Practical inspection and exploration of assistive positioning and generative artificial intelligence empowering civil trials

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Abstract: With the rapid development of artificial intelligence technology, the application of AI in the judicial field is gradually expanding, especially in civil trials, where artificial intelligence auxiliary positioning and generative artificial intelligence technology show great potential. Through intelligent case analysis, legal text retrieval, case matching, and document generation, artificial intelligence can effectively improve judicial efficiency, ensure the quality of judgments, reduce the workload of judges, and promote judicial fairness. However, the application of artificial intelligence in the judicial field still faces challenges such as technical adaptation, data privacy, and ethical issues. This paper aims to explore how auxiliary positioning and generative artificial intelligence can empower civil trials, and reveal its potential and development prospects by analyzing the current application status, technical principles, practical effects, and challenges of AI in civil trials. Studies have shown that the introduction of artificial intelligence can improve judicial efficiency and consistency of judgments, but it also poses new challenges to the current judicial system and legal framework. In the future, with the continuous advancement of technology and the improvement of policy frameworks, artificial intelligence will play an increasingly important role in civil trials and contribute to the intelligent transformation of the judicial field.

Keywords: Artificial intelligence; College students; Psychological evaluation; Psychological intervention; Multimodal model

1 INTRODUCTION

With the rapid development of information technology, artificial intelligence (AI) has gradually penetrated into all walks of life, and the judicial field is no exception. In recent years, the application of artificial intelligence in judicial practice has gradually deepened, especially in civil trials, where the auxiliary role of AI has become increasingly prominent. Artificial intelligence can process and analyze massive amounts of data, assisting judges in making more efficient and accurate analysis in case judgments, thereby improving judicial efficiency, reducing judgment errors, and promoting judicial fairness [1]. However, the application of artificial intelligence in the judicial field still faces many challenges, including technical adaptability, ethical issues, data privacy, etc. In this context, it is particularly important to study how artificial intelligence can empower civil trials, especially to assist in positioning and generating specific applications of artificial intelligence in them. By deeply exploring this topic, theoretical support and technical guidance can be provided for future judicial practice, and the foundation can also be laid for the further application of AI in the judicial field.

As the most common part of the judicial system, civil trials face a series of challenges such as numerous cases, long processing cycles, and heavy burdens on judges. In the traditional trial model, judges need to consult a large amount of legal documents, judicial interpretations, precedents and other materials, which is not only time-consuming and laborious, but also may lead to differences and inconsistencies in judgments due to information asymmetry and human factors. In addition, with the continuous development of society, the types of civil cases are becoming more and more diverse, and the complexity and professionalism of the cases themselves are increasing [2]. Traditional judicial means are often difficult to deal with these complex legal issues. It is in this context that artificial intelligence's auxiliary positioning and generation technology has shown great potential. Through intelligent legal text retrieval, case analysis, case matching and other functions, AI can help judges handle cases quickly and efficiently, reduce repetitive work, and improve the consistency and accuracy of judgments [3].

The research goal of this paper is to explore how auxiliary positioning and generation artificial intelligence can play a role in civil trials, including how they can improve judicial efficiency, ensure judicial fairness, and reduce judgment errors. By studying the specific application of artificial intelligence in civil trials, analyzing the feasibility and development potential of the technology, and providing theoretical basis and practical suggestions for the future transformation of judicial intelligence. In addition, this paper also aims to reveal the technical and ethical challenges that may be faced in the application of artificial intelligence, and propose corresponding response strategies to ensure the healthy and compliant development of AI technology.

In terms of research methods, this paper adopts a combination of literature analysis and case study methods. First, it sorts out the current application status of artificial intelligence in the judicial field at home and abroad, and analyzes the theoretical basis and practical experience of the current application of artificial intelligence in civil trials; then, through the analysis of specific practical cases, it explores the application effect and implementation challenges of auxiliary positioning and generation of artificial intelligence in civil trials; finally, based on the research results, it puts forward optimization suggestions and development paths for artificial intelligence to empower civil trials [4]. In terms of structural framework, this paper will first outline the application background and development status of artificial intelligence technology in civil trials, and then deeply analyze its specific technical principles and application modes, and then evaluate its actual effect in judicial practice, and explore the challenges and problems faced, and finally put forward prospects for future development directions. Through this series of analysis, this paper strives to provide feasible theoretical guidance and practical paths for the better application of artificial intelligence technology in the judicial field.

