The application of artificial intelligence in the civil proceedings of the People’s Republic of China: theoretical and legal analysis

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Abstract. The subject of the research of this article is the social relations arising in the process of integrating artificial intelligence technologies into the judicial proceedings of the People’s Republic of China (PRC). The article discusses the legal framework governing this process, as well as the theoretical and legal analysis of the phenomenon of artificial intelligence in the new legal reality. Special attention is paid to the value and essential characteristics of artificial intelligence in justice, its types and components from the standpoint of the methodology of law. Moreover, the objectives, principles, scope and system of the use of artificial intelligence in legal proceedings, as well as measures of state support for this process are analyzed. The research shows that the process of introducing artificial intelligence into legal proceedings is complex and requires serious legal understanding of these technologies in the context of justice administration. The author draws conclusions concerning effectiveness and pragmatism of the process of integrating artificial intelligence into the judicial system of the People’s Republic of China. However, a fully automated process of justice in the courts of the People’s Republic of China can lead to extremely negative consequences for the judicial system, which may cause distrust to the judicial method of protecting rights and reduce society’s commitment to basic socialist values and customs.

Key words: artificial intelligence, PRC, principles, self-executing code, justice, nanoanalysis

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Introduction

Currently, China is implementing the adopted state programs related to the intensive introduction of artificial intelligence into the main spheres of society. Thus, the concept of the “National Informatization Development Strategy 2006—2020” and the National
Informatization Plan of the “13th Five-year Plan” became the impetus for establishing Internet courts in 2016; this allowed China to become a world leader in the process of creating digital justice.

It should be noted that the process of informatization of judicial proceedings requires deep understanding both from the point of view of the value characteristics of justice and the legal component of this process. We must not forget that the result of the trial is establishing justice; therefore, integrated artificial intelligence should contribute to achieving this result. But here arises the question of whether the necessary level of technological development has been achieved to promote the artificial intelligence industry in China.

The role of the Supreme People’s Court of the People’s Republic of China in the process of integrating artificial intelligence into legal proceedings

The programs adopted at the state level to achieve economic and social goals until 2035, as well as the Plan for the Development of a new generation of artificial intelligence, suggest a deeper integration of artificial intelligence technologies into these processes, including the judicial system of China. Despite transformation of the entire judicial system into a digital one and establishing the Internet courts, one of the goals of the development of digital justice in China is to increase the level of integration of artificial intelligence. In order to achieve its objectives, the Supreme People’s Court of China published in early December 2022 “Opinions on Regulating and Strengthening the Application of Artificial Intelligence in the Judicial Fields”, which sets out the general goals, principles, scope, system of application of artificial intelligence and measures of state support for this process.

Thus, the main goals that all people’s courts should follow are ensuring the rule of law and impartiality of the judiciary to achieve people’s justice. These goals can be realized only if artificial intelligence is further deeply integrated into all judicial processes.

By 2025, people’s courts shall improve the functional system for the application of artificial intelligence in judicial activity, and by 2030 create an application and theoretical system for the use of artificial intelligence in the judicial sphere supported by model rules and demonstration effects to provide intellectual maintenance for the entire process. The final results of this process will be reducing administrative workload of judges and fighting corruption.

Due to the lack in the procedural legislation of China of regulatory norms of the process of integrating artificial intelligence into the sphere of justice, the act establishes fundamental principles on which it shall be based, namely:

— the principle of security and legality implies the development of a holistic approach to ensuring national security, prohibiting the illegal use of any technologies and artificial intelligence products. The introduction of artificial intelligence into judicial activity shall be carried out legally in strict accordance with national security and legitimate interests of the nation. Artificial intelligence technologies shall ensure the protection of state secrets,

network, information, personal security for harmonious and effective interaction of users of intelligent judicial services.

— the principle of fairness and justice means strict adherence to the fundamental rules of judicial procedure, observance of judicial justice, lack of discrimination in technologies and actions of artificial intelligence. Intelligent judicial services shall provide equal opportunities to all groups of users, regardless of circumstances.

— the principle of supporting adjudication assumes that artificial intelligence technologies shall provide an auxiliary function in the work of judges when making decisions; however, this principle does not imply making a decision by artificial intelligence. All responsibility for the decision lies with the judge, so they may choose between applying these technologies in their activities or not.

— the principle of transparency and credibility is designed to ensure transparency in the development, application, and service operation of artificial intelligence technologies in all parts of the judicial system and at all stages of the procedure, including collection and management of judicial data, using methods of legal cognitive semantics and logic of legal presumptions, ensuring verifiability, interpretability, tracking, evaluation and applications registration.

