Prospects for the use of artificial intelligence in jurisprudence: from the educational process to legal practice. The experience of China

Perspectivas del uso de la inteligencia artificial en la jurisprudencia: del proceso educativo a la práctica jurídica. La experiencia de China

Iryna Davydova
Doctor of Legal Sciences, Professor, Professor of Civil Law Department National University “Odesa Law Academy” (Ukraine)

Ihor Andronov
Doctor of Juridical Sciences, Professor at the Department of Civil Procedure, National University “Odesa Law Academy” (Ukraine)

Serhii Zhurylo
Ph.D., Head of the State Registration Department of the Legal Department of the Odesa City Council (Ukraine).

Volodymyr Zubar
Ph.D., Associate Professor of Civil Law Department National University “Odesa Law Academy” (Ukraine)

Inna Iliopol
Ph.D., Associate Professor at the Department of Civil Procedure, National University “Odesa Law Academy” (Ukraine)

Abstract

Information technologies are gradually becoming an indispensable attribute of all spheres of human existence. Jurisprudence is no exception. We are on the way to the introduction of modern innovative technologies in all fields of jurisprudence. The main direction of such activity is the introduction of artificial intelligence technology even at the stage of obtaining legal education. The purpose of the work is to study the peculiarities of the involvement of artificial intelligence in the field of jurisprudence, starting from the stage of obtaining legal education and up to their professional activities, in particular, the administration of justice on the example of the PRC. The object of the study is the legal acts and judicial practice of the PRC, as well as other foreign countries, in the field of involving AI into the legal process. The subject of the study is social relations related to the involvement of artificial intelligence in the field of jurisprudence. Research methodology includes: comparative legal, analysis, synthesis and formal legal method. The authors of the
article sum up that AI significantly simplifies and improves the quality of legal activity, including the educational process, as it allows to collect and analyze quickly great amount of legal content.

**Keywords:** jurisprudence, educational process, artificial intelligence, judiciary, innovative technologies.

**Resumen**

Las tecnologías de la información se están convirtiendo gradualmente en un atributo indispensable de todas las esferas de la existencia humana. La jurisprudencia no es una excepción. Estamos en el camino de la introducción de modernas tecnologías innovadoras en todos los campos de la jurisprudencia. La dirección principal de dicha actividad es la introducción de tecnología de inteligencia artificial incluso en la etapa de obtención de educación legal. El objetivo del trabajo es estudiar las peculiaridades de la participación de la inteligencia artificial en el campo de la jurisprudencia, desde la etapa de obtención de la educación jurídica y hasta sus actividades profesionales, en particular, la administración de justicia en el ejemplo de la República Popular China. El objeto del estudio son los actos jurídicos y la práctica judicial de la República Popular China, así como de otros países extranjeros, en el campo de la participación de la IA en el proceso legal. El tema de estudio son las relaciones sociales relacionadas con la implicación de la inteligencia artificial en el campo de la jurisprudencia. La metodología de investigación incluye: derecho comparado, análisis, síntesis y método jurídico formal. Los autores del artículo resumen que la IA simplifica y mejora significativamente la calidad de la actividad legal, incluido el proceso educativo, ya que permite recopilar y analizar rápidamente una gran cantidad de contenido legal.

**Palabras clave:** jurisprudencia, proceso educativo, inteligencia artificial, poder judicial, tecnologías innovadoras.

1. **Introduction**

Despite the brutal war that the Russian Federation launched against Ukraine on February 24, 2022, our country currently remains one of the most advanced in the world in terms of the use of information technologies in the field of public administration and official document circulation. It was Ukraine that was one of the first countries in the world to equalize the legal force of a paper document and a document that exists in electronic form. The relevant norms are contained in the laws of Ukraine "On electronic documents and electronic document management" (Law 851-IV/1996, 1996) and "On electronic trust services" (Law 2155-VIII/2017, 2017). In addition, our country was one of the first in the world to create a central executive body that is responsible for the formation and implementation of state policy in the field of digitization, digital economy, digital innovations, e-government, and e-democracy and the development of the information society. Such a body of central executive power is the Ministry of Digital Transformation of Ukraine. In accordance with the Regulation on the Ministry of Digital Transformation, approved by Resolution No. 856 of the Cabinet of Ministers of Ukraine dated September 18, 2019 (Resolution 856/2019, 2019), the functions of the Ministry are: formation and implementation of state policy in the field of development of digital skills and digital rights of citizens; formation and implementation of state policy in the field of open data, development of national electronic information resources and interoperability, development of the infrastructure of broadband access to the Internet and telecommunications, e-commerce and business; formation and implementation of state policy in the field of providing electronic and administrative services; formation and implementation of state policy in the field of electronic trust services; formation and implementation of state policy in the field of IT industry development; performing the functions of the central certifying body by ensuring the creation of conditions for the functioning of subjects of legal relations in the field of electronic trust services.