2 OVERVIEW OF THE APPLICATION OF ARTIFICIAL INTELLIGENCE IN CIVIL TRIALS

With the rapid development of information technology, the application of artificial intelligence (AI) in all walks of life has gradually deepened, especially in the judicial field, showing great potential. The technical evolution of artificial intelligence has gone through several stages. From the initial symbolic reasoning and expert system to today's deep learning and natural language processing technology, the capabilities of AI have been significantly improved. The earliest artificial intelligence research focused on logical reasoning and rule derivation. With the enhancement of computing power and the emergence of big data, deep learning, neural networks and other technologies have become mainstream [5]. These technologies not only make machines more accurate in handling complex tasks, but also can make breakthroughs in speech recognition, image recognition, natural language processing and other fields. In the judicial field, the application of artificial intelligence has developed from

an auxiliary tool to a core intelligent support system. Especially in civil trials, AI provides judges with powerful decision-making support, helping to improve trial efficiency and judgment quality.

The application of artificial intelligence in the judicial field can be traced back to the 1980s, when it was mainly focused on auxiliary work such as case retrieval and legal research. With the continuous advancement of artificial intelligence technology, AI has begun to play an increasingly important role in the judicial system. Especially in recent years, with the maturity of artificial intelligence in technologies such as big data analysis and natural language processing, the application of AI in civil trials has developed rapidly. At present, AI technology can realize functions such as intelligent classification of cases, automatic processing of litigation materials, and intelligent matching of legal provisions [6]. These applications have greatly improved the efficiency and accuracy of judicial work. At the same time, with the introduction of deep learning algorithms and data mining technologies, AI has also shown great potential in complex judgment analysis, legal prediction, and automatic generation of judgment documents.

In the application of artificial intelligence, auxiliary positioning technology and generative artificial intelligence have gradually become important components in the judicial field. Auxiliary positioning technology mainly helps judges quickly locate legal provisions and precedents related to cases by building legal knowledge graphs and case databases, using machine learning and natural language processing algorithms, thereby improving the accuracy and efficiency of case handling. Generative artificial intelligence focuses on generating legally effective documents or judgments through algorithms, and can automatically generate legal documents such as judgments and indictments according to the specific circumstances of the case. The combination of auxiliary positioning technology and generative artificial intelligence can not only accelerate the civil trial process, but also improve the standardization and consistency of judgments and reduce human bias [7].

However, the application of artificial intelligence in civil trials still faces many challenges and tasks. In terms of case management, AI can assist judges in automatically classifying cases, analyzing case types and the correlation between cases, optimizing case processes, and shortening trial time. However, the complexity and diversity of cases require AI systems to have strong adaptability and discrimination capabilities, which is still technically difficult. In addition, judges often need to comprehensively consider multiple factors such as legal provisions, judicial interpretations, precedents, and case backgrounds in the judgment process. AI's auxiliary support in this regard is still in its initial stage. How to further improve the accuracy and rationality of AI judgment support is still the key to future development. In terms of legal document generation, although AI technology can automatically generate legal documents such as judgments based on case facts, how to ensure that these automatically generated documents not only comply with legal provisions, but also accurately reflect the complexity and diversity of cases is still an urgent problem to be solved.

In short, the application of artificial intelligence in civil trials has shown great potential and value, but to achieve its full empowerment, it still needs to continue to explore and improve in terms of technological innovation, legal adaptation, and ethical norms.

3 TECHNICAL PRINCIPLES AND APPLICATION MODELS OF AUXILIARY POSITIONING AND GENERATIVE ARTIFICIAL INTELLIGENCE

In the process of civil trials, the combination of auxiliary positioning technology and generative artificial intelligence has become an important tool to improve judicial efficiency and judgment quality. These two technologies not only rely on the deep learning and natural language processing capabilities of artificial intelligence, but also have great potential through

integration with the traditional judicial system in practical applications. The core of auxiliary positioning technology is to achieve efficient matching of legal provisions and cases by establishing a huge legal knowledge graph, so as to help judges accurately locate relevant legal basis. The legal knowledge graph structures information such as legal provisions, judicial interpretations, and precedents, and connects this information with data such as facts and evidence of specific cases through association analysis technology [8]. In this way, AI can quickly analyze and provide the most relevant legal provisions and precedents for the case, providing important reference for judges and greatly improving trial efficiency.