— the principle of abiding by public order and customs implies integration of basic socialist values and customs into the process of developing artificial intelligence technologies. Public order and interests shall be a priority for developers along with preservation of public morals and ethics. In any case, developers shall create a special mechanism for preventing and eliminating violations in the process of using artificial intelligence in judicial activities (Ermakova & Frolova, 2022).

Despite the consolidation of these principles, it should be noted that integration of artificial intelligence into the judicial system is not a recommendation, but an obligation; the entire judicial apparatus must support such innovations. This is done primarily to ensure that the created computer applications are utilized in the process of verifying judicial evidence, law enforcement activities, and making judicial decisions to achieve judicial uniformity and promote fairness and protection by the judiciary.

The administration of judicial activities should also be carried out with the help of artificial intelligence technologies in order to relieve the workload of judicial personnel (Yastrebov, 2021). Functions such as classification and categorization of electronic files, scanning of case information, automatic distribution of complex and simple cases, automatic search for addresses and other types of communication, creation of court records, search and confiscation of debtors’ property, automatic case management should be carried out using artificial intelligence in order to increase the effectiveness of litigation in protecting rights (Gronic, 2022).

Automation of judicial processes of people’s courts shall prevent violation of the judicial procedure and execution of court decisions, including the risks associated with judicial corruption. Artificial intelligence technologies shall diversify dispute resolution and social management. Artificial intelligence shall be actively used in the process of consulting and making recommendations on litigation and mediation procedures, predicting lawsuits, and making court decisions in order to develop new methods of dispute resolution (Bashilov & Berman, 2022).

The expansion of the scope of artificial intelligence shall take place simultaneously with the reform of China’s judicial system. People’s courts should combine technological innovations and artificial intelligence with the practice of judicial reform.
The main work in this process will be carried out by the Supreme People’s Court of the People’s Republic of China. According to the Plan for Information Construction at the People’s courts, it is planned to build and improve the structure of the “Smart Artificial Intelligence and Court Information System” and its technical standard. Special attention shall be paid to the mechanism of information security, operation and maintenance of the artificial intelligence system at all levels of the judicial system (Rusakova, & Frolova, 2022).

**Intellectualization of legal proceedings in China**

The introduction of artificial intelligence into judicial activity is supposed to be carried out through creating special information centers in courts and equipping them with special databases, digital and blockchain platforms. People’s courts shall pay special attention to improving the performance of the artificial intelligence application system by integrating artificial intelligence application systems, including the court information centers, intelligent services, including in the decision-making process and law enforcement activities. Introduction of various innovative technologies into the activities of people's courts is a necessary response in a rapidly changing world.

The process of creating and searching for the appropriate models of artificial intelligence application shall be carried out only in collaboration with leading research centers, academies and laboratories as part of implementation of significant national projects, research programs and technological innovation platforms. The main emphasis in this work shall be given to the study of language models used in legal activities, processing of judicial data to create data-driven and knowledge-oriented neural networks, to achieve effective human-computer interaction, thereby promoting the idea of creating a judicial system based on artificial intelligence technologies.

However, in order to implement such tasks, it is necessary to provide computing, communication and service capacities, therefore, people’s courts shall plan and build information infrastructure in accordance with the needs of artificial intelligence technologies. Thus, computing storages, terminal equipment and special information tools shall be created.

In addition, there are also technical concerns, since the current artificial intelligence has not yet reached the required level; there are technical risks of its use in the process of making a court decision. Artificial intelligence consists of three elements: data, computing power and algorithm; the main difficulties arise in data and algorithms (Vlasenko, 2021).

According to Chinese scientist Zhen Xi, there are four main obstacles to apply artificial intelligence in the judicial decision-making process in China: insufficient legal data (most judicial acts are not available on the Internet); legal data may not match reality (public condemnation may not correspond to the actual reason for conviction); legal data may not be objective, since each judge has their own opinion and view on the same issue; the legal data structure does not correspond to legal terms, which complicates the work of artificial intelligence. From the point of view of the algorithm, the problems are mainly reflected in two matters; one is the low technical level of the algorithm, and the other is closeness and secrecy of the algorithm.

It is assumed that the competent construction of infrastructure will strengthen the security of the Internet and data, additionally protect personal information and improve the work of judicial applications.
The deep integration of artificial intelligence into the process of justice and ensuring the impartiality of judges shall be based on the model of building smart courts, and additional efforts shall be aimed at attracting financial support, strengthening advertising and training of the entire judicial corps to apply further breakthrough solutions in the field of artificial intelligence.

