A Study on the Replacement of Legal Professions by Artificial Intelligence

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Date: 2023-09-08T07:49:00+00:00

Abstract

Since the launch of ChatGPT in November 2022, artificial intelligence has elicited immense interest and attention from all sectors of society. It has demonstrated impressive performance across various domains, while simultaneously impacting and transforming traditional legal professions such as lawyers and judges, and posing severe challenges to the legal services market. In this study, we discuss the possibility of artificial intelligence legal technology replacing legal professions through legal text parsing, AI-assisted case handling, and analysis of the evolutionary path of legal technology for large language models. Furthermore, this paper proposes solutions to the challenges posed by artificial intelligence to the technical competence of legal professionals, and speculates on the development direction and expected progress of future Artificial General Intelligence (AGI) in the legal industry. Finally, based on the social risks of existing and potential applications of artificial intelligence in the field of legal technology, this paper proposes countermeasures and recommendations regarding the legal norms and ethical rules for artificial intelligence governance.

Full Text

Preamble

Research on Artificial Intelligence Replacing Legal Careers
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Abstract: Since the launch of ChatGPT in November 2022, artificial intelligence has aroused great interest and concern across society. It has demonstrated impressive performance in various fields while simultaneously bringing impact and transformation to traditional legal professions such as lawyers and judges, posing severe challenges to the legal services market. In this study, we discuss the possibility of AI legal technology replacing legal professions through analysis of legal text parsing, AI-assisted case handling, and the evolutionary path

of legal technology in large language models. Additionally, this paper proposes solutions to the challenges AI poses to technical competence in the legal profession and speculates on the future development direction and expected progress of Artificial General Intelligence (AGI) in the legal industry. Finally, based on existing and potential social risks of AI applications in legal technology, this paper puts forward countermeasures and suggestions regarding legal norms and ethical rules for AI governance.

Keywords: Legal Technology, Legal Text Parsing, Large Language Model, Artificial Intelligence, Career Substitution
Chinese Library Classification: D9005
Document Code: A

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Funding: Supported by the Ministry of Education Humanities and Social Sciences Research General Project (22YJC820054); China University of Political Science and Law Scientific Research Innovation Project (21ZFQ82005)

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Legal Technology (or LegalTech) refers to science and technology related to legal professional activities such as legislation, law enforcement, adjudication, and legal services. [1] Academic research in the interdisciplinary field of "technology and law" includes "Science and Technology Law" (legal issues brought by technology) and "Legal Technology" (application of technology in legal affairs). "Artificial Intelligence and Law" comprises two aspects: on one hand, the application of AI in legal affairs; on the other hand, legal issues arising from AI. [2] This paper primarily studies the application of AI and other legal technologies in legal affairs, namely science and technology for applying law, which can also be understood as technology for legal application.

Artificial Intelligence (AI), abbreviated as AI in English, was first proposed at the 1956 Dartmouth Conference. [3] The "Artificial Intelligence Standardization White Paper (2018 Edition)" compiled by the China Electronics Standardization Institute and other units defines AI as "the theory, method, technology, and application system that uses digital computers or machines controlled by digital computers to simulate, extend, and expand human intelligence, perceive the environment, acquire knowledge, and use knowledge to obtain optimal results." [4] AI and law is an emerging research field born in the early 1970s. Buchanan and Headrick published the paper "Some Speculation about Artificial Intelligence and Legal Reasoning" in 1970, considered the first article in the AI and law field. [5] The primary goal of AI and law research is to construct sound legal applications and generate models that can be implemented in computer programs. [6] Lex Machina, Ross, and Ravel are several represen-

tative legal applications favored in the European and American legal markets. Since the start of domestic legal technology companies in 2003, various niche market players have emerged, including Beida Fabao, Faxin, Huayu Software, Wusong, e-Lawyer, Kuai Fawu, Weicourt, Haigui Intelligent Trial Assistance, ODR Mediation System, China Judgments Online, Fadada, e-Sign, Lüdou, and Meflow.

