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Ethical Dilemma of Artificial Intelligence and its Research Progress

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Abstract: With the development of science and technology, artificial intelligence slowly changes people's traditional life in a special way. People's achievements in artificial intelligence are closely related to people's innovation. With the gradual progress of science and technology, people have been replaced by artificial intelligence in many aspects. For example, in the game of chess, robot dog Alpha has won the champion of the world championship. We will worry that future machines will surpass humans. From a legal point of view, who is responsible for the accident caused by a self-driving car? Who is responsible for a medical accident in a surgical robot? After the incident, the law regulates this and restricts it, but it cannot remedy the damage that has already been done. However, there are still many deficiencies in the field of artificial intelligence. Many functions have not been perfected. For example, the robot simulation is not mature enough in terms of the human mind. It has certain limitations on people's understanding and it is prone to crisis. In this regard, artificial intelligence Research must make a breakthrough. However, the legal system that has already been written cannot meet the needs of the society. Humans need to think in advance of the crisis brought about by the development of science and technology and gradually resolve it. In recent years, all countries have plans for the management of artificial intelligence, which better reflects the importance of artificial intelligence ethics and governance. The problems encountered by humans in the development of artificial intelligence are conducive to the elimination of many unnecessary disputes. However, artificial intelligence brings a lot of ethical issues at the same time it brings about crises. It needs to be analyzed and researched to make people aware of artificial intelligence. The ethical issues brought about by the application of technology are concerned with the development of artificial intelligence and better for the benefit of mankind.

1.Introduction

Countries all over the world have paid great attention to the research of artificial intelligence and robotic science and technology governance . At present , research and practice related to artificial intelligence are still at an exploratory stage . There are many researches on the ethical issues of artificial intelligence in foreign countries . The research on artificial intelligence in our country started late , so the current development is very important , and the era of artificial intelligence will come . However , if there are advantages and disadvantages , at present , it is more important to humans to control artificial intelligence in the short term . No matter whether artificial intelligence can suppress human beings , it is now an era of artificial intelligence . It is necessary to seek the ethical and moral adjustment . Artificial intelligence is a simulation of human behavior and thinking , but when the technology reaches a certain level , whether the lives of these artificial creations are given life , or let them be enslaved by humans , and when one day they have emotions to make them replace human work . They are disrespectful to them . Assuming they have the ability to multiply their offspring , it



will lead to a great crisis in human ethics . As the development of artificial intelligence and technology will have serious consequences , it is imperative to use ethical control tools for scientific research projects and to constantly reflect and improve them . However , at this stage , it is unlikely that artificial intelligence legislation will be implemented . From the perspective of legislation efficiency , it is difficult to meet the actual needs . Then we should think and adapt to a judicial perspective . We can use Marx's dialectical theory to think that the production of a thing must have two sides . When enjoying a positive role , one cannot ignore its negative influence , especially the development of science and technology . We cannot ignore the guidance and education of people .

Artificial intelligence is an interdisciplinary science, closely related to physics, psychology, linguistics, computer science, logic, and philosophy. Today's artificial intelligence has become an independent system. Artificial intelligence itself is a young and cutting-edge discipline with a complex and comprehensive character that requires us to explore in different ways.

Table 1. Artificial intelligence application examples and legal problems it caused

Artificial Intelligence Application Examples and Legal Problems It Caused	Traffic Application Examples and Legal Issues	Legal issues caused by automatic driving	Car is the most typical one in the artificial intelligence technology at the transportation field. From the previous manual vehicle to the now unmanned automatic driving, it has achieved a qualitative leap. China has a large population, and people's economic level has been continuously improved, and their living standards have also been greatly improved. Therefore, many auto-driving cars are now receiving the attention of the people of our country. Many companies think that China may become the largest market for self-driving cars. The disadvantages are that caused the conflicts between laws and regulations. When someone who is drunk and he has started auto driving, whether it should be considered as drunk driving, and who should be responsible for the auto accident. In summary, self-driving cars need to have sensitive judgments, and the relative conditions are also high. The most important thing is that the sales of self-driving cars will increase the total number of accidents that occur in self-driving cars and how to govern according to law requires us to consider it.
		Legal issues caused by smart trip planning	At the end of the last century, the navigation system appeared. Due to limited technology at the time, the positioning was not very accurate. However, with the development of science and technology, navigation became more and more accurate. Today, we can use navigation at any time through computers, mobile phones and other devices to bring convenience to our lives. Artificial intelligence technology is also being introduced to provide people with faster trip planning. Although artificial intelligence technology will be applied to navigation, there are still many factors that affect us, such as poor signal, and intelligent judgment errors. Many examples in life now also warn us that navigation is not perfect and there is great security. A similar problem may be the failure of navigation and operation, or it may be the information error of artificial intelligence. In a word, the application of artificial intelligence in the field of navigation has security issues, who should bear responsibility, and how to protect the rights of victims . These issues all need the law to solve.
	Application examples and legal issues in the medical field	The legal problems caused by surgical robots	The first surgical robot has been used in many operating rooms . Although it is not perfect enough to complete an operation on its own , they can be operated by doctors to perform instructions to complete surgery . However , with the rapid development of technology , robots will become more intelligent , and robots that can independently perform surgery will gradually become reality . Surgical robots are in the process of developing a single operation that can be independently performed . After many experiments have shown that robots have better surgical results and efficiency than doctors , but they also have risks . After an intelligent robot fails in surgery , it is treated as a medical accident . Although there are not many problems , we will always face this problem .
		The legal issues caused by intelligent medical diagnosis	For many experiments , artificial intelligence robots acquire medical knowledge quickly , and can quickly diagnose the patient's condition . They can also continuously summarize experiences based on the patient's feedback results and improve their abilities , just like