Special attention is planned to be paid to challenges related to the protection of intellectual property rights, especially patent applications in the field of artificial intelligence and registration of copyrights for software. People’s courts shall improve the quality of judicial data exchange, as well as fully use and develop systems of interdepartmental, inter-level and inter-service interaction.

In addition to improving the mechanisms of judicial data security and reducing cybersecurity risks, a Judicial Artificial Intelligence Ethics Council will be created, which will carry out ethical checks, compliance checks and security assessments in judicial artificial intelligence applications.

It is planned to achieve a complete transition of the entire judicial process to artificial intelligence technologies by 2030, however, while we are not talking about making a court decision by artificial intelligence, this shall be the prerogative of the judge. Although in the process of judicial supervision and management, the main role is assigned to artificial intelligence.

In his work “Academic Reflections on the judicial system of artificial intelligence”, Qin Han expresses the opinion that the use of artificial intelligence in judicial activity is more suitable for countries with a precedent system of law, especially with regard to adjudication. For many other countries, including China, it will be a choice between procedural and real value. Another innovation related to artificial intelligence in the work of judges also raises certain concerns. This is the system that allows to determine the duration of court proceedings and their type; it also notifies about deviations in the work of the judge. In fact, these may be interpreted as violation of the judge’s right to independence in the process of justice (Qin Han, 2021:115). Many scientists express their concern regarding the tandem of artificial intelligence and the judiciary; they highlight the following problems: determining the source of data that may be initially contaminated and the data format (e.g., the ability to use legal language while defining a strategy).

Ways to overcome the “judicial explosion” in China

One of the reasons for deep collaboration of artificial intelligence and judicial system is a sharp surge in court cases, the so-called “judicial explosion”. This phenomenon is typical not only for China, but also for most countries of the world; so courts must change the traditional system of hearing cases and types of litigation, introducing artificial intelligence technology to help judges quickly and accurately decide cases and resolve disputes.

According to the statistics of the Supreme People’s Court of the People's Republic of China, more than 90 thousand mediation institutions and more than 350 thousand intermediaries have joined the platform designed to assist litigants in disputes that are related to Internet. Moreover, more than 11.43 million online lawsuits were filed in 2021 alone².

² Chinese courts must implement AI system by 2025. Available at: https://english.bjinternetcourt.gov.cn/2022-12/12/c_593.htm [Accessed 14th January 2023].
According to Xi Zheng, there are also other challenges associated with exercising procedural rights in court. Active introduction of artificial intelligence in the decision-making process can make it as formalized as possible, since the technology will proceed from the provisions of laws and the volume of decisions that have already been digitized into the system but not from the real state of affairs, presented by the parties. Moreover, a new phenomenon may be related to the judicial protection of exclusively public interests ignoring the rights and legitimate interests of citizens and business entities, thereby the judge may turn not into an independent arbitrator, but into a person who simply announces the decision made by artificial intelligence in a court session (Xi Zheng, 2020). Currently, society is divided by the level of mastering the computer technologies and the possibility of using them in everyday life, so such an important principle as the right to judicial protection may become a luxury for unprotected segments of the population. Therefore, implementation of the concept of establishing digital justice in the judicial system of China shall be carried out gradually.

Serious concerns are also caused by the very trust of citizens in the judicial system; this may be explained by the fact that judicial practice is replete with contradictory court decisions in similar cases.

Zhao Yang, in his work “Judicial Trust and its Promotion in the Era of Artificial Intelligence”, expresses the opinion that with the deep integration of artificial intelligence technology into the judicial system, trust in judiciary has rather increased. This was achieved by limiting judicial arbitrariness, overcoming judicial uncertainty through comprehensive analysis and inductive reasoning, and increasing efficiency of the judicial system in general. Zhao Yang stresses the importance of establishing certain psychological contact between the judge and the parties to the dispute, which, in practice, is difficult to achieve. With artificial intelligence this problem may be solved by developing system technologies to envelope the right balance of human factors in the trial.3

The psychological aspect plays an important role in shaping public opinion concerning the judicial system; however, it is essential to identify the problem in terms of integrating artificial intelligence into the judicial process with limited emotional assessment of events. It also means limited judicial discretion by a machine algorithm.

In view of the above, a new phenomenon has appeared in judicial practice. It is the situation when a court decision is made jointly by a judge and artificial intelligence; such justice can be defined as mixed. Such decision-making procedure seems the most effective for China’s judicial practice.

According to Zhao Yang, artificial intelligence will overcome judicial uncertainty through comprehensive analysis of a large amount of data, since it is often difficult for a judge to objectively make a court decision due to the lack of individual experience, limited cognitive abilities and personal biases. The big data analysis may provide judges with all available information on the selected parameters.