Legal applications will not only select, bookmark, highlight, and summarize information in ways suitable for human users' specific questions but also explore information and interact with data in unprecedented new ways.

In February 2023, Allen & Overy (A&O), as the seventh-largest law firm globally, announced that all its 3,500+ lawyers would adopt Harvey's AI product invested by OpenAI, becoming "the world's first law firm to use generative AI based on OpenAI's GPT model." [7] On December 8, 2022, the Supreme People's Court issued the "Opinions on Standardizing and Strengthening the Application of Artificial Intelligence in Justice" [Fa Fa (2022) No. 33], proposing the overall goal of basically establishing a relatively complete application system for AI technology in justice by 2025, and building an AI technology application and theoretical system in justice with rule-leading and application demonstration effects by 2030. [8] Xi Jinping emphasized that "AI is an important driving force for the new round of technological revolution and industrial transformation. Accelerating the development of new-generation AI is a strategic issue concerning whether China can seize the opportunities of the new round of technological revolution and industrial transformation." He also stressed that "we must integrate multidisciplinary strengths, strengthen research on AI-related legal, ethical, and social issues, and establish and improve laws, regulations, institutional systems, and ethics for the healthy development of AI." [9] Therefore, how to promote, regulate, and ensure the safe, reliable, controllable, and healthy development of AI has become a contemporary issue.

I. Applications of Artificial Intelligence in the Legal Profession

For centuries, litigation lawyers have employed legal methods to analyze case facts, summarize disputed issues, search for applicable laws or precedents, reason about subsuming facts under law, and finally propose litigation strategies and make legal predictions. In the 21st century, legal technology has overturned traditional lawyer work methods by breaking down legal work into various tasks and completing them as efficiently as possible. Litigation lawyer work can be decomposed into document review, legal research, project management, litigation support, e-discovery, strategy, tactics, negotiation, and courtroom argumentation. Among these nine tasks, except for strategy, tactics, and courtroom argumentation, other repetitive and transactional tasks can be outsourced in different ways. [10] Countries worldwide have researched and explored AI applications in law, and China has also included AI legal applications in its national strategy. AI applications in the legal profession mainly include legal text parsing

technology, AI-assisted case handling, and AI legal applications such as Large Language Models (LLMs).

(1) Legal Text Parsing Technology

The power of law lies in the power of language, and legal text parsing technology is one of the legal technologies. Breakthroughs in text parsing technology are inseparable from the efforts of IBM's Watson and Debater program R&D teams. [11] Watson's text-based information extraction technology demonstrates extraordinary question-answering capabilities, while Debater has learned argument mining. These technologies, expressed in more general terms, are text parsing. When the parsed text is legal, it is called legal text parsing.

Legal text parsing, also known as legal text mining, refers to "the automatic discovery of knowledge in legal text data archives using linguistic, statistical, and machine learning techniques." [12] Legal text parsing technology has produced legal technology application products including intelligent legal information retrieval, machine learning of legal texts, information extraction from statutory and regulatory texts, and extraction of argument-related information from legal case texts. Legal text parsing primarily employs natural language processing, "type systems" tools, and machine learning to provide users with more convenient and practical automated assistance, represented in China by applications such as "Beida Fabao" and "Faxin."

(2) AI-Assisted Case Handling

The deep integration of AI and judicial trial is the inevitable path to judicial modernization. Intelligent assisted case handling systems employ five core technologies: optical character recognition, natural language understanding, intelligent speech recognition, element extraction, and machine learning, adopting AI principles such as recurrent neural networks, convolutional neural networks, attention mechanisms, and multimodal theory to achieve intelligent recognition and information extraction of printed text, some handwritten text, signatures, fingerprints, seals, forms, images, and various types of evidence. [13]

