grenville Cross, „Adopting AI: China's judiciary shows the way forward” *China Daily Hong Kong*, 26 June 2023, <https://www.chinadailyhk.com/hk/article/337728> [accessed: 15.01.2026].

the normative and systemic consequences of applying three types of models – active, auxiliary, and preventive – in different legal systems and to assess their compliance with the principles of the right to a fair trial, judicial independence, and transparency of court proceedings. The main research methods are theoretical-legal, dogmatic-legal and algorithmic.

2 | Criteria for Differentiation

The differentiation of three models of artificial intelligence use in the judiciary – active, auxiliary, and preventive – is based on a set of functional, systemic, and normative criteria. The basic classification criterion is the degree of algorithmic interference in the content of a court ruling, understood as the extent to which the AI system participates in the process of subsumption and shaping the final decision. In the active model, the algorithm co-decides on the outcome of the proceedings, generating a draft decision and analyzing the factual and legal situation in a manner leading to the formulation of a binding recommendation. In the auxiliary model, its role is limited to analytical functions – classifying cases, organizing evidence, or identifying precedents – without influencing the final content of the judgment. In the preventive model, AI does not influence the adjudication process itself, but rather the decisions accompanying criminal proceedings, in particular with regard to the assessment of the risk of recidivism or violence.

The second criterion is the scope of the judge's decision-making autonomy. This includes an assessment of the extent to which the judge can freely interfere with the results generated by the system and whether the algorithm is treated as a source of binding or merely auxiliary guidance. In the active model, this autonomy is significantly limited, as deviating from the algorithm's recommendation requires additional justification and may lead to disciplinary consequences. In the auxiliary model, the judge retains full decision-making freedom, and the algorithm does not constitute any limitation of his or her jurisdictional powers. In the preventive model, autonomy is formally preserved, but judicial decisions may in practice be strongly based on statistical results, creating a subtle form of dependence.

The third criterion is the functional purpose of the algorithm, understood as an answer to the question of whether the system is intended to:

- (1) support adjudication (auxiliary model),
- (2) co-create the decision (active model), or

(3) identify and manage risk (preventive model).

Finally, the fourth criterion is the level of impact of the algorithm on procedural guarantees, including an assessment of the compliance of a given model with the principle of fair trial, the right to justification, transparency of the procedure, adversarial proceedings, and judicial independence. Active models have the highest potential for interference with these guarantees, while auxiliary models have the lowest.

3 | Active Model

When distinguishing between models of artificial intelligence participation in the administration of justice, the first question that comes to mind is whether machines will one day replace judges. Science and practice did not keep us waiting long for the answer, as there are already countries in the world where AI issues judgments. Such countries include China and Estonia, for example, but due to the specific nature of the practice and the framework of the study, the focus will be on the former.

This state of affairs raises another question: how does it work? China was the first country in the world to hand over sentencing to artificial intelligence, replacing humans to a certain extent. The process of using new technologies in the judiciary there began in 1994^[3]. However, this process is now reaching its peak, as the use of new technologies in the judiciary covers all stages of a case. Each of these stages, i.e., filing a case, payments, exchange of evidence, court hearings, and delivery of electronic documents, is based on digitization and algorithms. What is more, the state authorities' assumption is that by 2030 „artificial intelligence will be fully operational and provide a high level of support for the judicial process” – in other words, by 2030, the judicial system is to be fully operated by AI. Therefore, the current stage of AI implementation in the Chinese judiciary can be described as transitional^[4].

³ Changqing Shi, Tania Sourdin, Bin Li, „The Smart Court – A New Pathway to Justice in China?” *International Journal for Court Administration* 12, no. 1 (2021). <https://doi.org/10.36745/ijca.367> [accessed: 15.01.2026]. The authors also discuss the history of the development of the use of new technologies in the judiciary.

⁴ Dory Reiling, Straton Papagiannenas, „Lessons from China's Smart Court Reform” *International Journal for Court Administration* 16 (2025): 5. <https://iacajournal.org/articles/679/files/6810811894022.pdf> [accessed: 15.01.2026].