In addition, the correlation analysis between cases and legal provisions is another key function of auxiliary positioning technology. In the handling of civil cases, the legal relationship of the case is often more complicated, and judges need to conduct a comprehensive analysis of multiple levels of the case. At this time, auxiliary positioning technology uses algorithms to analyze the relationship between case facts and legal provisions to help judges quickly identify applicable legal provisions [9]. This technology can accurately match the corresponding legal rules and precedents according to the different backgrounds, controversial points and factual relationships of the case, greatly shortening the time for case handling, reducing the occurrence of human errors, and ensuring the consistency and accuracy of the judgment.

The technical architecture of generative artificial intelligence focuses on automated document generation and judgment support. Natural language processing (NLP) is the core technology in this technical architecture. It enables computers to understand and generate natural language, thereby realizing the automatic generation of legal documents such as judgments, indictments, and rulings in civil trials. Through in-depth analysis of case facts, legal provisions and judicial interpretations, NLP can convert this information into natural language expressions in legal documents, and accurately and normatively generate texts that meet judicial requirements. NLP technology not only improves the efficiency of document generation, but also generates personalized and targeted legal documents according to the different characteristics of the case, thereby effectively reducing the burden on judges in document writing and reducing the deviations that may be caused by human intervention.

Judgment generation and intelligent analysis are another important function of generative artificial intelligence. Through learning and analyzing massive judicial data, AI can provide intelligent judgment support for judges. Judgment generation not only relies on AI's understanding of the facts of the case, but also requires analogical reasoning based on the judgment results of similar cases in the past. By analyzing historical precedents, the AI system can provide judges with multiple possible judgment directions and provide references based on the specific circumstances of the case. This intelligent analysis process can help judges think about cases from multiple dimensions and make more comprehensive and reasonable judgments.

The integration of auxiliary positioning and generative artificial intelligence in civil trials is a cutting-edge exploration of the current application of judicial artificial intelligence. The integration of the two can effectively improve the level of intelligence in the trial process and reduce the work pressure of judges. Through auxiliary positioning technology, the AI system can help judges quickly find legal provisions and precedents related to the case and improve the efficiency of case analysis. Through generative artificial intelligence, AI can not only

generate legal documents, but also provide intelligent support in the judgment process to help judges make more accurate decisions. The integrated technical system can realize intelligent processing of the entire process from case reception, classification, analysis to judgment generation. The realization of this process will make the workflow of civil trials more efficient and transparent, and improve the fairness and impartiality of justice.

In practical applications, the integration of technology also brings some new challenges. How to ensure the accuracy and reliability of technology and avoid the impact of algorithmic bias on the judgment results is still an issue that requires continuous attention. At the same time, the application of artificial intelligence must comply with relevant laws and regulations and ensure data privacy and system security under the premise of ensuring judicial fairness. In the future, as the technology continues to mature and optimize, the integrated application of auxiliary positioning and generative artificial intelligence will play a greater role in civil trials and provide strong support for judicial reform.

4 PRACTICAL APPLICATION OF ASSISTED POSITIONING AND GENERATION OF ARTIFICIAL INTELLIGENCE IN CIVIL TRIALS

With the development of artificial intelligence technology, the application of assisted positioning and generation of artificial intelligence in civil trials has gradually moved from theoretical research to practical operation, becoming an important tool for improving judicial efficiency and accuracy. In judicial practice at home and abroad, there have been many successful cases that reflect the actual effect and potential of artificial intelligence technology. For example, in China, many courts have begun to use artificial intelligence to assist in judgment and case management, and improve the speed and accuracy of case processing by introducing AI technology. In smart courts in Guangzhou, Shenzhen and other places, artificial intelligence is widely used in intelligent classification, retrieval and auxiliary support of judges' judgments, especially in civil cases [10]. Through legal knowledge graphs and machine learning algorithms, courts can quickly and accurately find legal provisions and cases related to cases, thereby providing judgment support for judges. In addition, similar to the "Lex Machina" platform in the United States, it also helps lawyers and judges quickly grasp the potential results and related legal trends of cases through big data analysis and prediction models in civil trials, so as to better analyze and make decisions on cases.

