

A Comparative Study of Ethical Legal Issues Based on Artificial Intelligence

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Abstract: In the era of rapid development of intelligent technology in the new era, the application of artificial intelligence has brought about the climax of technology in people's lives and work. The use of artificial intelligence technology to achieve auto-driving, artificial intelligence robots and other social applications has brought great development to our convenience. At the same time, some of the challenges caused by overly intelligent technologies, such as car accidents caused by auto-driving cars and private reading of information by artificial intelligence, make us extremely resistant to legal issues in the context of artificial intelligence. The current research is still lacking in this aspect. The main purpose of this paper is to study the problems brought about by the artificial intelligence system to the legal development, and consider the legal system crisis that needs to be faced in this context. This paper cites the legal problems faced by artificial intelligence in transportation, medical care, etc. And through the formulation of a series of principled legal measures, thus avoiding the emergence of crisis, making the development of artificial intelligence technology more secure. Studies have shown that reasonable and effective rules and regulations will be of great significance for building a smart environment that regulates science and technology.

1. Introduction

The application development of artificial intelligence technology has brought about tremendous changes in people's lives. It has changed people's lifestyle to a large extent, and the application of technology has brought convenience and fun to people's lives. With the closer relationship between artificial intelligence and human beings, a series of legal issues are also not negligible. In the future, the climax of artificial intelligence applications, the development of new things will continue to accelerate, the degree of intelligence of artificial intelligence will be largely close to humans, and even the learning ability may surpass most people. The existing legal system is far from enough for artificial intelligence. It is imperative to take corresponding legal measures to deal with the challenges that artificial intelligence may bring in the development. It is necessary to put artificial intelligence under the legal system to think.

In the era of artificial intelligence, the penetration of various fields has brought great scientific and technological value. In 2015, Wu Yuanli et al. ^[1] used the intelligent characteristics of artificial intelligence to study the network security defense in order to face the security risks of network information in the increasingly developed form of the network. The safety defense application of expert systems such as neural networks in artificial intelligence has brought vitality to the development of network security in the future. In 2017, Wu Handong ^[2] carried out a negative impact on the legal defects in the civil subject, copyright law, tort liability law and traffic law faced by the intelligent revolution in the era of the times, and studied the preventive behavior and the adaptive system. This paper discusses a system based on safety and ethical law as the main control means, and constructs the robot ethics charter reasonably and rationally. In 2017, Xiong Qi ^[3] effectively identified the copyright and rights of the content created by artificial intelligence in the field of news and visual art, avoiding the confusion caused by the infringement and power identification, and exploring the content created by artificial intelligence. The ownership of power should be based on the institutional arrangement of a mature legal person's work, and stipulate that its owner is a copyright owner. In 2017, Shao Guosong et al. ^[4] based on the application of artificial

intelligence data technology to study the legal hazards of personal privacy violations, in order to more effectively protect the legitimate interests of the parties, the use of legal framework Provide effective remedies for privacy violations. In 2017, Zhao Nan, Yan Shanshan ^[5] focused on the application and development of artificial intelligence, mainly discussed its application in various fields such as medical, transportation, logistics and learning, and also studied its large number of neural networks and genetic algorithms. Research and research have found that artificial intelligence is of great significance in the research of speech recognition and iris recognition. In 2018, Ma Siliang et al. ^[6] faced the three major problems of artificial intelligence in the financial field, and the challenges of the lack of technology research and development and the challenges brought by multi-dimensional data to intelligent development and security risks. Through the research and development of the powerful data resource integration ability of artificial intelligence and the risk prevention and control ability of artificial intelligence technology, artificial intelligence provides feasible conditions for financial development.

With the development of various aspects of technology, the normative nature of the law is even more important. In 2015, Song Lin ^[7] conducted research on the economic security problems caused by the boom in the Internet finance field. Taking WeChat red envelopes as an example, the law was introduced to the network economic crimes such as financial risks and information security risks arising from product transactions. The discussion of the problem, the study discussed the establishment of the management system of the fund account, the standardization of financial transactions, etc., effectively demonstrated that the legal norms bring great protection to network security. In 2016, Peng Yue ^[8] under the background trend of the Internet car gradually replacing the traditional taxi, in order to more effectively regulate the management of such shared economic representatives, solve a series of problems, and formulated a number of laws and regulations. Compared with the traditional normative constraints, the experiment clearly shows that the formulation of the law has certain value and can bring the market value to a certain extent. In 2017 ^[9], in the era of drone development, drones brought great benefits to the application of film and television and aerial detection, but at the same time, the legislation of drones was lagging behind and the effectiveness was low. The attention brought can not be ignored. In order to make up for the gap in the legal research of drones, a series of related rules and regulations have been established for the specification of the legal system of drones, which provides a basis for better management. In 2017, Zu Zhangqiong ^[10] studied the relationship between the company's internal management system and society, and standardizing the system between the two is an important way for the state to protect the company's legal person's power and determine the shareholders' The research on the equity of the company and the management of the company's personnel has shown that it can effectively improve the competitiveness of the company's management.