The entire judicial structure in this country is based on a system known as SOS (The Intelligent Judicial System). It is a system based on machine learning technology, which, in the process of adjudicating a case, automatically reviews court cases for references to cases already adjudicated, recommends laws and regulations, drafts legal documents, and points out possible human errors in previous rulings on the case, and finally develops a „preliminary ruling”.

This raises the key question: what is the role of the judge in this process? The role of the judge has been minimized to that of a theoretical verifier of the correctness of the „preliminary ruling”. This theoretical verification requires clarification. This theoretical nature is very limited. This is because if a judge disagrees with the system's findings – the „preliminary decision” – they must provide a written explanation^[5]. Interestingly, this written explanation is subject to review by a special commission, which has the right to remove the judge from office if the judge has incorrectly assessed the algorithm's work three times^[6]. From the perspective of the right to a fair trial, this situation is disturbing, to say the least, as it raises a secondary and, in fact, rhetorical question about the independence of the assessment of the „preliminary judgment”, or „judgment recommendation”, issued by AI and made by the judge. In practice, there is a real risk that these recommendations have a much more serious impact than just a proposal for the judge to decide a case. Thus, this state of affairs completely changes the role of the judge in adjudicating, shifting him from the role of decision-maker to that of a confirming entity, legalizing the decisions of the algorithm.

The next question that needs to be asked is: what if the judge did not ask the AI for a „preliminary decision”? Paradoxically, this is not an option. The most important feature of SOS is that its use is mandatory in every case pending before Chinese courts. In other words, in every case, the judge is required to use an algorithm that creates „recommendations” for the judgment and automatically „drafts” documents in the case, including the judgment itself. What

⁵ Cross, „Adopting AI”; Ben Wodecki, „AI Helps Judges Decide Court Cases in China” *AI Business*, 18 February 2022, <https://aibusiness.com/verticals/ai-helps-judges-decide-court-cases-in-china> [accessed: 15.01.2026].

⁶ Legislation Law of the People's Republic of China (adopted at the Third Session of the Ninth National People's Congress on 15 March 2000; amended in accordance with the Decision of the Third Session of the Twelfth National People's Congress on 15 March 2015 on Amending the Legislation Law of the People's Republic of China), https://wipo.lex-res.wipo.int/edocs/lexdocs/laws/zh/cn/cn419zh_1.pdf [accessed: 15.01.2026].

does this mean? First, every case pending in Chinese courts is digitized, but more importantly, it is automatically stored in a central database accessible to every judge in the country (of course, we are talking about cases in which access has not been restricted, e.g. for security reasons) and also becomes part of the algorithm's database; this, in turn, means that the algorithm's data resources are used in every case. Secondly, since the algorithm automatically participates in deciding each case, the same algorithm, in practice, has a real chance to learn all the time, and the source of this knowledge is each subsequent case[7].

So while in theory humans remain in charge of sentencing, as evidenced by the 2022 guidelines on regulating and strengthening the use of artificial intelligence in the judiciary issued by the Supreme People's Court of China[8], the reality is far from it[9].

4 | Auxiliary Model

Another model that can be distinguished based on the role of algorithms in the judicial system is the auxiliary model. The essence of this model is that the judge has various AI tools at his or her disposal, but it is up to the judge to decide whether to use them and, moreover, if so, whether to use the results obtained in the pending case. It is precisely the discretion of the judge in terms of the

7 Stephen Chen, „China's court AI reaches every corner of justice system, advising judges and streamlining punishment” *South China Morning Post*, 13 July 2022, <https://www.scmp.com/news/china/science/article/3185140/chinas-court-ai-reaches-every-corner-justice-system-advising> [accessed: 15.01.2026].

8 Opinions of the Supreme People's Court on Regulating and Strengthening the Applications of Artificial Intelligence in the Judicial Fields (2022), <https://lawinfochina.com/display.aspx?lib=law&id=40187&EncodingName=gb2312> [accessed: 15.01.2026]; „Wykorzystanie AI w postępowaniach sądowych”, *Lome Legal*, <https://lome.legal/wykorzystanie-ai-w-postepowaniach-sadowych/> [accessed: 15.01.2026].