Shen Zhai in his work “Functions and limitations of judicial artificial intelligence from the point of view of case justice” identified a number of issues related to the process of proving in court. He looks at situations when a judge needs to determine the relevance and admissibility of certain facts among the huge amount of presented evidence, as well as give them a legal assessment. In the process of proving, a new phenomenon has now

It should be noted that by the beginning of 2022, nine blockchain-based electronic evidence platforms began to operate in people’s courts in China. They also include three platforms created by Internet courts (Beijing Internet Court “Tianping Chain”, electronic evidence platform, Hangzhou Internet Court “Judicial Blockchain”, Guangzhou Internet Court “Netcom Legal Chain”), two platforms created by the Supreme People’s Courts (Electronic Evidence Platform of the Supreme People's Court of the Province Jilin, the Electronic Evidence Platform of the Shandong Province Supreme People’s Court), the Intermediate People’s Court has also created one of the platforms (Zhengzhou Intermediate Court Electronic Evidence Platform of the People’s Court) and three platforms, created by lower courts (Electronic Evidence Platform of Chengdu Pidu County People’s Court, Electronic Evidence Platform of Jiangsu Shuyang County People’s Court, Electronic Evidence Platform of Hefei Shushan District People’s Court) (Han Kang, 2021).

Blockchain depository technology plays a unique role in ensuring the authenticity, relevance and legitimacy of evidence, which occurs through decentralization and hash verification; therefore, the new reality of digital justice allows to expect high-quality and affordable legal proceedings (Solovyev, 2022; Solovyev, 2021).

The integration of modern information and telecommunication means into the judicial process contributes to citizens’ trust in protecting rights in court. In fact, Chinese population has also other opportunities to enjoy judicial protection. However, strengthening of judicial trust of citizens is gradually taking place due to introduction of various technologies into the judicial procedure. Hence, it is important to carry out a continuous process of improving not only the judicial system, but also various technological means that instead of complicating the process of obtaining judicial protection, will simplify it, make it more understandable and predictable. The judicial and technological trust of citizens has become more complex due to two inseparable aspects: court and technology; therefore, the state must ensure a balance of interests of all participants in the judicial process both in terms of obtaining judicial protection and using information and telecommunication technical means.

Thus, we can talk about the emergence of judicial and technical trust of the population, where the dominant role is played by artificial intelligence fulfilling the task of assistant in building communication between the judge and the participants in the trial.

Citizens’ trust in the judicial system has been enhanced due to the integration of various technologies into the process, where parties can calculate all the risks before filing an application to the court, as well as calculate the likely outcome of the trial against previously adopted court decisions on similar cases. Uniformity of judicial practice is also achieved through various technologies by a judge in the process of making a court decision, for example, through selecting and analyzing court decisions in similar cases.

Scientists in China have expressed concern that such uniformity may grow into supervision over the judges’ activities. Any discrepancy with earlier judgements may lead to the responsibility of the judge for their decision on the case. On the other hand, China’s judicial practice has revealed high-profile court decisions that contradict all existing legal norms. There is an opinion that inclusion of various automated systems related to the selection of judicial decisions in the activities of judges may prevent such deviations. For

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this end, it is necessary to ensure information exchange between all the elements of the judicial system, as well as interdepartmental interaction on a single digital platform. A single digital space allows for a fast, accurate and predictable search for information in judicial activities throughout China.

Even the simplest functions of artificial intelligence, for example, transcription, translation of audio material into written text, have significantly reduced the time of judges to prepare protocols, transcripts of court sessions and formation of electronic court case. In the past, such work, including preparation of the documents, took a lot of time from judges and their assistants, as well as representatives of the parties who had to get acquainted with them, check and sign, and only then the documents were attached to the case record.

In the development of various artificial intelligence technologies, the leading role is played by the joint, coordinated work of representatives of the judicial community, representatives of IT companies and various government agencies, which makes it possible to give an adequate response to digital challenges facing society.

The Evidence company has developed targeted guidelines on standards of proof and rules of evidence presentation to achieve unity of the proof process. The improvement of machine learning capabilities for intellectual verification of evidence should ensure complete and accurate processing of case materials.

System 206, developed by the Shanghai Supreme People’s Court, performs phonetic and verbal conversion into written form throughout the trial, and automatically selects necessary case materials from pre-stored evidence in accordance with the language instructions of judges, prosecutors, and defense counselors, in real time\(^5\).