This paper mainly discusses the legal problems caused by artificial intelligence ^[11-12] in transportation and medical treatment, and considers the legal problems caused by accidents caused by both autopilot technology and intelligent navigation in transportation, and medical treatment from medical treatment. Scanning, intelligent robot diagnosis, etc., in the misdiagnosis of medical accidents, the judgment of the principal responsible person is studied. Exploring the relationship between artificial intelligence and legal ethics, comprehensively, effective legal norms should be formulated to ensure the main responsibility of accidents more safely and conveniently, and also bring great protection to the development of artificial intelligence era.

2. Methods

2.1 Legal Issues Caused by Artificial Intelligence in Transportation.

With the development of artificial intelligence and continuous innovation, the automatic driving technology has been gradually applied in the field of transportation. Companies that use the Tesla brand as the main representative, as well as brands such as Chery and Beiqi, also use autonomous driving technology to develop automobile production. With the continuous improvement of living and living standards, people's application requirements for science and technology are more and

more urgently needed. The high-tech and convenience of autonomous driving has been highly concerned by people, which has brought huge development to the development of China's gas field market change.

The application of autonomous driving technology has effectively reduced the occurrence of traffic accidents to a certain extent, but at the same time it is worth emphasizing that effectively reducing the probability of traffic accidents does not mean completely avoiding the occurrence of traffic accidents, in the face of automatic driving. Traffic accidents have become a major problem in thinking according to the law. For example, if the driver of the automatic driving can drive after drinking, whether the driver can make a call during driving under the condition of automatic driving, whether the behavior of breaking the law under normal driving conditions can be performed under the condition of automatic driving. For example, the world's first autopilot-caused traffic accident, the vehicle is an experimental model modified by a production vehicle, and has a test vehicle license; when the accident occurs, the enabled system is a fully-automatic driving system; in a fully automatic state, the driver can disengage from both hands. steering wheel. At the time of the incident, the deceased pushed a bicycle across the road, did not walk the sidewalk, the driver in the car did not pay attention to the front when driving, the modified vehicle installed the laser radar modified version Volvo xc90, hardware performance far exceeds the production version At 38 mph, the lidar failed to identify the pedestrian in front of it. In addition, similar traffic accidents have occurred in domestic or other countries, and from the current point of view, such cases may continue to occur at a later stage. At present, the autonomous driving technology is not perfect enough, and it needs a growth process. It is far from the absolute safety level. Using this technology can reduce the number of traffic accidents and reduce the damage degree of traffic accidents, but traffic accidents still occur . Therefore, how to deal with such accidents in accordance with the law and ensure the safe development of the automobile market deserves our in-depth study and discussion.

In addition, the introduction of artificial intelligence navigation technology to the problem brought by car driving is also worthy of attention. Due to the complexity of actual traffic, unpredictable factors such as weather, the decision of artificial intelligence in route planning is very easy to bring problems. In Anhui, there was an accident in which the driver automatically drove according to the navigation system, causing the route planning to enter the river. In the same year, Ma Anshan passed the automatic driving vehicle in Nanjing. According to the auto-driving, the driver did not notice the warning sign and collided with the moving train. As a result, there was a serious accident of death and four injuries. From this point of view, the artificial intelligence navigation system still has many defects, and the information based on it is wrong. How to carry out legal management in the face of the resulting traffic accident brings great thinking and challenge.

2.2 Legal Issues Caused by Artificial Intelligence in Medical Treatment.

Artificial intelligence is the intelligence of robots, which can use its own nervous system and body to perform perception, learning, reasoning, and action. In 2017, the market for the medical industry was huge, and the application of artificial intelligence in medical applications has also grown tremendously, including twelve areas of speech recognition, medical imaging, drug discovery, nutrition, biotechnology, and emergency management. At present, artificial intelligence has the most extensive development in wearable devices, speech recognition, and impact recognition. With the application of artificial intelligence technology, there is a major breakthrough in the collection of medical data and the improvement of application. At the same time, the incidence of misdiagnosis of cases diagnosed by a large number of cases in hospitals is extremely high, and the medical problems and safety accidents caused by this can not be underestimated. Speech recognition can be effectively combined with electronic medical records, and the diagnostic results are effectively diagnosed by voice during diagnosis, which improves the diagnostic efficiency and reduces the workload of doctors. In medical imaging, artificial intelligence can identify images and provide a certain diagnostic capability through a large amount of image data and deep learning diagnostics. As a result, it is possible to reduce nodules in a variety of parts such as the lungs which are difficult

to identify.