China has achieved a breakthrough from 0 to 1 in the judicial practice of AI-assisted case handling systems. On February 6, 2017, the Shanghai High People's Court established the "Software R&D Work Leading Group for Litigation System Reform Centered on Trial" (referred to as the "206 Project" Leading Group), which has now developed and applied two major systems: the "Criminal Case Intelligent Assisted Case Handling System" and the "Civil, Commercial, and Administrative Case Intelligent Assisted Case Handling System." The criminal intelligent assisted system has been fully launched and operated in Shanghai's public security organs, procuratorates, and courts, applicable to 102 common charges nationwide, covering 97% of Shanghai's first-instance criminal cases; it has cumulatively entered 73,000 criminal cases, prompted 11,000 evidence defects, and been piloted in Anhui Province, Shanxi Province, Guizhou

Province, and the Xinjiang Production and Construction Corps. [14] The civil, commercial, and administrative intelligent assisted system employs AI technologies including OCR, NLP, intelligent speech recognition, judicial entity recognition, entity relationship analysis, and automatic extraction of judicial elements. It includes 27 functions: case handling guidelines, evidence review guidelines, intelligent document review, legal provision push, similar case push, case acceptance standard review, intelligent litigation fee payment prompts, clarification of claims, clarification of facts and reasons, clarification of defense claims, pre-summary of undisputed facts, pre-summary of disputed focuses, evidence missing verification, evidence compliance verification, element-based trial outline construction, undisputed fact summary, disputed focus summary, intelligent trial procedure prompts, paperless trial evidence presentation, intelligent trial transcript generation, paperless collegial panel evidence presentation, intelligent evaluation transcript generation, intelligent generation of procedural documents, pre-judgment of adjudication results, intelligent matching of document templates, intelligent generation of judgment documents, and adjudication deviation prompts. [15] Therefore, in the field of AI-assisted case handling, court-led AI judicial reform has achieved initial success and continuously optimized various judicial applications in practice.

(3) Large Language Models (LLMs) such as ChatGPT or GPT-4

The aforementioned narrow AI or applied AI, including legal text parsing and AI trial assistance, focuses on solving specific domain problems and is mostly regarded as a technical tool rather than posing a career replacement threat. In November 2022, OpenAI's release of the ChatGPT Large Language Model (LLM) attracted global attention from all sectors of society. Particularly, the GPT-4 released on March 14, 2023, not only significantly improved answer accuracy but also possessed higher-level image recognition capabilities and could generate lyrics, creative texts, and achieve style variations. Moreover, GPT-4's text input limit increased to 25,000 words, with optimized support for languages other than English. Consequently, professionals in law, accounting, medicine, education, and other fields generally have three attitudes: skepticism, confusion, and high praise. Therefore, it is necessary to clarify the technical essence of Large Language Models (LLMs).

Generally, Large Language Models (LLMs) refer to language models containing hundreds of billions (or more) of parameters trained on massive text data, such as models GPT-3, PaLM, Galactica, and LLaMA. [16] LLMs' key technologies include scaling, training, capability elicitation, alignment tuning, and tool utilization. Large language models have changed the way humans obtain information. According to a UBS research report, ChatGPT's monthly active users exceeded 100 million in January 2023. Microsoft co-founder Bill Gates believes that chatbots like ChatGPT will become as important as personal computers or the Internet. In Microsoft's recently published paper "Sparks of Artificial General Intelligence: Early experiments with GPT-4," they state: "We believe

GPT-4 is part of a new cohort of LLMs that exhibit more general intelligence than previous AI models. We discuss these models' continuously improving capabilities and impacts. We demonstrate that, beyond language proficiency, GPT-4 can solve novel and difficult tasks involving mathematics, coding, vision, medicine, law, psychology, etc., without any special prompting. Moreover, in all these tasks, GPT-4's performance is very close to human level and often far exceeds previous models like ChatGPT. Given GPT-4's powerful capabilities, we believe it is reasonable to regard it as a version close to (but still incomplete) Artificial General Intelligence (AGI)."