In addition to the above laws, digital innovations in the legal sphere were introduced in such documents as Law of Ukraine "On Electronic Commerce" (Law 675-VIII/2015, 2015), Law of Ukraine "On Public

However, despite the state's understanding of the importance of digitalization, the possibilities of AI in the domestic judiciary are still almost not used. At the same time, in several Western countries, in particular, in the USA, AI already performs extremely important functions in the administration of justice. However, the most advanced country in the world in terms of the use of AI in the field of justice is, by right, China. Accordingly, it is extremely important to analyze the existing experience of China in the use of AI in the judiciary to adapt the relevant innovations in domestic realities.

2. Methodology

To prepare this study, such methods as comparative legal, analysis, synthesis, formal legal, and hermeneutic methods were used.

The comparative legal method helped to analyze the legislation of the People's Republic of China in terms of the implementation of provisions regulating the specifics of the use of AI in court proceedings in comparison with domestic legislation. This made it possible to determine the main areas of improvement of Ukrainian legislation in terms of the introduction of AI in general, and the implementation of AI in the jurisprudence, in particular.

The methods of analysis and synthesis made it possible to investigate the issue of introducing artificial intelligence into the activities of universities, courts and other institutions in China, taking into account certain aspects of such activities. Thus, the researchers were able to predict which aspects of such activities primarily need improvement in Ukraine.

The formal and legal method allowed researchers to follow the importance of a comprehensive approach to reforming the country's public life in the aspect of introducing innovative technologies in general, and artificial intelligence, in particular. As a result, a conclusion was made about the effectiveness of the functioning of AI in the field of the judiciary of the People's Republic of China, as part of the general process of informatization of the country, defined at the legislative level.

3. Literature review

Some domestic and foreign scientists studied the peculiarities of the introduction of artificial intelligence in the field of justice.

Among domestic researchers, the works of N. Shyshka and, in particular, her article "Artificial intelligence in the Ukrainian justice: legal prerequisites of implementation" (2021) arouse scientific interest. The scientist concludes that the legislation of Ukraine needs clarity and certainty following world and European standards regarding the use of artificial intelligence. Also, with the aim of proper legal regulation of security legal relations, there is a need to develop and consolidate the use of artificial intelligence at the legislative level. This will primarily contribute to legal guarantees of the safe and legal functioning of artificial intelligence systems.

Among foreign researchers of artificial intelligence in Chinese justice, our attention is primarily drawn to Chinese authors.
Youchun Yu (2023) у своїй статті Discussion on the Reform of Higher Legal Education in China Based on the Application and Limitation of Artificial Intelligence in Law Represented by ChatGPT проаналізував the challenges and opportunities facing Chinese legal education in the era of artificial intelligence, focusing on the applications and limitations of generative AI such as ChatGPT in the legal profession.

Mimi Zou (2020) in her article "Smart courts" in China and the future of personal injury litigation provides an overview of how Chinese courts have swiftly embraced the adoption of new technologies under this framework over the past few years. The author claims, that Chinese courts are adopting and experimenting with deep technologies at a much faster pace and on a greater scale than their counterparts in most other countries. In recent years, Chinese courts have seen major developments in online dispute resolution platforms, specialized Internet courts, and the wide use of AI tools across case management, dispute resolution, and adjudication processes in personal injury claims. Other novel technologies such as distributed ledgers, blockchain, and smart contracts solutions are currently being developed and rolled out in several local and specialized courts. The Chinese leadership has established a policy framework of "Smart Courts" to enhance judicial efficiency, transparency, and effectiveness. This article, with consideration of how Smart Courts may handle personal injury claims.

Chen Mingtsung and Li Shuling (2020) in their article «Research on the application of artificial intelligence technology in the field of Justice» claims that China's courts at all levels are promoting the construction of "intelligent courts", which is an important part of the national network power strategy, as well as the embodiment of E-government in the judicial field. Through artificial intelligence technology, judicial procedures such as service, signature, evidence, trial, debate, record, and judgment in the process of litigation are managed and controlled in a unified way. However, there are many problems to be overcome in the application of artificial intelligence technology in the judicial field. Therefore, it is the foundation of long-term and steady development to find out the problems in time and propose solutions.