Then artificial intelligence can't completely replace the doctor. What the current development of artificial intelligence can do is to reduce the error as much as possible, to continuously train with certain medical knowledge, and to have a more calm diagnostic technology. However, for the treatment of humanization, the implementation of the operation itself has certain risks. According to effective research, from 2000 to 2013, the surgical robot experienced 9061 surgical failures, resulting in the death of 144 patients and the injury of 1391 patients. During the experiment, the robot caused some surgical accidents, which caused the occurrence of surgical accidents. The treatment of medical accidents caused by it was a big problem. It is worthwhile for us to think effectively about what kind of law the artificial intelligence robot should make in the accident of self-administered surgery.

Artificial intelligence robots have their powerful learning ability. For the study of a large amount of medical knowledge, the reference to multiple medical operations can improve the diagnostic efficiency for patients. However, the improvement in diagnostic accuracy does not lead to a 100% and completely correct diagnosis. Research data shows that artificial intelligence has a rate of accuracy of up to 90% for lung cancer diagnosis. Such high accuracy does improve our medical level, but the remaining 10% misdiagnosis efficiency It cannot be ignored. If the doctor-patient accident caused by this 10% misdiagnosis rate, the person responsible for judging the responsibility according to the law is also a big problem.

3. Results and Discuss

The development of artificial intelligence in various fields is also booming. As shown in figure 1, artificial intelligence is applied in the fields of computer vision and image, intelligent robot, natural language processing, speech recognition, etc. Among them, the application of computer and intelligent robot is the most developed rapidly.

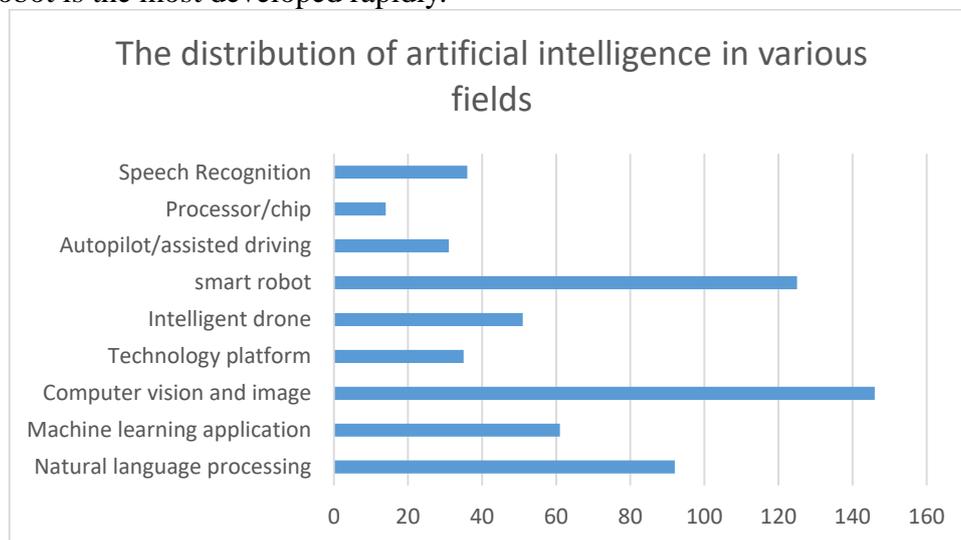


Figure 1. Distribution of artificial intelligence in various fields

For the specification and adjustment of artificial intelligence, ethical norms have a presupposed role. The law as a superstructure is a reflection of the productivity-based economic and social life, and its inherent lag makes it impossible to cover all the situations in social life. The ethical norms are not limited by the level of productivity development, and they can be pre-established ahead of the development of the economic base. In the rapid development of artificial intelligence, risks are always accompanied by convenience. In order to prevent artificial intelligence from causing more risks to human society, it is imperative to establish an ethical system of artificial intelligence.

