

Research on Criminal Risks in the Age of Artificial Intelligence

Yaxin Shen¹

¹People's Public Security University of China, Beijing, China

Keywords: Artificial intelligence; criminal legal risks; determination of liability; Subject status; Legal Regulation

Abstract: This is an era of information that is moving towards digitalization, and the term “artificial intelligence” is no longer unfamiliar to contemporary young people. Robots are able to simulate human movements, this deep development of science and technology has undoubtedly profoundly changed our way of production and life. Artificial intelligence has gradually penetrated into the development of criminal law in China, bringing considerable risks and challenges to traditional criminal law and criminal proceedings. We are still in the era of weak artificial intelligence and will be in the era of weak artificial intelligence for a long time, and its "tool attribute" is undeniable. This paper is committed to analyzing the risks of the integration of artificial intelligence technology and traditional trial mode, the risks of the increase of artificial intelligence crimes and the criminal legal risks arising from the difficulty of criminal attribution, then puts forward several suggestions on the subject status, technical prevention, and legal regulation of weak artificial intelligence. The purpose is to foresee the risk as early as possible, let artificial intelligence better serve mankind, and make technology and law together to promote the process of China's rule of law.

1. Introduction

Nowadays, Artificial Intelligence, as a new computer science and technology, is based on the range of human intelligence and extends infinitely outward with the help of scientific theories and methods. Artificial Intelligence involves all aspects of human life, including robotics, image recognition, expert systems, language recognition and so on. Since entering the 21st century, artificial intelligence technology has been developing rapidly around the world, not only benefiting legal workers, but also effectively promoting the process of intelligent rule of law in China. Nearly 15 years in China, whether it is from the people's life on the mobile payment and webcasting, or from the judicial practice of the first artificial intelligence personal information infringement crime case successfully solved, artificial intelligence is indispensable. Criminal law, as the most severe public law to combat illegal crimes, cutting-edge scholars have also combined AI with criminal law to try to anticipate criminal risks in the era of big data. At present, the legislation has not yet clearly regulated artificial intelligence, and the main view of the academic community is that it is very necessary to be alert to the criminal risks in the era of weak artificial intelligence, and the difficulty lies in accurately predicting the risks and proposing feasible countermeasures. Next, the author will start from the relationship between artificial intelligence and the traditional criminal law field, explore the possible

criminal risks of artificial intelligence, typify the risks and propose specific countermeasures for them.

2. Artificial Intelligence and Criminal Law

2.1 Overview of Artificial Intelligence

Artificial Intelligence (AI), which is a new technical science that researches and develops theories, methods, technologies and application systems used to simulate, extend and expand human intelligence. Simply put, AI works as a scientific system of computer programs that simulate the human brain. As a part of computer science, it attempts to understand the essence of intelligence and produce a new intelligent machine that can respond in a manner similar to human thinking. The scope of the research mainly includes robotics, language recognition, image recognition, etc. and has been continuously expanded since its inception.

As the hottest product of the 21st century, AI has its unique features and advantages. First of all, its accurate programming technology avoids many human error factors in traditional operations, reduces accidents and improves work efficiency; Secondly, its developed database stores a huge amount of information that can be accurately searched, which is far from being achievable by relying on human labor. It is also because of this "superhuman" characteristics of AI that we should be alert to the threat it brings to human beings when it develops to a certain extent: AI is not human intelligence, but it can think like a human being, and it may also exceed human intelligence. As AI technology continues to improve, it will become more and more useful in various fields, which will lead to human workers relying more on computers. Once artificial intelligence develops and the autonomy of the databases in it increases dramatically, human modifications to it are beyond our control.