Yadong Cui (2020) in the book «Artificial Intelligence and Judicial Modernization» offers a Chinese perspective on the use of artificial intelligence in the judicial field. The author introduces the research and development process and value of the Shanghai criminal case intelligent assistance system.

4. Research Results

The use of artificial intelligence in jurisprudence in Ukraine is at an initial stage, although on December 2, 2020, the Cabinet of Ministers of Ukraine approved the Concept of the Development of Artificial Intelligence in Ukraine, which provides for the use of artificial intelligence technologies in the field of jurisprudence and the administration of justice. At the same time, some countries of the world are already involving artificial intelligence at all stages of the legal process, including the stage of training specialists. First of all, we are talking about the USA and China.

Artificial intelligence (AI) can be described as "allowing a machine to behave in such a way that it would be called intelligent if a human being behaved in such a way". This is the definition that John McCarthy, considered to have invented the term "Artificial intelligence", gave to AI in 1956 (Kaplan, 2016).

Artificial intelligence technology has been actively used in law enforcement in the United States since 2017. It was then that the New York City Criminal Justice Agency began an experiment in which artificial intelligence soon began to "give advice" to judges on whether to choose a preventive measure for a criminal suspect: release on bail or detention. In particular, to create the appropriate algorithm, artificial intelligence "studied" the data of more than 1.5 million criminal cases for the years 2009-2015. The immediate subject of the study was information about the people under investigation: their age, gender, place of residence, ethnicity, as well as the crimes they were suspected of committing. Facts that could indicate whether the suspect is prone to escape were also investigated. In particular, if a person voluntarily provided the police...
with data on their phone number and residential address, more often they appeared in court on their own. The result is a system that should help judges choose a preventive measure and reduce the number of cases of bias depending on the race and ethnicity of suspects (Ramey, 2020).

It is worth noting that the need to use artificial intelligence in judicial proceedings is actualized depending on the category of the case and the specific situation. In particular, A.D. (Dory) Reiling (2020) points out exactly how AI can help in court:

1. To organize information. AI is used to search for certain patterns in the texts of court documents. A clear example of the use of this function is the introduction of the eDiscovery program in the United States. E-discovery is a form of digital investigation that attempts to find evidence in email, business communications, and other data that could be used in litigation or criminal proceedings. The traditional discovery process is standard during litigation, but e-discovery is specific to digital evidence. The evidence from electronic discovery could include data from email accounts, instant messages, social profiles, online documents, databases, internal applications, digital images, website content, and any other electronic information that could be used during civil and criminal litigation (ProofPoint, 2022).

2. To find the optimal solution in case of a dispute. AI can advise you to choose the best course of action to avoid going to court. Based on the provided advice, the user independently decides on further behavior in the relevant situation. If it is impossible to avoid court proceedings, AI can advise potential participants in the process of a specific decision that will only require formal approval by the court. A proven practical example of this function is in use at the Civil Resolution Tribunal (CRT) in British Columbia, Canada. The Civil Resolution Tribunal (CRT) is Canada's first online tribunal for resolving strata and other types of disputes including small claims disputes up to $5,000 (British Columbia, 2022). The CRT provides the public with access to interactive information pathways, tools, and a variety of dispute resolution methods including negotiation, facilitation, and, if necessary, adjudication. Participants use all of these ODR services from a computer or mobile device at a time that is convenient for them. For those who are unable or unwilling to use technology to resolve their dispute, the tribunal provides paper-based or telephone-based services (Salter, 2017).

3. To predict the results of the court process. The most extensively described application claims to be able to predict decisions of the European Court of Human Rights (ECHR). This tool uses natural language processing and machine learning to predict whether or not in a particular situation the Court will rule whether a particular provision of the European Convention on Human Rights (ECHR) has been violated. The tool works with information from earlier judgments. This AI claims 79% accuracy (Reiling, 2020).