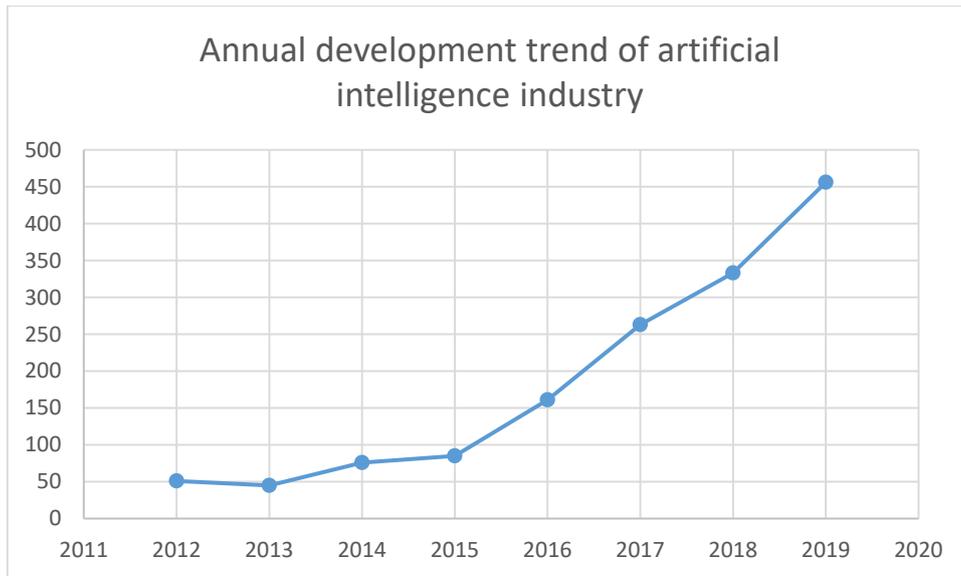


Figure 2. Analysis of the trend of artificial intelligence industry in each year

As shown in figure 2, the trend of the artificial intelligence industry is getting bigger and bigger, so it is extremely important to establish an ethical system of artificial intelligence. First of all, the fundamental principle of "people-oriented" should be established. The emergence and development of science and technology should promote the advancement of mankind as a purpose for the benefit of mankind. However, technology is a "double-edged sword". It can provide unprecedented convenience and enjoyment for human beings, and it will bring various risks and even devastating blows to human beings. Especially in the era of artificial intelligence, which is developing rapidly today, "people-oriented" must be the primary principle for the development of artificial intelligence. Establishing the "people-oriented" principle in the development of artificial intelligence, we can consider the following two aspects in the development of artificial intelligence from the following two aspect. First, it cannot pose a threat to human security. Regardless of the stage of development, artificial intelligence should regard "serving human beings" as its original intention, and it should not violate the original intention and cause harm to human beings. Especially in the absence of relevant relevant laws and regulations, it should ensure that the research of artificial intelligence is not It will be carried out under the negative circumstances of human security. Second, it cannot violate the status and rights of human beings. The status and rights of mankind are a symbol of human dignity and the foundation upon which mankind depends. The development of artificial intelligence can not shake the status of human beings. Under the current circumstances, the ethical norm system of artificial intelligence should play its role and promote the harmonious development of human and artificial intelligence.

Establishing a sound ethical system of artificial intelligence requires government intervention and supervision. The formulation and improvement of laws and regulations must keep pace with the development of science and technology. Under the temporary absence of relevant laws and regulations, government supervision is of paramount importance. If the government's supervision is weak at this time, it is very likely that new things such as artificial intelligence will be in an unacceptable state, which will further aggravate people's "vigilance" on artificial intelligence, which is not conducive to the development of artificial intelligence related research, and is not conducive to Protection of human interests. Therefore, through the establishment of artificial intelligence ethics committees and other institutions, specifically responsible for the ethics, supervision and other issues of artificial intelligence, cross-domain monitoring and management of artificial intelligence applications to ensure that the artificial intelligence can be promoted in an all-round way.

4. Conclusion

With the development of technology in the future, the artificial intelligence application will be more closely related, and it will be more effective and more technologically relevant to our lives. In the face of the convenience brought by the development of artificial intelligence in various fields, we can enjoy and accept, but what must be paid attention to is the legal issue of its connotation. Regardless of the extent to which artificial intelligence develops, human beings are the first dominant body, and intelligent robots cannot acquire human intelligence. We must make rational use of the convenience of artificial intelligence, and should not rely too much on artificial intelligence. In the face of legal problems brought about by artificial intelligence, it is necessary to conduct stricter and more standardized prevention and formulation of guidelines. In the active participation in the development of artificial intelligence, we strictly strengthen robotic alienation and safety supervision, deepen the handling of artificial intelligence laws and regulations, and build an era of artificial intelligence that is innovative, safe, and law-dependent.

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