2.2 The Relationship between Artificial Intelligence and Criminal law

Science and technology as the first productive force of society, artificial intelligence is applied to a wide range of work areas, and has become an important source of contemporary creation of social wealth. And the law, as the superstructure, will certainly change with the development of society. Scholars generally divide the development of artificial intelligence into three stages: weak artificial intelligence, strong artificial intelligence and super artificial intelligence. We are in and will be in the era of weak artificial intelligence for a long time, intelligent people are still largely simulating human thinking to work, as a tool to assist humans. In the era of strong artificial intelligence and super artificial intelligence, artificial intelligence has already possessed human thinking, their subject qualification is undoubtedly not restricted by humans, and will have independent personality in law. Artificial intelligence promotes the development of criminal law, criminal law will regulate artificial intelligence to prevent its unlimited development, such a mutually reinforcing relationship is what determines the necessity of studying weak artificial intelligence and criminal law risk. To protect the law of development of human civilization, criminal law must be vigilant against all technologies that may transform human beings themselves. Based on the thinking of criminal law theory on the future of artificial intelligence, to promote the progress of criminal law in related fields, what we need to do is to make science and technology and ethics achieve a relative balance in criminal law.

3. Criminal Risks of Artificial Intelligence

3.1 The Threat of the Intelligent Sentencing System to the Traditional Trial Model

In recent years, with the development of society, the work pressure of the court has gradually increased, and the phenomenon of cases piling up and delays is common. We have begun to take information technology into account as a tool, which has gradually influenced the development of judicial trials on a global scale. For example, in October 2016, European scientists created an artificially intelligent "judge" to assist in sentencing; Russia's 2019 study on "Problems of Crime and Appropriate Punishment" seeks to determine the outcome of a criminal case through a number of specific procedures, including charges, deadlines, and so on^[1]. In 2017, the courts around China put forward proposals to optimize the intelligent assisted trial system at the right time, and the Supreme Court opened the work of developing a sentencing assistance system using artificial intelligence. The conviction and sentencing procedures in traditional criminal proceedings have been given new life by artificial intelligence, and China's criminal proceedings are moving towards a new era of intelligence, with sentencing gradually modernized, publicized and standardized. It is our common goal to make citizens feel fairness and justice in every judicial case.

It should be noted that the development of an intelligent sentencing assistance system in China is in no way intended to allow AI to usurp the trial status of the People's Courts. Our Constitution clearly stipulates that the People's Court of the People's Republic of China is the judiciary of the State. This means that we must strictly grasp the "degree" of the AI sentencing technology, otherwise will exaggerate the role of the machine but increase inertia of judicial workers. Once there is a miscarriage of justice and other errors, the attribution of responsibility will be a problem worth thinking about. In addition, in this historical intersection of "intelligent court" and "improving the credibility of the judiciary", procedural justice and substantive justice is equally important. Most people and even some legal practitioners may not understand the principle of intelligent sentencing, and procedural justice is often ignored in the entire intelligent criminal proceedings. Therefore, in people's simple concept of justice, a convincing verdict is the most representative of substantive justice. High-tech means have indeed enhanced people's credibility and avoided the phenomena of different judgments in the same case. However, "the same case with the same sentence" behind should be more specific case-specific analysis of the details of the problem, just like "the world does not have two identical leaves". Artificial intelligence is only after recording a large number of similar cases, through the analysis of data, mechanically come up with similar adjudication results, and did not take into account the background, public opinion, influence and other factors that are very emotional. Judicial practice also needs the power of emotion, and fairness and justice can never be realized by relying on a machine alone. Instead of saying that "same case, same sentence" is a legal justice issue, it is more of a moral issue^[2]. Finally, artificial intelligence sentencing technology also needs to be deepened: how to improve the accuracy of the sentencing recommendations, how to make the court and the artificial intelligence reasonable division of labor, how to make the cold machine also have the human warm and cold thinking. All these need our professionals to break through the layers of technical barriers, so that science and technology and the law together to promote the development of criminal proceedings in China.