9 It should be added that the Chinese concept of justice is based entirely on vertical political control and the elimination of local bureaucratic control. According to the guiding principle of the system in force there, which combines Marxist-Leninist elements, only centralised vertical control ensures proper governance. In this spirit, China carried out, among other things, a reform of judicial accountability, the essence of which was to deprive court administrators of their supervisory powers. In addition, an obligation was introduced to record interventions and proceedings aimed at holding judges accountable for their decisions for the rest of their lives. Reiling, Papagianneas, „Lessons from China's Smart Court Reform”, 2.

use and application of the results presented by AI that is the best manifestation of the principle of judicial independence. Countries where this model of using algorithms in the judiciary is in place include the US and Brazil.

Brazil created its key algorithmic system in the judiciary, Victor, in 2017 as part of a collaboration between the University of Brasília (UnB) and the Supremo Tribunal Federal (STF). Its use and functioning in the judiciary is based on an implementation decision of the STF. The main purpose of this algorithm is primarily to perform a broad analysis of court files. In practice, the system operates in several stages. First, the system automatically classifies the case according to a specific branch of law based on various criteria, including the parties, facts, content of motions, and cited provisions. It then compares the case in question with thousands of previous rulings (stored in the database), pointing out the connections between the case being decided and other cases that have already been decided. Importantly, however, the system itself does not issue a decision on the case; this remains 100% in the hands of the judge. The algorithm's scope of operation allows the judge to work more efficiently by supporting them in data analysis, document segregation, identifying similarities and precedent rulings in other cases, pointing out repetitive elements, but also isolating those elements in the case that are of a nature not yet examined in the judiciary. The algorithm can also present a proposed ruling. However, the decision-maker in the case is a human being. In this way, Victor significantly speeds up the decision-making process and, what is more, is a real tool for judges in Brazil.

In the US, on the other hand, there is a natural language processing (NLP) algorithm called Daubert Tracker, which is part of this model but has a different purpose than Victor. Importantly, this algorithm does not suggest a verdict to the judge, nor does it tell the lawyers of the parties who will win the case. Instead, it is an algorithm that, based on an analysis of the expert evidence and expert opinions gathered in the case, indicates their degree of reliability, methodology, and admissibility in court. The essence of its work is therefore to provide the judge with an answer to the question of whether the evidence gathered in the case is admissible, and thus whether the evidence was produced using the correct method, what the margin of error of the examination is, and whether the method that led to the creation of the evidence in the case is a scientific method. The system is based on data from court documents, expert

opinions, and previous rulings^[10].

This algorithm therefore assists the judge in assessing the reliability of the evidence in the decision-making process, but the final decision on its use and the consideration of the results provided by the algorithm in the judgment process rests solely with the judge. Thus, it is the judge who ultimately makes the final decision in the case.

5 | Preventive Model

Another model that is worth highlighting and paying attention to due to its specific nature is the preventive model. Its characteristic feature is not only its auxiliary function in relation to the judge, but above all its specific individual and general prevention function; the prevention of certain categories of events (including, above all, crimes).

An example of this in the US is one of the oldest algorithms in use – COMPAS (Correctional Offender Management Profiling for Alternative Sanctions). This algorithm is a recidivism risk assessment system used in the US justice system. Its main task is to predict whether a person is likely to reoffend in the future. Importantly, this algorithm does not replace the judge but assists them in determining bail amounts, sentence lengths, parole decisions, and planning rehabilitation programs^[11]. It is based, among other things, on age, gender, race, ethnicity (this criterion has been questioned on grounds of racial discrimination)^[12], previous convictions, age at the time of the first offense,

¹⁰ „Technologia z Polski pomaga analizować dane w rządzie USA”, *TeleInfo24*, 26 May 2025, <https://www.teleinfo24.pl/technologia-z-polski-pomaga-analizowac-dane-w-rzadzie-usa/> [accessed: 15.01.2026].

¹¹ Saeyoung Rho, Junzhe Zhang, Elias Bareinboim, „Partial Identification Approach to Counterfactual Fairness Assessment”, *arXiv*, 30 September 2025, 1–2, <https://www.arxiv.org/pdf/2510.00163> [accessed: 15.01.2026].