However, the above areas are only the beginning of the era of the application of artificial intelligence in jurisprudence. Recognizing the importance of artificial intelligence and the expected benefits of its use to improve the quality of justice, the European Commission for the Efficiency of Justice (CEPEJ), which is part of the Council of Europe, 2018 adopted the "European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and Surrounding Realities" (European Commission for The Efficiency of Justice, 2018) containing five fundamental principles of using AI:

1. Principle of respect for fundamental rights: ensure that the design and implementation of artificial intelligence tools and services are compatible with fundamental rights;
2. Principle of non-discrimination: specifically prevent the development or intensification of any discrimination between individuals or groups of individuals;
3. Principle of quality and security: with regard to the processing of judicial decisions and data, use certified sources and intangible data with models elaborated in a multi-disciplinary manner, in a secure technological environment;
4. Principle of transparency, impartiality, and fairness: make data processing methods accessible and understandable, authorize external audits;
5. Principle "under user control": preclude a prescriptive approach and ensure that users are informed actors and in control of the choices made.

Therefore, the Charter provided that no one can replace a judge. We believe that, in this way, the Council of Europe has limited the possibilities of applying AI in the justice system, and over time this approach should be changed.

Thus, neither in Europe nor in the US are AI capabilities being used to their full potential, although there are some gains in this area. Instead, China is the country that uses the potential of AI to a much greater extent.

In July 2017, China's State Council released the country's strategy for developing artificial intelligence (AI), entitled 'New Generation Artificial Intelligence Development Plan'. This strategy outlined China's aims to become the world leader in AI by 2030, monetize AI into a trillion-yuan (150 billion dollars) industry, and emerge as the driving force in defining ethical norms and standards for AI.

The Plan clearly stated the need to "establish a number of global leading AI technology innovation and talent training bases, and build a more complete AI legal system, ethical norms, and policy system." For the first time, the supporting legal system for the development of AI was clarified at the institutional level, which has urgently pushed for fundamental changes in the development concept, training objectives, and learning methods of legal education in the AI era. In order to promote the smooth progress of this transformation, the reform of legal education was initiated.

According to Youchun Yu, the supply-side reform of legal education should be realized from the following aspects:

1. Training Objectives: Cultivating Legal Technology Talents with "Artificial Intelligence + Law" as the Basis;
2. Educational Philosophy: Cultivate Legal Thinking and Strengthen Legal Skills Training;
3. Teaching Method: Reshaping the Role of Teachers and Pay Attention to Personalized Learning;
4. Ethical Education: Cultivating AI Ethics for Legal Professionals.

As for the sphere of justice in China, the active use of innovative technologies in the judiciary began in 2013 when the digital platform "China Judgments Online" was launched. Almost all Chinese court documents are published on this site. As of 2020, the specified resource contained 81.5 million court documents (Zou, 2020).

In 2015, reform of the judicial system began in China. Accordingly, the process of introducing innovations in the judiciary, in particular, the use of AI, accelerated, because one of the goals of the judicial reform was to simplify and speed up court procedures. Another important goal of the reform was to de-clutter Chinese judges (for example, only in the first half of 2019, there were 14.89 million cases pending in Chinese courts) (Xinhuanet, 2019).

In the report on the use of AI in the judicial system of the PRC in 2022, it is noted that it reduced the workload of judges by more than a third, and also saved the Chinese 1.7 billion working hours between 2019 and 2021. At the same time, the associated expenses decreased by 45 billion dollars, which is approximately 50% of the total amount of attorneys' fees in the country in 2021 (Law & Business, 2022).

So, back in 2015, the concept of "smart courts" was introduced in China, which provides for the use of various innovative technologies for the organization of judicial proceedings. Currently, all courts in China are connected to a centralized platform for big data management and maintenance. Information on court
cases is collected in it in real-time. The platform is automatically updated every five minutes through an information processing system distributed throughout the country. The quality of the data and the mechanism of their verification are strictly controlled. Therefore, local courts or regional authorities cannot manipulate their judicial statistics, which are submitted to a centralized national platform. The centralized platform also collects, stores, and manages data about judges and court officials, court cases, and court administration at all levels.

At the moment, artificial intelligence performs three functions in Chinese courts. It helps judges to make decisions, provides legal information to the parties to the process, and also improves the quality of services for all participants in the proceedings.

By 2022, artificial intelligence had assisted Chinese judges in handling simple cases, such as disputes over low-cost contracts. At the same time, from July 2022, AI participates in the decision-making process by judges in most court cases. Artificial intelligence also helps to eliminate gaps in forensics. A judge can provide the system with information on the case he is conducting. The robot will prepare an analysis of decisions based on those made in comparable cases and provide the judge with a certificate. In some courts, such a system can even analyze draft court decisions. To do this, it compares the evidence in the current case with the evidence from previous court decisions.