3.2 AI crime increases

Unlike traditional crimes, artificial intelligence is based on data, and its virtual nature gives new characteristics to both civil tort issues and criminal cases. Criminal offenses, the most serious type of crime with the most serious social hazards, present a clear case for early risk prediction. Otherwise it will bring great losses to the life and property of the country and the people. Data show that the

integration of AI technology and law in China is only a few years old, and there are only a few studies on the problem of artificial intelligence crime. Frontier scholars divide artificial intelligence into strong artificial intelligence and weak artificial intelligence^[3]. Strong artificial intelligence already has a "human" in the legal capacity of behavior and responsibility, can identify and control their own behavior. It is not realistic to discuss the crime of strong artificial intelligence; While weak artificial intelligence refers to independent judgment and decision-making within the scope of design and programming^[4], which does not have the ability to identify and control, in general, still has a certain sense of the "tool attributes"^[5]. As a manufactured "product", it will not be perfect, such as the risk of AI itself, the harm caused by defects in AI products, and the risk of using AI to commit crimes. Social risk theory warns us to pay attention to the risk of human factors causing AI crimes, but among the various AI risks that need to be regulated, the risk of AI crimes is the most obvious and direct. In the absence of human factors and technological flaws in AI, the fact that AI causes harm against the intent of its designers gives rise to a large number of new forms of crime.

3.2.1 The Impact of Driverless Traffic Accidents on Traffic Crimes

Artificial intelligence has enabled traditional crimes to be given new characteristics as well. Specifically, our determination of a crime often starts from the elements of criminal law. But artificial intelligence in the emergence of "harmful acts", the nature of its behavior and the main body of the determination are no longer applicable to traditional criminal law elements. Some crimes no longer cover the field of artificial intelligence crimes, which will affect the depth and breadth of traditional crimes.

Nowadays, driverless technology is the most mature and widely used in the field of artificial intelligence in China. Its principle is probably to simulate the thinking of multiple human brains to be programmed, combined into a system, with multiple programs to "replace" the natural person driving. When an accident occurs, the object of violation is still traffic safety and the safety of citizens' lives and properties. The main problem is that the determination of the objective, subjective and subjective aspects is faced with great difficulties. A criminal offense must have a harmful act, we have been pursuing the criminalization principle of "no act, no crime", while several typical characteristics of criminal behavior: physical and intentionality seem to be unrecognizable in AI crimes. Therefore, the definition of "harmful acts" needs to be further updated. Secondly, the identification of the subject is no longer a natural person as in traditional criminal law, but even a virtual thing that cannot be called a subject. The difficulty in recognizing the subject of the crime will eventually lead to difficulties in enforcement. Now it seems to be a bit absurd to impose prison sentences and fines on AI, and it is certainly unfair to simply blame the producers and designers^[6]. Finally, the traffic accident is a typical negligence crime, and usually we distinguish between intentional and negligence is still by virtue of whether the subject has the ability to identify and control their own behavior, driverless cars will affect the subjective aspects of the conviction because of the uncertainty of the subject.

3.2.2 The Difficulty of Determining Liability for Intelligent Medical Crimes

The mystery of artificial intelligence comes from the fact that its ability to learn on its own can be enhanced indefinitely, and one day it will exceed the level of human cognition and even commit acts that endanger human beings. In other words, the risk of AI breaking away from human control and causing crimes is growing day by day, and with it the difficulty of determining responsibility for crimes committed by intelligent people in this day and age. Attempts by AI to penetrate traditional industries and help humans enhance their productivity have become increasingly popular in recent years. Similar to driverless cars, AI has been introduced into the traditional medical industry, where

AI can autonomously learn medical knowledge, analyze patient data, assist doctors in operations, and even come up with a complete treatment plan.