¹² More on discrimination against Black people by COMPAS: Rho, Zhang, Bareinboim, „Partial Identification Approach”, 2–7. More broadly, on the risk of algorithmic opacity and bias: Leah Wissner, „Pandora’s Algorithmic Black Box: The Challenges of Using Algorithmic Risk Assessments in Sentencing” *American Criminal Law Review* 56, no. 4 (2019): 1811–1832; Anne L. Washington, „How to Argue with an Algorithm: Lessons from the COMPAS ProPublica Debate” *Colorado Technology Law Journal* 17, no. 1 (2019): 1–37. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3357874 [accessed: 15.01.2026].

addiction to psychoactive substances (e.g., drugs), education, employment history, family life, and circumstances of the offense^[13]. In practice, this algorithm analyzes the above guidelines and calculates the level of risk in three categories: the risk of general recidivism, the risk of future violence, and the risk of failure to appear at trial or, more broadly, escape^[14].

The RisCanvi algorithm used in Catalonia, Spain, has similar effects. It is used to assess the risk of recidivism and criminal behavior in procedures concerning parole, prison leave, or changes in the conditions of imprisonment^[15]. It is important to note that this algorithm assesses the risk of violence inside the prison, the risk of self-harm, and the risk of violating the conditions of release and leave. The algorithm operates on two levels: RisCanvi-S (basic assessment), which is based on 10 factors, and RisCanvi-C (full assessment), which is based on 43 factors. These include criminal history, history of impris-

¹³ Tim Brennan, William Dieterich, Beate Ehret, „Evaluating the Predictive Validity of the COMPAS Risk and Needs Assessment System” *Criminal Justice and Behavior* 36, no. 1 (2009): 5–7. <https://doi.org/10.1177/0093854808326545> [accessed: 15.01.2026]. For more information on the links and impact of the above factors on recidivism, see the report: Sharon Lansing, *New York State COMPAS-Probation Risk and Need Assessment Study: Examining the Recidivism Scale's Effectiveness and Predictive Accuracy* (Albany: New York State Division of Criminal Justice Services, 2012), https://www.criminaljustice.ny.gov/crimnet/ojsa/opca/compas_probation_report_2012.pdf [accessed: 15.01.2026].

¹⁴ Cynthia Rudin, Caroline Wang, Beau Coker, „The Age of Secrecy and Unfairness in Recidivism Prediction” *Harvard Data Science Review* 2, no. 1 (2020). <https://doi.org/10.1162/99608f92.6ed64b30> [accessed: 15.01.2026]. As a side note, it should be added that PredPol, used primarily by the American police, is a very interesting preventive algorithm. It is an algorithm for predicting crime locations. The basic idea behind it is to indicate the likely place and time of a crime so that the police can direct patrols or interventions to where the risk of crime is highest. Tim Lau, „Predictive Policing Explained”, *Brennan Center for Justice*, 1 April 2020, <https://www.brennancenter.org/our-work/research-reports/predictive-policing-explained> [accessed: 15.01.2026]. More on the lack of full transparency of this algorithm: Majsa Storbeck, *Artificial Intelligence and Predictive Policing: Risks and Challenges* (Brussels: EUCPN, 2022), 11. More on the idea and method of preventive algorithms in the American police force: George O. Mohler, Martin B. Short, Sean Malinowski, Mark Johnson, George E. Tita, Andrea L. Bertozzi, P. Jeffrey Brantingham, „Randomized Controlled Field Trials of Predictive Policing” *Journal of the American Statistical Association* 110, no. 512 (2015): 1399–1411. <https://doi.org/10.1080/01621459.2015.1077710> [accessed: 15.01.2026].

