

The Judicial Practice of Artificial Intelligence and the Multi-Gradient Impact on the Legal Profession

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Abstract. At present, with the rapid development of artificial intelligence technology, all industries are facing huge impacts and challenges. The entry of artificial intelligence into the judicial field has also become an unstoppable trend in social development. This paper analyzes and discusses the judicial practice of artificial intelligence, divides the existing legal profession into five echelons according to professionalism and substitutability, and analyzes the possibility and specific reasons for the profession to be replaced by artificial intelligence according to the characteristics of each echelon and the metric examples of substitutability. This paper aims to provide some references for the future study, employment and development direction of those who are interested in law.

Keywords: Artificial Intelligence, Judicial Practice, Multi-Gradient.

1. The Current Judicial Practice of Artificial Intelligence

Nowadays, the application of AI in the judicial field can be divided into several aspects such as providing online intelligent legal advice, automatic generation of writing and review of legal documents, assisting in the trial of cases and predicting the outcome of cases.

1.1 Online Legal Services (Consulting)

Typical examples of artificial intelligence in the field of online legal services include: "Rule of Law Micro-manager", a product of Hangzhou Shidu Technology Co., Ltd.; "Cheng Xiaofa", an intelligent legal service robot of Chengdu Intermediate People's Court; "Xiao Chong", a multi-functional legal robot developed by Municipal People's Court of Chongzhou in Sichuan Province; "Nan Xiaofa" developed by Shenzhen Nanshan Justice Bureau; "Xiao3i" developed by Shenzhen Court of International Arbitration and province-wide integrated litigation service management platform developed by the Higher People's Court of Hebei Province.

For instance, "Rule of Law Micro-manager" aims to provide each family and individual with a "personal" lawyer through its offline 24-hour legal service kiosk, online service hall, and its interactive platform that connects the government, lawyers and the public. Through the use of "Rule of Law Micro-manager", it can alleviate the unbalanced supply of legal services, solve the problem of difficult management of village legal advisors, and the difficulty in meeting personalized needs. Through the 24-hour intelligent legal advice service, the masses can consult specific issues in the form of voice or text, and the artificial intelligence platform performs voice recognition, semantic recognition and accurate understanding, and gives accurate legal answers through the algorithm engine. The platform connects more than 100,000 knowledge bases and 20,000 laws, rules and regulations via intelligent legal mapping as neurons. Through Video-Voice Connected Lawyer program, people in remote mountainous areas, islands and villages can connect to the lawyers on duty at the windows of public legal service centers in the central city in real-time through the video-voice function, and can take photos and transmit written materials in real-time, so that the lawyers can check objective evidence during the video connection and give accurate answers. The video-voice connection function realizes the function of automatically allocating the free lawyer resources of public legal service centers at all levels in the province, and can count the connection rate and consultation and answer satisfaction rate of each center. Furthermore, an accurate lawyer search program provides a precise lawyer search module to summarize the information of local lawyers from the authoritative lawyer database of political and legal departments, analyze specific cases according

to the data of massive judgment documents, screen the areas of expertise, and recommend the intelligent matching lawyers to the public.

As can be seen from the above case of "Rule of Law Micro-manager", through the reasonable use of artificial intelligence in legal consultation, a large part of the cases can be solved by negotiation before entering the formal judicial process, which not only saves the time of the parties, but also reduces the burden for the judiciary. Therefore, the judiciary can devote more energy to solving difficult cases, which can also improve the correctness and fairness of the trial.

1.2 Automatic Review of Legal Documents Processing

Typical examples in this field include Shanghai's "Project 206", Beijing's "Judge Rui" intelligent research and judgment system, Hainan's intelligent auxiliary case handling system for sentencing standardization, Guizhou's inter-departmental big data case handling platform, Shandong's intelligent legal system, the "Smart Trial Support" system developed by the Higher People's Court of Hebei Province, etc.

For instance, the "Judge Rui" system of Beijing Municipal High People's Court facilitates judges to make pre-judgments and automatically generate adjudication documents through the law of historical discretion, assisting judges to conduct factual calibration reviews and sentencing analysis. This will save judges' workload, improve their efficiency, and provide effective protection for the realization of elitism and professionalism of judges.