However, unlike driverless cars, when an AI doctor causes damage to a patient, the standard of "grossly irresponsible medical personnel" in the traditional medical malpractice offense no longer applies. The criterion of having a license to practice as a medical professional is also rendered useless. If the application of seemingly reasonable product liability, there will be a difficult dilemma of proof: the infringer that is injured patients to the existence of defects in the intelligent doctor to bear the burden of proof, which requires the patient is very proficient in artificial intelligence technology and be able to accurately express, and thus fell into the "professionals do not prove that the witnesses are not professional" embarrassing situation. At the same time, the powerful functions of the intelligent doctor is more and more likely to exceed human doctors and become the main body of medical activities. It seems to be necessary to face up to the subject status of intelligent doctors in law, in order to avoid the risk of responsibility determination of their "crime". The State Food and Drug Administration (SFDA) has clarified the tool attributes and auxiliary functions of AI medical products, which are clearly defined as medical devices. However, with the development of AI technology, the independence of intelligent doctors has gradually emerged, and it is time to consider the criminal subject status of AI medical treatment. In addition, there are many industries that have introduced artificial intelligence, and once some new form of crime emerges, it will be a difficult hurdle for artificial intelligence to become the subject of responsibility.

3.3 Criminal Punishability of Artificial Intelligence Crimes Controversy

3.3.1 Causes of Dispute

Whether it is an intelligent sentencing system that makes mistakes or an artificial intelligence that commits crimes, there is no greater challenge that human society will have to meet than the criminal attribution of artificial intelligence. Whether robots can become responsible subjects, whether they can be responsible for their own behavior, whether they have the same social responsibility as human beings, this series of questions will shake the current criminal law attribution system.

We are still in the period of weak artificial intelligence, artificial intelligence cannot create an independent personality, and the difficulty of its responsibility comes from three aspects: first, in theory, we cannot draw a clear line between strong artificial intelligence and weak artificial intelligence, which creates a cognitive risk for people in the transition stage of weak artificial intelligence technology^[7]. Professionals over-exaggerate the secrecy of the technology, which can easily make the public imagine AI as a "new species" that can do anything. When this perception forms public opinion, it will inevitably affect the basic attribution system of criminal law. American computer scientist Jerry Kaplan believes that artificial intelligence is unlikely to evolve into super artificial intelligence and threaten human beings, the reason why there will be an artificial intelligence threat theory, "fundamentally because the public is used to the artificial intelligence personification, which is the root of the problem"^[8]. Second, there is the complexity of the determination of the nature of artificial intelligence tools. Professor Liu Xianquan believes that the tool property of artificial intelligence is undeniable, and that weak artificial intelligence works within human control, and its fundamental purpose is still to serve people. Some people think that this does not give the traditional principle of criminal attribution, but in fact, in the practice of criminal justice, the identification of the tools used by the suspect is itself a complex problem. What kind of tool is artificial intelligence and how to define it within the so-called "scope of human programming and control" are still blank in the law. Third, there is a high degree of intelligence in behavior. A major feature of artificial intelligence is the ability to learn on its own, and when it is manufactured, it can achieve the degree of "autonomous thinking" through deep learning, which is also the reason why the smart doctor

mentioned above can give a set of treatment suggestions on its own. Unlike the characteristics of general products, AI has gradually become independent and in-depth while integrating with traditional industries, that is to say, it has a certain limit of free will. This will directly affect the status of "functional neutrality" in the "principle of technological neutrality", which in turn affects the dimension of the separation of technological function and practical results^[9]. Therefore, artificial intelligence has already possessed a high degree of intelligence, it will cause the risk of attribution when it does harmful acts.

3.3.2 The Necessity of Exploring the Punishability of AI

It is true that criminal law is more relevant only in the era of strong artificial intelligence. Because we have not yet entered the era of strong artificial intelligence and the legal norms are basically blank, many people do not think of criminal law to regulate artificial intelligence. In fact, whether it is the lag of the legislation itself or the current lack of cases of artificial intelligence, should not be an obstacle to academic research. Exploring the criminal punishability of artificial intelligence is a necessary move to deal with the social risks of artificial intelligence. At the legal level, the purpose of punishment is the starting point of AI punishability^[10].