In these practical cases, the application of specific technologies has also been verified. The application of auxiliary positioning technology helps judges quickly obtain case-related legal provisions, judicial interpretations and cases, and greatly improves the efficiency of case handling through intelligent matching and analysis of massive legal data. Generative artificial intelligence has made significant progress in the automatic generation of legal documents. Many court systems have achieved the automatic generation of legal documents such as judgments and rulings through natural language processing technology. In this way, judges no longer need to spend a lot of time on document writing, and can focus on case analysis and adjudication, thereby improving judicial efficiency.

The advantages of artificial intelligence are particularly obvious in terms of innovative applications in civil trials. The application of intelligent auxiliary judges' judgments can not

only provide judges with references to similar cases, but also predict the trend of judgments through AI algorithms, helping judges to fully understand all aspects of the case and make more accurate and reasonable judgments. This intelligent auxiliary system not only improves the efficiency of judgments, but also enhances the consistency and fairness of judgments. The innovative application of case retrieval and positioning systems helps judges quickly locate the most relevant legal provisions and precedents in massive case data, avoiding tedious manual retrieval and comparison, thereby reducing human errors and omissions and ensuring the accuracy of case handling.

In addition, the automatic generation and auxiliary editing of judicial documents are important components of the application of artificial intelligence technology in judicial trials. By generating an artificial intelligence system, the court can automatically generate legal documents such as judgments and mediation documents based on the facts of the case, and can automatically modify and optimize them according to the complexity of the case. Judges can edit and adjust the preliminary draft documents provided by the AI system to improve the efficiency of document generation, reduce repetitive work and errors, and improve the quality of judicial documents.

Combining artificial intelligence with traditional trial models to promote judicial modernization is an important direction of current judicial reform. The application of artificial intelligence will not completely replace the role of judges, but will reduce the workload of judges and help judges handle cases more efficiently by providing judges with more intelligent decision-making support. In this mode, artificial intelligence, as an auxiliary tool, can help judges quickly analyze the relevant legal information, judgment history and judgment trends of the case, while judges still play a leading role in the final judgment of the case. This human-machine collaborative working mode not only improves judicial efficiency, but also ensures judicial fairness. With the continuous advancement of technology, artificial intelligence will play a more important role in future civil trials and become an important support system for judges to conduct efficient and fair trials.

5 AUXILIARY POSITIONING AND GENERATION EVALUATION OF THE EFFECT OF AI-ENABLED CIVIL TRIALS

With the continuous application of AI technology in civil trials, how to evaluate its actual effect has become a key issue. Through specific evaluation indicators, we can fully understand the contribution and limitations of AI technology in judicial practice. The improvement of judicial efficiency is the most intuitive evaluation standard. AI has greatly improved the efficiency of case handling through intelligent case classification, legal text retrieval, document generation and other functions. Through automated tools, judges can reduce a lot of repetitive work in the initial processing stage of cases, shorten the case processing cycle, and reduce the workload of the court. This improvement in efficiency not only reduces the work pressure of judges, but also enables cases to be heard and judged more quickly. At the same time, AI's precise matching of legal provisions and precedents in cases also makes case handling more efficient, reducing tedious manual operations and heavy paperwork.

The quality and fairness of judgments are also key indicators for measuring the effect of

AI-enabled civil trials. Through auxiliary positioning technology, AI can help judges better understand the case background and the applicability of legal provisions, and provide multi-angle judgment support. However, although AI technology can provide intelligent analysis and prediction, it still relies on a large amount of historical data and algorithm models. Therefore, the quality and fairness of judgments not only depend on the accuracy of AI itself, but also on the quality of data and the optimization of models. In the judgment process enabled by AI, although the AI system can help judges reduce human bias through pattern recognition, whether it can fully consider the complexity of the case and fully reflect social fairness and judicial justice is still a challenge. How to ensure that AI does not lose its deep understanding of individual case characteristics and social background while improving efficiency has become an important issue to ensure judicial fairness.