The standardized case materials of "Judge Rui" system based on the characteristics of various cases can help to improve the effect of automatic identification of the system, thus providing convenience in case management and information reuse, and saving time for judges to sort out cases. Based on the knowledge center and the knowledge map, the system provides intelligent assistance for the whole process from pre-court, in-court to post-court to improve the quality and efficiency of cases. From the pre-trial intelligent matching of the case elements, determining the disputed elements, automatically generating the outline of the trial, to the focus on the review of the disputed elements during the trial, and finally to the post-trial assistance in the generation of adjudication documents, to maximize the degree of replacement of mechanical repetitive labor, allows judges to return to the role of the real judge.

The automatic review of legal documents can optimize the allocation of judicial resources, allow judges to truly return to the role of the judge, improve the efficiency and accuracy of judges in handling cases, promote judicial justice and improve judicial effectiveness. However, the technology is still immature, and the artificial intelligence in the field of judicial adjudication cannot cover the whole process of judicial activities only by transplantation of general technology; the resources of the big data repository on which legal documents are reviewed, compared and generated are not comprehensive, complete and standardized. There is still much room for progress in the automatic review and processing of legal documents.

1.3 Auxiliary Case Trial

Typical examples in this field include Shanghai's "Intelligent Assisted Case Handling System for Criminal Cases" (206 System), Beijing's "Judge Rui", Hebei's "Smart Trial", the "Cloud of Law" in Chongqing, etc. These have all made remarkable achievements, and their functions include case pushing and sentencing assistance, which provide an effective technical path for courts to deal with a large number of cases. In addition to improving the efficiency of court cases, artificial intelligence technology to assist the court case trial has other important significance such as analyzing cases, assisting the judiciary intelligence, preventing judicial corruption and protecting judicial justice. When a judge is handling a case, the intelligent auxiliary system relies on its own trial information resource base to automatically push case analysis, legal provisions, similar cases, judgment references and other information, providing judges with unified and comprehensive trial specifications and guidelines for handling cases. At the same time, when the judge's verdict deviates significantly from the verdict of similar cases, the system will automatically provide early warning and play an

intelligent supervision effect. By establishing a unified process and standard for handling cases, it regulates the application of law and the scale of adjudication.

At present, typical examples include the Suzhou model of intelligent trial. The Suzhou model of intelligent trial is an integrated solution of intelligent trial covering the whole process of litigation with "electronic file + courtroom voice + intelligent service" as the main content. The most important feature of the electronic files of the Suzhou model is that it is generated with the case and applied in depth. The electronic evidence of Suzhou model of intelligent trial is the most important feature that can "speak with the turn", practical and efficient. With the assistance of electronic file and electronic evidence, the efficiency of the judge's trial case has been significantly and effectively improved.

Artificial intelligence-assisted trial systems should be restrictedly automated because the convenience of the technology may need to be compensated by the high costs attached to it, such as the uncertainty and instability of case outcomes, the imperfection of algorithm operation, and the exclusion of participation of the assisted system to human judges and parties, etc. Therefore, we need to recognize the human responsibility behind the operation of the law and the resistance to the utopia of technological automation. Also, we oppose excessive automation because of the unknown dangers that affect not only the future of the rule of law, but also the sacrifice of fairness. History has proven that almost all technological advances cannot completely avoid accidents and require some time to be presented and legally interpreted.

1.4 Predicting Case Outcome

Typical examples in this field include the representative cases in China include "Rule of Law Micro-manager", "Judge Rui" system of Beijing High Court, Suzhou model of intelligent trial, and "Single Image Traceability", "Innovative Comparison", and "Similarity Comparison" of Keqiao copyright AI intelligent trial system developed by Shaoxing, Zhejiang. Typical of foreign countries are tools such as COMPAS represented by AI judges who are widely used as recidivism risk assessment tools in U.S. criminal justice practice.

Using modern information processing technology, the Jiangsu Suzhou Intermediate People's Court has explored the construction of "intelligent trials", which also reflects the role of artificial intelligence in forecasting. In the case of Song's drunk driving, the "same case and same sentence data monitoring system" combined with Jiangsu Province's sentencing guidelines on dangerous driving, through big data analysis of similar cases concluded by courts across the province in recent years, automatically generated Song's drunk driving case pre-sentencing results: 2 months and 15 days of detention, a fine of 3,500 yuan. The comparison showed that the deviation from the sentence in this case was 7%, and the comprehensive warning level was 1 (the lowest level). By automatically capturing key words in the indictment, such as the defendant's alcohol level and whether he had a bad record in the DUI case, the system pushed to the judge similar cases with a high to low match across the country, as well as relevant laws and regulations for reference. While promoting online case handling and simultaneous digitization of files, the system also strengthens supervision and control by leaving traces of the entire case handling process, and develops an intelligent retrieval and pushing system of typical cases, laws and regulations, and adjudication documents to provide timely reference information for judges to handle cases and prevent "different judgments in the same case".