Artificial intelligence in Chinese courts provides parties with legal information. For example, the Internet court of Beijing even developed a hologram that looks like a person. It tells the parties to the dispute basic information about the general laws, rules, court system, and procedures. The hologram can clarify whether the case is under the jurisdiction of this court and whether pre-trial dispute resolution methods are available to the parties. But the system has limitations - bots are currently programmed to answer a maximum of 140 questions. Local courts in nine regions, including Beijing, Shanghai, and Guangdong, have also launched new robots based on artificial intelligence in their courtrooms. Robots help to get all the necessary information about processes. There are also more advanced applications with artificial intelligence. These are robots that can estimate the potential results of dispute resolution (Zou, 2020).

Courts in China on the recommendation of the Supreme People's Court create universal service centers. These centers consist of various integrated mechanisms that help the parties navigate the court process more easily. Several courts have also created AI Services terminals. With their help, process participants can scan and send files. Terminals can also draw up procedural documents for the parties, and identify relevant laws, cases, and legal documents. In many courts, a system of object recognition is implemented. The system can accept verbal commands to display the relevant information on the screen. In addition, the technology can decode speech while listening and identify speakers. It can distinguish the voices of judges, plaintiffs, defendants, and other participants in the court process. All this makes it possible to make a transcript of the meeting automatically during the hearing. In essence, this is a text-based online broadcast.

Three specialized Internet courts have become the most advanced in the system of "smart courts" in China. They were created to resolve fast-growing online disputes in minimal time and money. The first internet court was created in Hangzhou in August 2017. A year later, such courts appeared in Beijing and Guangzhou. Specialized courts consider cases that are connected with the Internet and arise from disputes about the violation of personal and property rights, and responsibility for the quality of goods and from online stores. Internet courts are the first courts in China, where the entire process takes place online, including registration and service of documents, collection, and presentation of evidence, conducting a trial, issuing a court decision, execution, appeal, and other processes. Internet courts have integrated mechanisms and network solutions for building a multi-level, diversified online dispute resolution system. Such a system includes pre-trial mediation before the start of the process. The online meeting takes place via video conference. Any part of the trial can be conducted offline at the request of the parties or following
the needs of the trial itself. The platform of court proceedings "mobile court" is popular. The application can be downloaded to WeChat, the most popular mobile communication system for sending text and voice messages in China. The parties are authenticated through the facial recognition system. Users can file a lawsuit directly through the application, and during the hearing, the parties have access to the judge: they can write to him, send a video message, and upload evidence. The plaintiff, the defendant, and the judge can simultaneously enter the application, conduct pre-trial mediation, complete the electronic signature of the mediation agreement (if successful) and send the agreement also in the application. Mobile courts are not the only innovation in the Chinese judicial system. Chinese courts also actively support blockchain. Internet courts use it as a means of storing evidence and authentication. This is especially useful for online evidence in disputes that is created and stored online. The Supreme People’s Court stated that digital data stored and identified using blockchain are considered evidence in disputes. The Hangzhou Internet Court is also conducting a pilot project. It is about using smart contracts for automatic initiation of cases and storage of digital assets in the judicial blockchain database.

In July 2022, the Beijing Supreme Court significantly increased the role of AI in China’s judiciary. In particular, judges must now consult with the AI in each case. If they do not agree with its recommendation, they must provide a written explanation of the reasons. And although it seems that China’s decision to involve AI to solve all court cases looks revolutionary to the rest of the world, the drastic increase in the role of AI in the judiciary, up to the complete replacement of natural person judges, is inevitable.

5. Conclusions

1. The introduction of modern innovative technologies in the field of jurisprudence is the need of today. Those countries that are at the forefront of this process will be able to achieve or are already achieving revolutionary results in the context of the quality of legal education and law enforcement and the convenience of all related services.

2. To date, China is the only country in the world that most actively introduces modern information technologies, the basic of which is AI technology, in the field of jurisprudence. It is noteworthy that China is consistently implementing a program of comprehensive use of AI in all possible spheres of life, and jurisprudence is only one of the areas of such use.

3. The example of China is useful for Ukraine and for most other countries of the world, because it becomes possible to investigate a whole series of problematic issues of the use of AI in jurisprudence not only at the theoretical, but much more importantly - at the empirical level. In other words, we can directly adapt China’s AI experience to Ukrainian realities. Moreover, as practice shows, domestic government structures quite adequately understand the importance of digitization of many aspects of the state’s socio-economic activity.

6. Bibliographic references

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