¹⁵ Ley Orgánica 1/1979, de 26 de septiembre, General Penitenciaria (BOE núm. 239, de 5 de octubre de 1979) – Organic Law 1/1979 of 26 September 1979, General Penitentiary Law.

onment, social factors and family history, mental health, drug and alcohol use, attitudes and personality traits, socio-economic conditions, education, social ties, age, gender, nationality, and whether the prisoner is serving a sentence or is in temporary detention. The algorithm provides a result in three risk categories: „low”, „medium” and „high”[16]. However, regardless of the assessment provided by the algorithm, it is the judge who ultimately makes the decision on a specific case. Like COMPAS in the US, RisCanvi has also been criticized by legal scholars and theorists for, among other things, lack of transparency, difficulties in appealing decisions, uncertainty, and unreliability. Nevertheless, it remains one of the key tools to assist judges in risk assessment[17].

Another equally interesting algorithm in Spain is VioGén (Sistema de Seguimiento Integral en los casos de Violencia de Género), which is used to assess risk, monitor, and manage cases of gender-based violence (*violencia de género*)[18]. With its help, the police, based on data about the victim, the aggressor, and the circumstances of previous reports, create a uniform picture of a given case, and on this basis, the system classifies the level of risk of domestic violence as „low”, „medium”, „high” or „extreme”. Then, as part of prevention, the system develops a „plan” of protective measures, which may include increased monitoring, assigning patrols, notifying the local police of the need for increased monitoring, recommendations on protective measures, and informing the judicial authorities and social services. The essence of this system is that it not only serves to protect individuals and society as a whole, but is also a tool for the exchange of information between the National Police and the Civil Guard, local police and local authorities, and, importantly, the courts, the public prosecutor's office, and other security entities. When decid-

16 Antonio Andrés-Pueyo, Karin Arbach-Lucioni, Santiago Redondo, „A New Tool for Assessing Risk for Violence in Prison and Recidivism”, in *Handbook of Recidivism Risk/Needs Assessment Tools*, edited by Jay P. Singh, Daryl G. Kroner, J. Stephen Wormith, Sarah L. Desmarais, Zachary Hamilton (Hoboken: Wiley Blackwell, 2018), 255–268. <https://doi.org/10.1002/9781119184256.ch13> [accessed: 15.01.2026].

17 Lorena Alemán Aróstegui, „El uso de RisCanvi en la toma de decisiones penitenciarias” *Estudios Penales y Criminológicos* 44 (2023): 1–43. <https://revistas.usc.gal/index.php/epc/article/view/8884> [accessed: 15.01.2026].

18 The fight against domestic violence in Spain is regulated by Ley Orgánica 1/2004, de 28 de diciembre, de Medidas de Protección Integral contra la Violencia de Género (BOE núm. 313, de 29 de diciembre de 2004), <https://www.boe.es/buscar/act.php?id=BOE-A-2004-21760> [accessed: 15.01.2026].

ing a case, the judge has the opportunity to check whether, for example, the defendant is subject to monitoring by this system due to his or her previous behaviour, what the scope of this monitoring is, and obtain information about the defendant's behaviour[19].

6 | Summary

Each of the models presented has its own specific scope of action. In the case of China, this scope goes far beyond simply suggesting a verdict to a judge or issuing a proposed ruling on a case. A comprehensive view of not only the procedure itself, but also the model of the state system leads to the conclusion that, in practice, the question of how many judges will risk their position becomes rhetorical to defend an opinion other than that presented by the algorithm. At the same time, this picture of the situation eliminates the judge's actual right to review the judgment indicated by artificial intelligence and leads to a significant reduction in the judge's actual role in the case. The judge is no longer a decision-maker but becomes an approver.

The optimal model for the use of new technologies in the judiciary is a support model in which artificial intelligence acts as a real tool to assist the judge in analyzing the case. In this way, artificial intelligence becomes a true „assistant” to the judge, but importantly, the judge remains the only person making decisions in the case. In other words, the role of the judge in this model is not only not limited, but moreover, thanks to the support of new technologies, this model often expands the role of the judge in practice. This is because artificial intelligence draws the judge's attention to aspects of the case that the judge would not have been able to see due to the need to analyze a large number of