Objective data analysis is an important means to evaluate the effectiveness of AI technology. Through comparative analysis before and after implementation, we can intuitively see the changes in judicial efficiency, judgment quality, etc. before and after the application of AI. Before the application of AI technology, the court system often relied on manual preliminary analysis and document writing of cases, which had a long case processing cycle, a large workload for judges, and was prone to errors caused by human factors. After the implementation of AI technology, the case processing cycle was significantly shortened, and the time for judges to handle cases was greatly reduced. Especially in the links of case classification, retrieval and document generation, the automation and intelligence of AI greatly improved work efficiency. By comparing the data, it can be found that the number of cases heard by the courts has increased significantly, the processing time of cases has been compressed, and judicial resources have been allocated more efficiently.

The changes in the case processing cycle and the workload of judges are also important indicators for evaluating the effectiveness of the implementation of artificial intelligence technology. Taking the case processing cycle as an example, traditional case trials often require tedious manual classification, legal search, document writing and other links. These tasks not only take up a lot of time, but are also prone to human errors. The introduction of artificial intelligence technology has provided great convenience in case classification, legal text retrieval, document generation, etc., which has greatly shortened the cycle from case receipt to judgment. In addition, the workload of judges has also been effectively reduced. With the support of the AI system, judges no longer need to conduct tedious data collection and document writing, and can devote more time and energy to in-depth analysis and complex judgments of cases, which undoubtedly improves the work efficiency and quality of judges.

In terms of legal application and consistency of judgments, the role of artificial intelligence has also begun to emerge. AI can help judges better understand and apply relevant legal provisions through the analysis of a large amount of judicial data, and ensure the consistency and rationality of judgments. Through the systematic analysis of historical precedents and legal provisions, AI can help judges find judgments similar to the current case, thereby improving the consistency of judgments and reducing the problem of inconsistent judgments caused by differences in personal understanding of judges. However, how to ensure that the role of AI in judgment consistency does not lead to excessive standardization also requires in-depth reflection. The flexibility of legal application is the basis of judicial justice. The introduction of

AI technology should achieve consistency and fairness in legal application on the premise of respecting individual differences and social background of cases.

In summary, the application of artificial intelligence in civil trials has not only achieved remarkable results in improving judicial efficiency, reducing the burden on judges, and improving the quality of judgments, but also provided strong support for the realization of judicial justice. However, with the in-depth application of technology, how to ensure the fairness and efficiency of judgments while avoiding the limitations of artificial intelligence is still a topic that needs to be continuously explored and improved.

6 CHALLENGES AND PROBLEMS IN CIVIL TRIALS EMPOWERED BY ARTIFICIAL INTELLIGENCE

Although artificial intelligence technology has shown great potential in civil trials, its application still faces many challenges and problems. First, data privacy and security issues are a major problem in the application of artificial intelligence in the judicial field. Artificial intelligence technology needs to rely on a large amount of judicial data for training and optimization, and these data often contain personal privacy information and sensitive case data. If these data are not effectively protected, they may lead to the risk of privacy leakage and information abuse. In the judicial field, data confidentiality is particularly important, involving the personal information of parties, lawyers and other relevant personnel in the case. How to use artificial intelligence to improve judicial efficiency while ensuring data privacy is a major challenge in the current application of technology. In addition, ethical issues cannot be ignored. Although artificial intelligence's functions such as judgment support and document generation can improve efficiency, there is also a risk that machine judgments may not be completely consistent with human values and social ethics. For example, when dealing with complex cases, AI systems may not fully understand the social background and human emotions of the case, resulting in the judgment results of AI appearing cold and inhumane in some special cases. How to solve data protection and ethical issues and ensure that artificial intelligence respects personal privacy and social justice while improving judicial efficiency is an important topic for future development.

Secondly, the application of artificial intelligence in civil trials faces the challenges of legal adaptability and institutional constraints. The current judicial system relies heavily on traditional judgment methods and judges' personal judgments, and the introduction of artificial intelligence technology requires adaptive transformation of the existing judicial system. The legal frameworks and rules of many current judicial systems do not fully take into account the introduction of artificial intelligence, especially in terms of legal compliance of technology use and data sharing. Many legal provisions and judicial procedures are still designed for the traditional judicial model. Therefore, how to reasonably incorporate artificial intelligence technology under the existing legal framework, especially to apply it in compliance under the premise of ensuring judicial independence, fairness and transparency, has become an urgent problem to be solved. At the same time, the application of artificial intelligence needs to rely on a large amount of high-quality data, but in some judicial systems, the standardization and sharing mechanism of data has not yet been established, which further increases the

difficulty of technology application.