2. The Impact of Artificial Intelligence on the Legal Profession

2.1 The First Echelon: Grassroots Legal Service Workers

With the advancement of China's rule of law construction and the development of artificial intelligence, grassroots legal work is highly replaceable due to its inherent defects, and there are already instances of artificial intelligence independently carrying out grassroots legal service work. The "Rule of Law Micro-manager" focuses on building a public legal service network covering the whole business and the whole time and space, embedding common legal questions and answers,

document templates, legal opinions and cost calculations related to people's livelihood into small programs, maximizing the use of legal resources to achieve self-service supply of public services, solving the problem of unbalanced and insufficient supply of legal services between regions and urban and rural areas. The problem of unbalanced and insufficient supply of legal services between regions and urban and rural areas. A villager in a remote township wanted to find a lawyer to help write a lawsuit because the debtor was late in paying, and through the "Rule of Law Micro-manager", he not only inquired about the general knowledge of the law on debt disputes, but also easily generated the template of the lawsuit, and completed the preparation of the lawsuit at home. This year, the "Rule of Law Micro-manager" has provided 7,245 online services, including intelligent consultation, rule of law publicity, compensation calculation, etc.

Artificial intelligence has been gradually replacing human beings in online legal consultation, automated reading of legal documents, writing of legal documents, compliance analysis, investigation and evidence collection, etc. It is able to work without interruption and without complaints, and provides legal services at low prices. AI is also easily accessible, and high-quality legal advice can be obtained by opening a WeChat public website or a specific legal assistance software.

2.2 The Second Echelon: Arbitrators, Agents, Notaries

At present, the current domestic artificial intelligence is a low replacement for the work of arbitrators, agents and notaries, and the only one that has stepped into the application field is the intelligent voice recognition system to assist the recording process of arbitration. For example, on September 3rd, 2018, the Arbitration Court of Baicheng City first introduced a modernized intelligent voice recognition system for court hearings. This intelligent voice recognition system can accurately record the live speeches of arbitrators, clerks and other arbitration participants, and intelligently convert them into text form to form a court transcript that meets the standard requirements.

The use of digital technology and artificial intelligence in arbitration faces a variety of challenges, including potential issues related to confidentiality, due process, arbitrator role positioning, and reduced flexibility. First, the issue of confidentiality is that any reliance on digital technology or artificial intelligence involves some external input, which means that those who are not ultimately internal to the arbitration process will program and process the technology, raising confidentiality issues. Second, digital technology, particularly predictive justice, also raises due process issues. Currently, the process of predictive justice combines legal provisions, the facts of the case, and the reasoning applied by courts and tribunals at the same level in the past. Therefore, predictive justice also tends to take a conservative approach to dispute resolution, rather than favoring new solutions. Blind trust in these tools should therefore not be encouraged, as they may prevent arbitrators from applying their intuitive sense of justice. Finally, predictive justice and automated legal services seem to run counter to the need for flexibility in the arbitration process, and the purpose of the arbitration process should vary according to the needs of the parties, rather than favoring standardization.

The use of digital technology and artificial intelligence in representation faces various challenges, including potential problems in communication with clients, information input, data mining, and expert decision-making systems. The following is an analysis of patent agents as an example. First, in terms of communication with clients, patent attorneys usually need to communicate with clients in order to capture the point of invention and thus write high-quality application documents. New generation video interaction technologies such as augmented reality (AR) can help both parties to communicate more directly and dynamically, and use AR technology to demonstrate inventions to help writers understand the principles and mechanisms of inventions more directly, so as to learn the core points of inventions. Second, in terms of information input, voice recognition technology and image recognition technology will help patent attorneys improve their work efficiency and form clearer and more detailed patent application texts and accompanying drawings. Again, in terms of data mining, various advanced patent search platforms have emerged in China, such as Wisdom Bud patent search system, SooPat patent search system, Dawei innojoy patent search engine, BaiTeng patent search system and Runtong RainPat patent search, all of which use new technologies such as

big data statistics and fuzzy search. Finally, in terms of expert decision-making systems, humans still have significant advantages over artificial intelligence in looking ahead, making plans and making decisions based on abstract views.