Despite ChatGPT's popularity and usefulness, it has raised concerns among researchers and practitioners due to its potential to generate plausible but factually inaccurate content. In "Is ChatGPT a Good Causal Reasoner? A Comprehensive Evaluation," the authors conclude: "ChatGPT has serious causal hallucination problems; it tends to assume causal relationships between events regardless of whether these relationships actually exist." They further note: "ChatGPT is not a good causal reasoner but a good causal explainer," again emphasizing its ability to distill connections when explaining but its inability to infer these connections by constructing an existing world model where these connections naturally exist. This issue with Large Language Models (LLMs) like ChatGPT or GPT-4 may lead to counterfactual or meaningless responses, posing a serious threat to online content reliability. Moreover, false narratives generated by ChatGPT can easily be mistaken for legitimate ones. The so-called hallucination refers to these models fabricating fake citations and facts, sometimes even meaningless content. The reason for hallucination lies in their lack of understanding of cause and effect between events. We can observe that LLMs are good at identifying and extracting causal relationships from data but lack the ability to actively reason about new causal scenarios. They possess the ability for causal induction through observation but not causal deduction. [17]

Microsoft directly crossed the boundary from the basic concept of GPT-4 as a Large Language Model (LLM) to Artificial General Intelligence (AGI), seriously misleading public opinion and causing confusion by regarding ChatGPT and other LLMs as approaching AGI. In its own words (released March 29, 2023): "I am ChatGPT, a language model developed by OpenAI designed to produce human-like responses to various questions and prompts. My purpose is to help users and interact with them in a conversational manner, providing useful and informative replies to their inquiries." The fact is that AGI applications are built on top of Large Language Models (LLMs) that can recognize, predict, translate, summarize, and generate language. Such Large Language Models are a subset of Generative AI (AI Generate Content, AIGC), characterized by being "large," partly because massive data is needed to train models to learn language rules. [18] ChatGPT is a specific application based on large-scale pre-trained models, with applications including but not limited to: online customer service, chatbots, voice assistants, and intelligent customer relationship management. AIGC is a specific AI application with applications including but not limited to: text generation, image generation, audio generation, and video generation.

AGI is a comprehensive AI system with applications including but not limited to: automated tasks, robotics, healthcare, legal assistance, and environmental detection. When asked, ChatGPT itself states: LLMs, AIGC, and AGI belong to different categories; they are correlated but not the same category. Although LLMs and AIGC can provide efficient dialogue and text generation capabilities through large-scale training and technical means, they only represent certain specific aspects of AI and do not cover the full scope of AGI. Therefore, while LLMs and AIGC are related to AGI, they cannot be considered formal representatives of AGI.

Large language models represented by GPT, Bard, and LLaMA are AI models that undergo pre-training on large-scale datasets to understand human language. In different contexts, their underlying technology and specific applications are also called Generative AI or AIGC (AI Generated Content). [19] AIGC and AGI are two different concepts in AI. AIGC refers to computer programs that generate text, images, audio, or video content based on human guidance or automatically learned from large amounts of data. AIGC usually focuses on a specific task or domain, such as natural language generation, image generation, or audio generation. Regarding the impact of AIGC's widespread application on various industries, three-quarters of respondents expect AIGC to cause significant or disruptive changes to their industry's competitive nature within the next three years. Industries most dependent on knowledge work may experience more disruption and potentially gain more value. While predictions indicate that technology companies will unsurprisingly be most affected by AIGC—equivalent to 9% of global industry revenue—knowledge-based industries such as banking (up to 5%), pharmaceuticals and medical products (also up to 5%), and education (up to 4%) may also be significantly impacted. [20] AGI refers to an intelligent system with human-level or higher cognitive abilities that can understand, learn, plan, and solve problems. AGI aims to achieve broad intelligence similar to humans, enabling it to excel in various domains and tasks. This means AGI has broad cognitive abilities and can flexibly adapt to various tasks and environments.

The concept of Artificial General Intelligence (AGI) can be traced back to the mid-20th century when many computer scientists and AI researchers began thinking about how to build computer programs with human intelligence. Unlike Narrow AI systems focused on specific tasks, AGI is endowed with broader cognitive and reasoning capabilities, able to learn, adapt, and perform tasks across multiple domains. The commonly understood definition of AGI is an AI system that can understand and reason at human level or higher across multiple cognitive domains. Currently, AGI's main technologies include but are not limited to: logic, probability theory, production systems, graph theory, knowledge bases, learning algorithms, neural networks, evolutionary computation, robotics, and multi-agent systems. [21]

Therefore, we believe that Large Language Models (LLMs) such as ChatGPT or GPT-4 cannot yet be categorized as AGI based on their technical characteristics.