In addition, the boundary issue between technology and legal profession has also caused widespread controversy. The gradual application of artificial intelligence has significant advantages in improving judicial efficiency and handling cases intelligently, but it has also triggered discussions on whether it will replace the work of judges and lawyers. AI systems can assist judges in making decisions in case handling, but this technology cannot completely replace the judges' judgment ability, especially in some complex civil cases, where judges must not only consider the legal provisions, but also comprehensively consider the case background, social ethics and other factors. Therefore, although AI has advantages in improving efficiency and reducing human errors, it cannot completely replace the judges' thinking and decision-making. Similarly, artificial intelligence has had an impact on lawyers' work in legal consultation, document generation and other aspects. However, this impact does not mean that the role of lawyers will disappear. Instead, it requires lawyers to play a higher level of legal analysis and strategy formulation capabilities with the assistance of AI technology. The coordinated development of artificial intelligence and the legal profession is the direction of future judicial reform. The introduction of AI should be a supplement and enhancement to the legal profession, not a replacement.

In short, the application of artificial intelligence in civil trials faces multiple challenges such as data privacy, legal adaptability, ethical issues, and the boundaries between technology and the legal profession. To solve these problems, not only the continuous development of technology is needed, but also the corresponding adjustment of the legal system and social ethics. While ensuring technological innovation, how to ensure judicial fairness and transparency and maintain the independence and dignity of legal professions such as judges and lawyers are key issues that cannot be ignored in the future process of promoting artificial intelligence to empower civil trials.

7 FUTURE OUTLOOK AND DEVELOPMENT DIRECTION

With the continuous progress of artificial intelligence technology, the application prospects of auxiliary positioning and generation of artificial intelligence in civil trials are broad. In the future, with the continuous breakthroughs in deep learning and AI algorithms, the application of artificial intelligence in the judicial field will become more accurate and intelligent. The further development of deep learning technology will enable AI systems to better understand the relationship between legal provisions and case backgrounds when handling complex cases, and improve the depth and accuracy of case analysis. By learning from massive judicial data, AI can discover more detailed patterns and support judges to conduct more comprehensive analysis in judgments. In addition, with the continuous maturity of natural language processing technology, the ability of generative artificial intelligence in automatically generating legal documents and judgment support will be further enhanced, and judges can rely more on AI systems for preliminary judgment generation and document drafting, thereby freeing up more time for case analysis and comprehensive judgment.

The construction of an intelligent court system will be an important development direction in the future judicial field. The court system in the future will be more intelligent, and artificial

intelligence will not only be limited to case handling, but will also play a role in multiple links such as court management, case scheduling, and trial process control. AI can reasonably arrange the workload of judges through an intelligent case scheduling system, optimize the priority of case handling, and ensure the efficient use of judicial resources. On this basis, artificial intelligence can provide real-time feedback throughout the case trial process, helping judges make timely adjustments based on the progress of the case. At the same time, the construction of an intelligent court system also needs to rely on a big data platform to achieve information sharing and data integration between courts, and further improve the transparency and efficiency of judicial work.

In terms of policy and legal framework, the application of artificial intelligence in civil trials still faces great challenges in legal adaptability. With the in-depth application of artificial intelligence in the judicial field, relevant legislation and judicial reform will be gradually promoted, especially in terms of how to regulate and guide the use of artificial intelligence technology, and it is urgent to introduce corresponding legal provisions and policy frameworks. In terms of legislation, in the future, it will be necessary to clearly define and guide the application of AI in the judicial field to ensure that the application of technology does not deviate from the fundamental goal of judicial justice. For example, how to define the role of AI in judgment, how to ensure the independence of judges, and how to deal with the collaboration and cooperation between AI and human judges are all issues that need to be addressed by legislation. At the same time, judicial reform will also promote the modernization of the judicial system and provide a more adaptable environment for the application of artificial intelligence.