As mentioned above, people's subconscious is to personify AI, shaking the foundation of the current law. When there is no specific set of rules governing who should be responsible for a criminally harmful outcome, the original purpose of punishment has no meaning to exist: neither to anticipate danger to prevent crime, nor to establish the majesty of law to warn others. The reason why artificial intelligence has developed to its present state is the crystallization of the wisdom of human society and the result of our pursuit of a better life. We can't expect a technology to be flawless, and we should leave some room for it to go further. As artificial intelligence advances, the legal system as a superstructure should also be improved. Artificial intelligence adds more possibilities to criminal offenses, but through timely risk identification and making adjustments, it is believed that the great benefits of artificial intelligence to mankind will far outweigh the risks.

4. Countermeasures against the Criminal Risks of AI

4.1 Clarify the Status and Division

Take the intelligent trial system for example, we do not know whether the future of artificial intelligence will completely replace the human judge and completely become the main body of the judicial trial, but at least now, we will be in the early stage of artificial intelligence, the most important thing is to determine the auxiliary status of AI trial system. At present, the introduction of artificial intelligence in the courts of the world, some with powerful functions, but still only an auxiliary tool for the judge, cannot become the subject of the courtroom sentence. This reminds me of a news story, a 90-year-old father was sent to court for speeding, when the judge asked why, he said in tears that his son had cancer and had to speed in a hurry. At that moment, the judge also had tears in his eyes: "Sir, you are a good father, I believe you are a good man, now your case is dismissed, please go home, and I wish you all the best, I wish your son a speedy recovery, and I wish you a happy family". After watching it, I was also deeply moved. There are countless kind judges in China as well, and it is because of them that the law has a temperature. If you let artificial intelligence to referee, the judgment is presented on the cold data analysis and a large number of legal provisions excerpts. Human society is an interconnected society, and the problems of human society are ultimately left to humans to solve. Totally relying on artificial intelligence, on the contrary, makes this high-tech become a booster for the regression of human civilization.

Although human judges may make mistakes and create wrongful cases, but from years of judicial

practice, China's legal system is well constructed, this problem can still be corrected. It is only a matter of time, but also belongs to the social rule of law and human civilization continue to progress in the focus point ^[11]. Human judges, human medical personnel and human drivers should be firm in their subject position. Artificial intelligence is more to provide us with directions, and the final decision is still our own. We should be good at using intelligent systems to build innovative service systems. Artificial intelligence will definitely make a difference, the key lies in whether we can keep the bottom line of the rule of law and fairness.

4.2 Improve Technology and Reduce Errors

While artificial intelligence technology brings convenience to people, it has given rise to a variety of sources of danger, leading to an increasing proliferation of technological risks ^[12]. Thus, it seems that the response to the various criminal risks brought about by artificial intelligence should first start with the technical issues. To a certain extent, technical risk is a human-made risk, coupled with the uncertainty and complexity of the technology itself, which makes artificial intelligence has been labeled as "unpredictable". Designers and producers should continue to improve the accuracy of the technology, and at the same time popularize the theoretical knowledge of AI among the public, so as to avoid the danger caused by improper operation. Allow the existence of the dangers and uncertainties of artificial intelligence technology: the human organism is extremely precise and complex, driverless cars can not accurately restore the degree of recognition of the human eye, intelligent doctors cannot fully simulate the operation of the human hand-brain high degree of cooperation In addition, since the founding of the country's criminal procedure process in our country has developed by leaps and bounds, we have accumulated a lot of experience and experience in handling cases. Artificial intelligence should focus on the combination of practical experience, give full play to the advantages of traditional criminal procedure law, and utilize the flexible thinking ability of human beings and the powerful analytical ability of AI to realize the prevention of AI crimes.