The use of digital technologies and artificial intelligence in notary public faces various challenges and low applicability. Artificial intelligence relies on algorithms, i.e., it deals with information that can be regularized and quantified, so it requires human intervention for the processing of mental factors such as emotions, desires, impulses, thoughts, fantasies, judgments, decisions, or for the processing of cognitive abilities with regular (pattern) innovations and complexes. These abilities of the notary industry to identify, judge and process mental factors such as emotions and thereby handle the realization of legal benefits and risk prevention in civil and commercial activities in advance will surely continue to be an important force in realizing the value of notary publics. Therefore, artificial intelligence is a very low substitute for notaries, and the position of notaries is irreplaceable and even increasingly important.

2.3 The Third Echelon: Legal Professionals Employed by Government Agencies and Private Companies

The impact of AI on the legal profession employed by government agencies and private companies is mainly in text processing capabilities, which can help companies automate specific issues such as contract drafting and review, legal risk monitoring, etc. A typical example of the use of artificial intelligence in the legal sector is WuSong, which builds cloud-based legal departments for SMEs based on artificial intelligence. Instead of starting with helping companies connect with external lawyers, WuSong launched its enterprise service offering with a cloud-based legal department model, using AI and legal staff to fill the legal function gap for SMEs.

Legal advisory services and simple legal document review, which frequently occur in the daily work of legal affairs, can all be left to AI. In the field of legal work, it has begun to be a number of AI technology companies at home and abroad attention. Although today's "artificial intelligence technology" is still far from the degree of intelligence we envision, but the future of some simple, repetitive legal work is likely to be replaced by machines. Although "machine learning" can replace some of the routine work of corporate legal affairs to some extent, it is also the special nature of its own logic (data-cognitive learning path), which is only simple and brutal to obtain results from the data, so the machine can only make similar inferences and judgments on existing data. judgment, and at this stage it lacks creativity.

When the company's legal affairs deal with practical issues, due to the experience of each legal affairs, legal literacy and the position of different, even in the face of the form contract template or similar cases, if the objective situation changes, legal affairs will come to different conclusions and value judgments, which is precisely the most important ability of legal affairs people will not have machine -- the "questioning" of knowledge. This "questioning spirit" is indispensable for risk identification and compliance control of enterprises. It is also this ability to "question" existing cases or facts and the sense of autonomy that makes it impossible and impossible for legal affairs to be completely replaced by artificial intelligence.

2.4 The Fourth Echelon: Lawyers, Judges, Prosecutors

In China, physical legal robots such as "Fa Xiaotao", "Wu Xiaoyou", "Fa Gougou" and "Xiao Chong" have emerged one after another. Through the integration of voice recognition system and big data of judgment documents, the robot extracts keywords from the voice text input by customers to analyze the cases and find suitable lawyers to provide legal services for customers after screening. With the continuous efforts of the legal AI technology team, legal AI has helped traditional legal service organizations to complete the workload that cannot be done by human in the short term, and legal AI is gradually recognized by the industry. Legal AI not only solves the problem of talent shortage in the traditional legal market, but also improves the efficiency of legal service organizations and advances the coming of the era of intelligent legal system.

We believe that AI solves simple cases with clear facts of the case, filling the gap in that direction, while replacing the less specialized group of lawyers.

At this stage, we have searched the recruitment conditions of lawyers represented by King & Wood Mallesons, Jun & Partners and Zhonglun Law Firm. We found that the recruitment requirements are that the lawyers should have a bachelor's degree or above from a famous law school at home and abroad; they should have passed the Chinese national judicial examination; they should be proficient in listening, speaking, reading and writing in English and be able to use it as a working language; they should have good logical analysis and communication skills; they should be able to adapt to high-intensity work and have strong resistance to pressure; they should have at least two years of work experience and have obtained a Chinese lawyer's license. This means that if you want to be a lawyer in the future, you must be a minimum of a law student, and you need to be an all-around person with excellent English skills, communication skills, and stress resistance, etc. The time and effort required to meet the above criteria will be greatly increased, and the higher the screening criteria, the lower the replaceability.