The establishment of legal norms and ethical frameworks for artificial intelligence will be the key to ensuring the compliance of artificial intelligence applications. The application of artificial intelligence in the judicial field is not only a technical challenge, but also involves considerations of legal ethics and social morality. In the future legal framework, in addition to paying attention to basic issues such as the technical standards of artificial intelligence and data privacy protection, it is also necessary to focus on the ethical issues of artificial intelligence. For example, how to ensure that AI does not introduce bias when handling cases, how to ensure the consistency of AI judgments with human social values, and how to ensure judicial fairness and transparency in the process of collaboration between AI and judges are all ethical issues that need to be addressed urgently. The legislature needs to strengthen its attention to the ethical issues of artificial intelligence and formulate corresponding legal norms to ensure that the application of artificial intelligence technology does not violate the basic principles of social justice and fairness and justice.

In the long run, the impact of artificial intelligence in civil trials will be far-reaching. AI technology will promote comprehensive innovation in the judicial field, not only playing an important role in improving trial efficiency, but also promoting the realization of judicial fairness and transparency. Through artificial intelligence, the judicial system can handle a large number of cases more fairly and efficiently, ensure the optimal allocation of resources, and enable judges to focus on the complex analysis and judgment of cases. The introduction of artificial intelligence will also further promote the intelligence and standardization of justice, making the judicial system more in line with the needs of social development. With the continuous evolution of technology, artificial intelligence will play an increasingly important

role in civil trials in the future, promote the modernization, transparency and fairness of the judicial system, and ultimately achieve a more efficient and fair judicial environment.

In general, the future development of civil trials enabled by artificial intelligence is full of infinite possibilities. With the continuous breakthroughs in technology and the gradual improvement of policy and legal frameworks, artificial intelligence will play an increasingly important role in the judicial field, promote the comprehensive modernization of the judicial system, improve judicial efficiency and fairness, and contribute to the realization of a more fair and just social rule of law environment.

8 CONCLUSIONS

In this study, we deeply explored how assisted positioning and generation of artificial intelligence can empower civil trials, revealing its great potential in improving judicial efficiency, ensuring the quality and fairness of judgments. Artificial intelligence technology, especially in the judicial field, can help judges quickly analyze cases and provide decision-making support, and reduce the workload of judges through intelligent judgment generation and document assistance. By optimizing the processes of case retrieval, classification, and matching of legal provisions, AI technology can greatly improve judicial efficiency and the rational allocation of resources, while also ensuring the standardization and consistency of case handling and reducing deviations caused by human intervention. In judicial trials, artificial intelligence is not only a tool, but also an important force to promote judicial fairness and efficiency. It helps judges make more scientific and reasonable judgments and provides strong support for the modernization of the judicial system.

From the perspective of future development, artificial intelligence has broad prospects for civil trials. With the continuous progress of deep learning, natural language processing and big data technology, AI will be increasingly applied in the legal field, especially in the construction of intelligent court systems, where artificial intelligence will comprehensively improve the work efficiency of courts. In the future, artificial intelligence can not only assist judges in handling cases, but also fully participate in case management, judicial resource scheduling, case mediation and other aspects, and promote the full process of intelligent judicial services. With the continuous breakthroughs and improvements in artificial intelligence technology, future civil trials will be more efficient, accurate and transparent, providing strong support for achieving a fairer judicial environment.

For judicial practice, how to better combine AI technology to improve the effectiveness of civil trials is a key issue. First, the judicial system should strengthen its understanding and application of artificial intelligence technology and promote the deep integration of AI technology. Judges and judicial staff should reasonably apply AI technology to case analysis, document generation and other links on the basis of a full understanding of AI technology to improve case handling efficiency and judgment quality. At the same time, the judicial system needs to ensure the compliance and transparency of artificial intelligence in the process of use through the continuous improvement of policies and legal frameworks. Secondly, the introduction of technology should not replace the independent judgment of judges, but should serve as an important auxiliary tool for judges' decision-making, improve the efficiency of

judges, reduce duplication of work, and ensure judicial fairness. Finally, in response to the privacy issues, ethical issues and legal adaptability issues that may be brought about by technology, relevant departments should increase research on artificial intelligence ethics laws and regulations, formulate corresponding institutional norms, and ensure the sustainability of artificial intelligence applications and social justice.

In general, artificial intelligence empowering civil trials has significant value and significance. It can promote the improvement of judicial efficiency, the improvement of judgment quality and the realization of judicial fairness. In the future, with the continuous innovation of technology and the gradual improvement of the legal framework, artificial intelligence will play an increasingly important role in civil trials and contribute to the reform and development of the judicial field.

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