In the collection and analysis of evidence, AI technology can pursue a target to the end, reaching a level that is difficult for humans to catch up with in traditional case handling scenarios. Evidence is the key to the case, and evidence-centrism requires AI to find the evidence trail of AI crimes through data analysis ^[13]. The combination of artificial intelligence and the Internet has powerful functions, and AI is a boon for network security, which can enhance the performance of traditional security systems. It is recommended to insert artificial intelligence systems in our surveillance network, so that both real society crimes and AI crimes can be effectively regulated. Finally, while introducing AI, we also need to cultivate the ability of AI to learn "human emotions" and make full use of AI's deep learning capability. Although this may seem difficult at the moment, we can at least move in the direction of integrating artificial intelligence with the humanitarian spirit of modern society.

4.3 Adjust Regulations to Keep Pace with the Times

It is undeniable that the law has a lagging effect, and it is a normal phenomenon that crimes caused by a brand-new technology cannot be regulated by the existing criminal law. Only through legislation to solve the application of AI crimes and other issues, can ensure the healthy development and rational use of this technology. The forward-looking role of law in the era of artificial intelligence requires the joint efforts of legislators and all legal professionals.

4.3.1 Appropriately expand the scope of adjustment of the Criminal Law

China's existing criminal law is sufficient to regulate the current artificial intelligence, but it has not yet been able to explicitly stipulate the crime of AI in the law. It is necessary to appropriately

expand the scope of application of criminal law and abandon the extremist idea that machines can be completely free of responsibility. Try to give artificial intelligence a personality under certain conditions, and bring the design, production, and application of artificial intelligence into the scope of regulation of criminal law, so that people can foresee the dangers of their own behavior and be able to respond in a timely manner; At the same time, the law should also make clear the legal obligations of the producers, makers, and users; Artificial intelligence is more specialized, and the public can only benefit from it if it is well guarded by professionals. The subject of the AI system must have certain qualifications and meet certain standards before adopting the application system, and the AI can be put into use only after inspection and approval.

4.3.2 Determining Liability by Incorporating AI Characteristics

AI crime has its own characteristics, a criminal result is often composed of multiple "acts", affecting the determination of causality in traditional criminal law. In this regard, using the method of attribution before attribution ^[14], what we need to do is to strip out the factors that belong to the scope of adjustment of criminal law in complex cases. That is to say, combined with the characteristics of artificial intelligence itself, the causal relationship is standardized and simplified. Once the causal relationship has been established, when the producer appears to have no intent and has fulfilled his legal obligations, it is too decisive to pursue criminal responsibility. It is therefore more desirable for legislation to adopt relatively strict liability. It is necessary to determine the specific standards for criminal liability of AI. Some crimes cannot distinguish between intentional and negligent conduct, as long as the perpetrator's behavior aligns with the constitutive elements of criminal law, negligence can be a sufficient basis for conviction therefore. Furthermore, in the allocation of the burden of proof, in order to address the "professionals do not prove, the witness is not professional" dilemma, it may be beneficial to enhance the obligation of proof for manufacturing enterprises ^[15].

4.3.3 Addition of new Offences

Legislators can improve the judicial interpretation of existing crimes and create some new ones: create the crime of misuse of AI technology. Human society is only advancing, and AI technology will become more and more attractive to humans. The famous physicist Stephen Hawking's "AI threat theory" is already a general trend, and it has become customary for criminal law to create new crimes to adapt to social development. Similarly, as in the case of the nation's first case of using AI to violate citizens' personal information, the low cost and high yield of the crime makes it profitable for criminals. Therefore, it is necessary to establish the crime of misuse of artificial intelligence technology, which can be placed in the chapter of the crime of disrupting social management order. This crime mainly regulates the harmful behaviors caused by human factors in AI crimes. Secondly, for the producers and designers who have "relatively strict liability" as mentioned above, the establishment of the crime of major liability accident of artificial intelligence can be considered. This crime regulates the behavior of designers and producers who do not fulfill their obligations in strict accordance with industry standards during the manufacturing process, and puts this crime in the crime of endangering public security for clear provisions.