¹⁹ Instrucción 1/2025, de la Secretaría de Estado de Seguridad, por la que se establece un nuevo protocolo para la valoración y gestión policial del nivel de riesgo de violencia de género y seguimiento de los casos a través del Sistema VioGén-2, https://academia-geopol.es/wp-content/uploads/2025/01/instruccion-no-1-_2025-de-la-ses-por-la-que-se-establece-un-nuevo-protoc.-para-la-valor.-y-gestion-policial-del-nivel-de-riesgo-de-violencia-d1.pdf [accessed: 15.01.2026]. Criticism of this system was included in a 2022 report, but it is worth mentioning that the system has evolved since then: Eticas Foundation, *Can AI Solve Gender Violence? Auditing the Use of AI to Assess Risk. The Case of VioGén* (2022), https://eticasfoundation.org/wp-content/uploads/2024/12/Eticas_Audit_of_VioGen.pdf [accessed: 15.01.2026].

previous rulings in similar cases. In this way, artificial intelligence can redirect and expand the scope of the judge's investigation to include additional threads that may have been overlooked.

An analysis of three models of AI use in the judiciary – active, auxiliary, and preventive – leads to a number of general theoretical and systemic findings.

First, the reconstructed models show that the role of AI in the justice system is not uniform and depends fundamentally on the political structure of the state, its degree of digitization, and the guarantee standards adopted. The integration of algorithms into the adjudication process is not neutral: it affects the scope of judicial power, the manner in which the right to a court is exercised, and the protection of individual rights.

Secondly, the active model – the most developed example of which is the Chinese SOS system – reveals a profound change in the understanding of the role of a judge. By generating draft decisions, legal recommendations, and case law analysis, the algorithm effectively takes over a significant part of the subsumption process. The very existence of the obligation for a judge to justify a different position and the mechanism for supervising such decisions creates a real risk of subordination to the algorithm, thus leading to the erosion of real judicial independence. Consequently, it can be concluded that the active model is, at the current stage of AI development, incompatible with the concept of justice based on the authority of human judges, as it effectively shifts the focus from humans to an expert system.

Thirdly, the auxiliary model – present in Brazil and the US – appears to be structurally closest to the principle of a fair trial. Here, AI serves as a tool to support data analysis, but does not interfere with the content of the decision or impose the direction of subsumption. In this approach, technology enhances the cognitive abilities of judges and increases the efficiency of courts without limiting their decision-making power. From a dogmatic point of view, this model is most consistent with the principles of the rule of law, as it expands the analytical resources available to judges without violating the principle of independence.

Fourth, the preventive model – which includes risk algorithms such as COMPAS, RisCanvi, and VioGén – shows that AI can influence the justice process in ways that go beyond individual adjudication. These algorithms help shape criminal policy by influencing the assessment of the risk of recidivism or violence, and thus decisions on sentencing, parole, or preventive measures. It follows that AI in this model performs a quasi-regulatory function, influencing

systemic judicial trends. At the same time, it appears to be particularly vulnerable to criticism related to a lack of transparency and information asymmetry between the parties and the decision-making body, which raises questions about the compatibility of such a model with the adversarial principle and the right to defense.

Fifth, a cross-cultural comparison of models leads to the conclusion that the scope of permissible use of AI in the judiciary is determined not so much by technological capabilities as by the axiological foundations of a given legal system. Countries that emphasize the central role of the judge as the guarantor of individual rights do not introduce solutions that limit their decision-making power, while systems with a strongly hierarchical administrative structure allow for a much greater delegation of powers to algorithms.

Sixth, the analysis conducted allows us to conclude that the most desirable direction of development is to maintain the auxiliary model, while allowing for the automation of the simplest cases, provided that human control is ensured. Only such a solution combines efficiency with procedural guarantees, without undermining the structural role of courts as public authorities.

Seventh, the analysis also proves that the introduction of new technologies into the judiciary requires prior and thorough digitization of evidence and standardization of procedures. Without this, algorithms will not work effectively or as expected. From a legal perspective, this means that regulations must be designed to cover not only AI itself, but also the digital ecosystem in which AI is to operate.

Finally, the research as a whole indicates that the development of AI in the judiciary is an inevitable process, but its direction should be shaped by law rather than by the pressure of technological progress. It is up to the legislator and legal doctrine to define the limits of acceptable automation in order to preserve the essence of the right to a court hearing and the role of the judge as the guarantor of a fair trial.

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