Regardless of their application in law, finance, medicine, education, or other professional fields, their essence remains a technical tool rather than posing a career replacement threat. However, we should closely monitor the AIGC technology development wave triggered by ChatGPT that will cause significant or disruptive changes to the legal industry within the next three to five years.

II. AI Technology Replacing Legal Professions

Despite ChatGPT's limitations, its applications have expanded to various fields, including healthcare, [22] cybersecurity, [23] environmental research, [24] and scientific writing. [25] These developments include real-time training of ChatGPT to improve its performance and expand its domain-specific knowledge, making it more suitable for specific domains such as customer service, healthcare, business, finance, and law. [26] A McKinsey & Company study indicates that at least 30% of work in 60% of human occupations may be automated in the future. In its 2023 research report "Which Industries Will Be Most Impacted by AI," the legal profession is listed among them. Experts predict that legal AI will surpass human legal experts' intelligence. With future development of hardware such as GPUs and TPUs, AI devices will become indispensable assistants for judges or lawyers, and may even lead to human-machine integration or AI directly replacing judges in making decisions. [27] An AI system developed by a team of scientists from University College London, the University of Sheffield, and the University of Pennsylvania has successfully predicted the trial outcomes of hundreds of European Court of Human Rights cases with approximately 79% accuracy. [28]

In the early stages of AI development, when traditional legal professional conduct norms still dominate, the differences between them are not particularly prominent. Because even those who believe AI's ultimate goal will be legal profession replacement acknowledge that AI cannot assume the functions of the rule of law before an AI legal services market is formed. However, when the traditional legal services market is comprehensively breached by AI and new legal services market rules remain to be established, their divergence will become increasingly prominent. In the future, if AI technology replaces legal professions, we should fully demonstrate and research the possibility of legal profession replacement by technology, including the realization path of AI legal profession replacement and the technical competence of legal professions.

(1) AGI's Replacement of Legal Professions

The current new round of technological revolution and industrial transformation is accelerating globally. The "singularity" is gradually approaching. In the legal field, AGI tools spawned by the technological revolution can directly connect and integrate computational models of legal reasoning and technologies for representing legal knowledge to create new legal applications that will play important roles in customized and commoditized legal services. Throughout human technological history, each technological innovation has resulted in production

tool innovation and significant efficiency improvements. AI applications in the legal field will inevitably enhance judicial efficiency, promote fairness, justice, and openness, and thereby advance the further development of human social judicial civilization and increase human welfare.

AGI refers to an AI system with comprehensive, human-level intelligence capable of spanning different abstract thinking domains. [29] As AGI, it possesses more powerful prompts and "emergent capabilities" to address new tasks, with explainable results and continuous self-learning abilities, while also having control capabilities and result controllability that conform to human ethics and social norms. Through continuous deep learning, it will possess human-specific natural language abilities and explanatory capabilities, which are the core distinctions between AGI and Narrow AI, Applied AI, and Large Language Models (LLMs). In "AGI Safety Literature Review," Everitt, Lea, and Hutter mention: "We asked many researchers when they think AGI might appear, and they guessed between 2040-2061, but opinions varied greatly—some thought it might never appear, while others thought it could appear in the next few years." Only when we can create a system that can doubt its own reality, conduct self-exploration, and at least apply causal deduction to establish a reasonable world model can we truly achieve AGI. [30] In short, it is certain that AGI has not yet appeared around us.