The system made it possible to completely opt out of the paper media, which significantly increased the trial efficiency. The intellectual system is based on a deep neural network that allows the judge to provide the full range of necessary services for decision making: the selection of previous court decisions in similar cases, legislative acts regulating both the procedure for resolving a dispute and its substance, doctrinal sources, and other information. While investigating the use of artificial intelligence in Chinese justice, Zuo Weimin identified a number of problems. Among them he noted the insufficient level of artificial intelligence development which cannot fully replace a human being with their beliefs, views, and judgments.

Artificial intelligence technologies cannot understand phrases in complex situations, since identification of semantic laws in different language environments is not yet subject to machine algorithms; it cannot identify and understand complex circumstances in a case either. AI knowledge of grammar rules alone is not enough in judicial activity, since to make a conclusion, it is necessary to use a huge arsenal of knowledge in various fields that cannot be completely transformed into computer content.

Thus, when testing artificial intelligence for natural linguistic diversity, the ambiguity of some words and phrases became obvious serious obstacles to identifying legal facts and circumstances of the case in the sentencing process.

The difficulties arising in the process of using smart technologies in legal proceedings have revealed a number of conceptual problems between the definition of the value of justice and the value of efficiency, therefore it is very important to find a value balance without violating the main task of justice — protection of rights and legitimate interests of

citizens and business entities. On the other hand, there are cases when justice will depend on the effectiveness of judicial proceedings or, as for example, in case of “deferred justice”, it is impossible to talk about justice at all.

Another problem is related to the emergence of smart contracts based on self-executing code that automatically implements the terms of the agreement concluded between the parties; this helps prevent disputes (Zakharkina & Kuznetsova, 2021). However, if the self-executing code is created by a person who can abuse the right and prescribe unfavorable conditions for one of the parties, we can talk about the possible monopolization of dispute resolution methods. Moreover, there are disputes related to crypto assets, smart contracts, fintech applications that require legislative certainty in their resolution and ensuring protection of the rights of the parties.

More attention should also be paid to ensuring equality of the parties in the process of using artificial intelligence technologies and achieving procedural justice. The latter, according to Chinese scientists, may be achieved only by limiting state power and guaranteeing the protection of citizens’ rights in the judicial process.

In China, traditional judicial process management manifests itself in the form of visual code rules, and all information concerning judicial actions committed by participants in court process is updated in real time on the digital platform of the court.

This is achieved by creating an account for each participant on the digital platform of the court, so information about the case will be displayed in real time on the court’s web page; it involves information concerning whether an application has been filed, when the case will be heard, whether the proceedings on the case have been terminated or an appeal has been filed.

System 206, integrated into the work of the Shanghai People’s Court, allows to record the entire process of considering a case, making the trial fully automated and intelligent and contributing to fair justice.

The automated system allows the chairman of the court to monitor the judicial decisions of all the judges of the court, and to analyze their correctness against previous decisions made in similar cases.

Wei Bin, lecturer of Guanghua Law School of Zhejiang University, highlighted a new milestone in the development of artificial intelligence in the judicial system, characterized by a new feature — productivity. The AI integration into judicial reform is expected to solve the problem areas and difficulties of functioning of the judicial system by developing intelligent applications that comply with legal provisions and create systems focused on court personnel. Moreover, the automated system allows citizens to monitor the judicial process online and prevent erroneous decisions and judicial arbitrariness.

Artificial intelligence provides for various computational models to help users perform tasks such as identifying, constructing, comparing and evaluating legal arguments, as well as determining the most similar type of legal proceedings.

Legal hermeneutics, the theory of legal argumentation and legal logic, are important components of judicial artificial intelligence, which are used in the process of searching for applicable law and rules.

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From the standpoint of legal methodology, the AI integration into the judicial system is aimed at improving the quality and effectiveness of tasks implementation during the judicial reform (Kudryavtseva, 2021). The AI integration into legal proceedings should make justice the main judicial value.

**Conclusion**

The conducted theoretical and legal analysis of the process of integrating artificial intelligence into legal proceedings allows to highlight both the positive features of this process and the negative aspects. Increasing complexity of public relations due to introduction of various technologies has set a number of tasks related to ensuring and guaranteeing their protection.

The change in the legal paradigm has had an impact on the process of justice in the PRC. Judicial artificial intelligence, based on legal hermeneutics, theory of legal argumentation and legal logic, will inevitably increase its efficiency, quality and value of the judicial protection of violated rights.

AI integration into legal proceedings highlights the problem of finding a value balance between the value of efficiency and justice, preserving the judicial and technological trust of citizens, observing public order and customs, and maintaining public morality and ethics.

An automated judicial process may lead to total supervision of the activities of judges and violation of the fundamental principles of justice; judicial discretion may be replaced by machine.

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