5. Conclusions

"As the capabilities of AI technologies expand, so does their potential for criminal exploitation. Being fully prepared for possible AI threats requires identifying what those threats are, as well as predicting how they will affect our lives," said Professor Lewis Griffin, senior author in computer

science at University College London. We are living in the age of AI, where humanity has to face serious challenges such as information explosion, technological transcendence and lack of ethics. Risks can't be eliminated but can be predicted and controlled. Technology can accomplish AI, and can likewise cope with the risks of AI. The destiny of mankind is in our own hands, and artificial intelligence in a society governed by the rule of law will never be able to usurp our subject position. As long as we use the technology of AI, adhere to the duties in traditional industries, and clarify the auxiliary status of robots, then it will be more perfect to realize the coexistence of human beings and intelligent people. Our attitude towards AI cannot be purely value-neutral, and the criminal law, as the most severe public law to combat criminal behavior, should be the strongest backing to take the lead in avoiding risks and leading the healthy development of China's intelligent legal system.

References

- [1] Apshin VF, Korneev SA, Kilimbaev RV. *The use of artificial intelligence in criminal law and criminal procedure systems [J]. Materials Science and Engineering*, 2020, 1001(1).
- [2] Cheng Long. *Problems and solutions of AI-assisted sentencing [J]. Journal of Northwest University (Philosophy and Social Science)*, 2021, 51(06):163-174
- [3] Liu Xianquan. "Internal Troubles", "External Troubles" and Criminal Responsibility in the Era of Artificial Intelligence [J]. *Oriental Jurisprudence*, 2018(01): 134-142.
- [4] Sun Tianyang. *Exploration of the possibility of artificial intelligence products as the subject of criminal liability [J]. Karamay Journal*, 2021, 11(02):60-65
- [5] Liu Xianquan. *Philosophical Reflections on the Law of Attributes of Intelligent Robot Tools[J]. Chinese Journal of Criminal Law*, 2020(05): 20-34.
- [6] Luo Zhengyan. *On the legal subject qualification of artificial intelligence from free will[J]. Hunan Social Sciences*, 2020(02):43-50
- [7] Chen Wen, Jiang Du. *Criminal Risks of Artificial Intelligence and Criminal Law Response[J]. Nanjing Social Sciences*, 2020(01): 99-105.
- [8] Wang Yonggang. *AI is just a tool for humans: interview with Jerry Kaplan [EB/OL]. (January 7, 2017) [2022-04-05]. <https://zhuanlan.zhihu.com/p/24761876>*
- [9] Zheng Yushuang. *Solving the Problem of Technology Neutrality: Rethinking the Jurisprudence of the Relationship between Law and Technology [J]. Journal of East China University of Political Science and Law*, 2018, 21(01):85-97.
- [10] Lasse Quark, Wang Dezheng, *Criminal Punishability of Artificial Intelligence Robots[J]. Zhongzhou Academic Journal*, 2020(10): 48-52.
- [11] Sheng Xuejun, Zou Yue. *Intelligent Robot Judge: How Much Is Possible and Impossible [J]. Modern Jurisprudence*, 2018, 40(04):74-82
- [12] Chen Xingliang. *A Critique of Legal Doctrine in the Theory of Risk Criminal Law[J]. Journal of Chinese and Foreign Law*, 2014, 26(01): 103-127
- [13] Sun Hao. *On the causes and countermeasures of artificial intelligence crimes[J]. Theoretical*, 2019(09):118-120
- [14] Liu Xianquan. *An Analysis of Attribution and Attribution Standards in AI-related Crimes [J]. Oriental Jurisprudence*, 2020(03):66-75
- [15] Meng Yanan. *Research on the subject of liability in the infringement of artificial intelligence medical products [J]. Journal of Southeast University (Philosophy and Social Science)*, 2019, 21(S2):91-95