Typically, clients rely on lawyers' special knowledge and skills, particularly technical, legal, and strategic capabilities. The core technical competencies of the legal profession are language communication ability, legal professional knowledge, legal retrieval ability, and creative ability in legal reasoning and argumentation, with legal reasoning and argumentation creativity being the most important. In the future, Artificial General Intelligence (AGI) will possess a very general mental capacity, including reasoning, planning, problem-solving, abstract thinking, understanding complex ideas, rapid learning, and learning from experience. AI simulates human consciousness and thinking information processes, including comprehensive mental functions such as learning, thinking, language, analysis, and judgment. AI applications in the judicial field are precisely the effective path to achieving quantitative judicial reasoning, refined processes, and standardized behavior, making judicial activities more scientific, fair, standardized, and efficient. [31] Especially the development of legal formalism, legal realism, and the compromise "open texture" theory has laid the theoretical foundation for AI development in legal reasoning. Computational models of legal reasoning refer to computer programs that implement human legal reasoning processes; computational models of legal argumentation refer to computer programs that implement legal argumentation processes. [32] Legal reasoning and argumentation computational models will open Pandora's box under the 加持 of AGI.

Legal reasoning and argumentation computational models trained and optimized for legal knowledge on open-source or commercial AGI large model foundations will achieve AI exclusive models for the legal industry. These legal exclusive models will be sold through standardization and commoditization to

government, enterprise, and individual users in need, leading to AI replacement of legal professions in the legal services market. For legal consulting business, AI legal exclusive models can automatically answer legal questions; for legal research and literature retrieval, they can directly output answers; for legal document generation and translation, they can automatically generate legal texts, contract texts, and translate legal documents; for legal document review and assisted case handling, they can automatically review legal documents, analyze case facts, and provide auxiliary adjudication decisions. When AGI-based legal exclusive models possess these abilities and even surpass lawyers' professional skills and legal knowledge, AI replacement of legal professions will occur in most low-end, common, and standardized legal services performed by lawyers. AGI will promote the de-professionalization, corporatization, and eventual commoditization of the legal profession. In view of this, commentators have predicted disruption in the legal field, where future lawyers will be replaced by AI robots, and the model of providing legal services will undergo fundamental reorganization. Others argue that lawyers should change their work methods, become T-shaped lawyers, receive business education, and act more like transaction engineers than traditional litigators. [33]

(2) Technical Competence of Legal Professions

The American Bar Association's Model Rules of Professional Conduct Rule 1.1 on "Competence" states: "A lawyer shall provide competent representation to a client. Competent representation requires the legal knowledge, skill, thoroughness, and preparation reasonably necessary for the representation." Comment [8] to this rule, "Maintaining Competence," states: "To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology, engage in continuing study and education, and comply with all continuing legal education requirements to which the lawyer is subject." [34] According to this rule, a "competent" lawyer should master relevant legal technology to maintain competence in legal practice as times develop. Chinese lawyers are even more familiar with the term "competent" because the annual lawyer inspection system is divided into three grades: "competent," "basically competent," and "incompetent." Failure to achieve "basically competent" results in deferred inspection or suspension from practice as a professional disciplinary sanction. However, we have not yet incorporated standards for "competence" or requirements for "technical competence" into lawyer inspection criteria.

Ensuring professional competence should be a lifelong pursuit for legal professionals. When judges or lawyers fail to meet the basic requirements of "competent" professional conduct, they should voluntarily resign, be dismissed by their employers, or be subject to suspension from practice by judicial administration or professional associations. Technical competence is the contemporary requirement for lawyer competence in the current era. Choosing technology fields with "long-term value" for human civilization and adhering to "long-term

continuous" investment may be the attitude and understanding contemporary lawyers should hold when considering how to maintain "competence" in professional conduct norms. In the future, AI will replace or eliminate lawyers without technical capabilities. Legal professionals need to adapt to new technology demands, such as learning how to use AI technology to enhance legal and similar case retrieval capabilities, learning how to train large models to become their own paralegals, using large models to produce various legal documents to improve work efficiency, and more importantly, combining their legal expertise with AI technology to serve social justice and create social value.