At this stage of recruitment criteria for judges and prosecutors, in addition to the basic academic requirements and the requirement to pass the judicial examination, most of the recruitment has the requirement of their political appearance, that is, the candidate is required to be a member of the Chinese Communist Party or a reserve member. Due to the long audit period and strict audit standards, becoming a member of the Party requires not only the ability in various aspects, but also high standards and high requirements for ideological awareness. The artificial intelligence is impossible to produce faith, which fundamentally determines the artificial intelligence to replace some of the work of judges, but cannot really replace the judges and prosecutors as the main body of justice.

2.5 The Fifth Echelon: University Law Teachers and Legal Researchers

Existing AI technologies are virtually irreplaceable for this echelon of careers. The autonomous thinking and innovative nature of the profession have created the result that university law teachers and legal researchers do not yet have a gold-standard alternative example of AI technology in our country.

The basic logic of artificial intelligence applied to the legal field is to rely on algorithms to retain the rationality common to law and technology and apply it in a regular way over time to produce a result that is always finite, no matter how refined the algorithm. Neither legal research nor legal education is an exercise in seeking a finite result. If we compare the role of an algorithm to that of a fruit factory in which raw materials are stored for liquidation and reorganization, legal education and legal research are more akin to the search for the conditions under which fruit seeds need to sprout, and there is a clear distinction between the two. An algorithm is a set of program instructions by which an AI produces results. If the source of data is inaccurate and incomplete, the algorithm is biased in its selection of indicators, and the purpose of the algorithm falls into the wrong value, then the result of the algorithm does not match the goal. And legal education and legal researchers do not have to be bound to the result of getting the law implemented; their job is not about the data, but about rationalism and the will of the mind itself.

The purpose of legal education is to shape the soul of a legal person with the interaction of knowledge, emotion and will, and to cultivate legal actors with values and responsibilities. Legal education is not only the improvement of students' knowledge in a certain field, but also the shaping of their own will. The existing artificial intelligence technology cannot replace human interaction in this process, just as we human beings ask whether artificial intelligence can have life experience and whether it can have fluctuating emotions, the answer is self-evident.

3. Outlook

The entry of artificial intelligence into the judicial field has become an unstoppable trend in the development of society, and will gradually replace part of the legal profession. The higher the

professionalism, discernment and emotionality required by the legal profession, the less likely it is to be replaced by artificial intelligence. In the current era of weak artificial intelligence, the preliminary development of artificial intelligence can provide more efficient and accurate help for judicial practice and replace human beings to complete mechanized and simple work, but the possibility of becoming a judicial subject is almost zero.

The exploration of combining artificial intelligence and law presents both opportunities and challenges. This paper focuses on the analysis of existing examples of AI applications in judicial practice and its impact on the existing legal profession. This impact will cause some of the legal profession to shift its focus. For example, judges can simplify their simple work in sorting out the case flow and return more to the identity of the judge, and even some of the legal professions with low professionalism and weak competitiveness will be directly replaced by AI in the near future, and the legal market requirements for talents are bound to develop in a more high-end, professional and strict direction. Law practitioners and law students who are directly faced with judicial adjudication AI confront an important dilemma of combining AI with law. They need to think about how to improve their professionalism and achieve transformational development under the increasingly fierce competition in order to avoid being replaced by AI that calculates fast, finds fast, counts fast and analyzes fast. Artificial intelligence is still in its fledgling stage, but its future development is immeasurable. We are confident of the breakthrough in the technical aspects of artificial intelligence in judicial practice, but at the same time, how to seek a balance between human and artificial intelligence in the era of artificial intelligence and find a better combination of law and artificial intelligence is a topic we still need to explore.

The development and application of technology will be a long process, how to use artificial intelligence in a highly efficient manner while mobilizing the enthusiasm of lawmakers to innovate and explore is also a topic worthy of further discussion. The road is obstacle-packed and long. But humans will get through if we keep going. Contemporary legal professionals will be able to grasp the opportunities and meet the challenges in the great changes brought by artificial intelligence, based on the present, long-term planning, in-depth research, and promote the in-depth combination of artificial intelligence and law to achieve coordinated development of man and machine.

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