III. Ethical Challenges and Regulation of AI Legal Applications

In April 2017, the renowned British physicist Stephen Hawking proposed that AI is a "double-edged sword" that may end human civilization unless we learn to avoid its dangers. Only when AI develops on the track of rule of law can it benefit society; if it deviates from rule of law, it will inevitably harm society and humanity. In recent years, rapid AI technological progress has created new opportunities for economic and social development while also bringing endless challenges, such as spreading false information, infringing on personal information rights, data security, and bias discrimination. Therefore, how to balance AI development and security is currently the most important issue. The UK's legal services regulatory authorities propose that a key driving factor for legal technology innovation is the principle of technology's "social acceptability." This means that a technology's proposed use should be widely accepted by legal professionals and consumers (the public) and conform to general social interests. Both the LSB and SRA believe that using technology trusted by the public is a key driver for opening up legal services and providing better services. [35]

Therefore, how AI legal applications should develop to meet human society's ethical requirements has become a proposition. Ethics are behavioral norms for humans, obligations between people and between people and society, and also each individual's social responsibility derived from morality. [36] The "well-being principle" is widely considered the primary principle of AI ethics or a guiding principle that governs other principles. [37] Theoretically, AI may pose four types of risks: first, technology out of control; second, improper technology application; third, application risks; and fourth, management errors. [38] China has issued relevant regulations in the field of AI ethics governance from both legal norms and ethical regulation perspectives: On July 8, 2017, the State Council issued the "New Generation Artificial Intelligence Development Plan," making China the second country in the world to formulate and release an AI development plan in the name of its government. In August 2020, the Standardization Administration of China, the Cyberspace Administration of China, the National Development and Reform Commission, the Ministry of Science and Technology, and the Ministry of Industry and Information Technology jointly released the "National New Generation Artificial Intelligence Standard System

Construction Guide." On March 20, 2022, the General Office of the CPC Central Committee and the General Office of the State Council issued the "Opinions on Strengthening Science and Technology Ethics Governance." In March 2023, the National AI Standardization Overall Group and the National Information Technology Standardization Technical Committee AI Sub-committee released the "AI Ethics Governance Standardization Guide." On April 4, 2023, the Ministry of Science and Technology issued the "Announcement on Publicly Soliciting Opinions on the Trial Measures for Science and Technology Ethics Review." On August 15, 2023, the Cyberspace Administration of China, jointly with the National Development and Reform Commission, the Ministry of Education, the Ministry of Science and Technology, the Ministry of Industry and Information Technology, the Ministry of Public Security, and the National Radio and Television Administration, announced the implementation of the "Interim Measures for the Management of Generative AI Services." The release and implementation of these legal norms and standards have strengthened the guidance of moral norms and behavioral standards for AI and other technology ethics, which AI legal technology should follow.

As AI ethics and fairness become increasingly important, three key categories can be considered: computational technology, ethical considerations, and social considerations. First, upgraded technological developments such as deep learning, machine learning, and artificial neural networks should be integrated into computational methods to improve AI performance. Second, ethical factors must be considered, including data ethics to ensure that AI system training data collection, storage, and use are conducted in ethical and responsible ways while preventing unauthorized access or misuse. Third, to prevent discrimination against individuals or groups based on characteristics such as religion, race, or gender, fairness in machine learning must also be a priority.

Law is the norm followed by human life and the embodiment of social values, while technology drives the continuous progress of human society. Legal technology is an important means and direction for transforming legal services and judicial practice. It should closely integrate with actual legal needs, give full play to technological advantages, and improve legal service efficiency and judicial quality by introducing emerging technological means to achieve better popularization of rule of law. The era value of new technology not only accelerates the digital pace of traditional judicial system reform but also deepens the process of judicial civilization and promotes the development of the digital economy society. Therefore, legal technology is no longer just a tool but has become a force of rule of law. In the future, with the construction of exclusive AI models in the legal field, perhaps AI judges will sit on the bench and AI lawyers will be responsible for business negotiations and contract drafting. Legal technology will completely change and reshape human lifestyles, production methods, and social governance models. To this end, we need to carefully weigh the ethical and social issues in the development of AI and other legal technologies to ensure that the integration of technology and law can bring more well-being and digital justice to society and humanity.