			doctors . This technology began to be studied at the end of the last century . However , this aspect of our country is still in its infancy . There is still a big gap between us and the developed countries . Through the learning function of artificial intelligence technology we can quickly understand a large number of medical knowledges that also was used for reference to a large number of cases , but also can improve the experience in the diagnosis process and everything has a relationship , if there is misdiagnosis of doctor-patient dispute occurs at the same time , there is also a big problem that we will face the who should responsible for the accident .
Application Examples and Legal Issues in the Financial Sector	Legal issues arising from smart stock operations		According to the current form , it is common to use artificial intelligence to conduct operations on stock investments . It can use many calculations to make traditional operations more stable and accurate . In many public funds and private equity companies , artificial intelligence technology will be developed for stock operations , and many Internet companies are studying the artificial intelligence systems that operate stocks . All these can be seen that artificial intelligence technology will become a machine for investors to gain profits , and more and more intelligent trading products will follow the trend , and the cost of investors will become lower . However , the system developer's learning foundation , operation methods , and data channels are different , and the product's profitability is also different . The original intention of such a design is to increase profits . This design does not consider how their trading behavior will bring harm to the market , this tool will enable the market to promote the effect of assisting the decline , if it is used by people that carry with intentions that will cause to skyrocket and plunge into the entire market . And we still need to consider how to account the benefits of those who use intelligent program trading , triggering the entire market changes in stock or other market behavior.
	Legal issues raised by smart investment consultants		A smart investment advisor can provide you with investment advice and the person that gets paid . In accordance with the investor's acceptance range , earnings expectations , investment style , and other conditions , a set of analysis methods can be used to optimize financial management methods to build smart robots and provide advice to investors . Intelligent investment advisers have developed abroad for many years , but our country started late , but it is developing rapidly . Many consultants combine artificial intelligence with continuous research and development of investment techniques to open up investment consultancy markets so that everyone can obtain relatively ideal returns . With the expansion of the smart investment consultancy market , the influx of many service providers has made the market increasingly fierce . However , more investors are receiving smart investment advisers , and more people are paying attention to investment . However , if we want to develop an investment consultant business requires the management department to confirm the qualification before it can proceed . Expert advice on the development of artificial intelligence technology has been carried out , but it is the supervision department which required to issue a license and take pictures . There are many investors in China . However , in the face of propaganda from service providers , how can they identify the qualifications and capabilities of service providers ? At the same time , how can we strengthen the supervision of service providers to prevent violations ? If investors are deceived , who is responsible to the accident ? How to protect the legitimate rights and interests in investors ?
Business Applications and Legal Issues	Legal issues raised by smart goods recommendation		Double 11 online shopping carnival , Alibaba is the biggest winner , at this time , artificial intelligence technology contributed , using this technology to understand consumers , recommend products of consumers , improve the efficiency of matching between people and goods , improve the success rate of the transaction . The e-commerce competition is very fierce . Many e-commerce vendors are deploying for the retail industry . Through understanding and deep learning of big data , they also collect past behavior data to analyze customer service preferences , find fit points for customers , and use intelligent customer service robots . Customer chat , recommended products , intelligent recommendation brings great convenience to life , and businesses also have great benefits , but we must keep awake and pay attention to fake and shoddy goods . When e-commerce vendors use artificial intelligence systems to recommend products like consumers , if smart counterfeit goods are recommended to being responsible for more than the sale of fake goods , the smart recommendation system will also have responsibility . These are questions about morality and we need to think about it .
	Smart search triggered legal issues		Intelligent search engine is a combination of artificial intelligence technology and traditional search technology . It can learn the user through learning and show the user the most likely result . The intelligent search engine can enable user registration , interest recognition , semantic understanding , automatic push and result filtering and other humanized services . The amount of clicks on Internet search sites accounts for a large portion of the entire Internet traffic , and it is also a very attractive site . However , the economic benefits between search engines and merchants can enable unscrupulous merchants to rapidly expand their influence . There will be no economic benefits between smart search engines and businesses in the context of artificial intelligence technologies,whether it will affect search results?
Security Application Examples and Legal Issues	Smart identification raises legal issues		Artificial intelligence technology is widely used to identify fingerprints , faces , and voice prints . However , most of our contacts are fingerprint identification , such as mobile phones , computers , access control , and safety , which require security authentication to improve security degree . Face recognition and voiceprints are also becoming popular . Now that the identification technology is set to take delivery , online shopping is required to identify fingerprint verification payments , and bank cards and safes are all required to be verified by fingerprints . In general , smart identification is constantly updating and evolving . However , while improving security , it has not considered its own security . After the collection of fingerprints , faces , and voiceprints , the intelligent system is compromised , stealing information and using it at the time that may pose a great risk . While we are using artificial intelligence technology to identify , it is also watching our privacy . How can we protect our privacy ? What should we do with follow-up questions ?

		Smart home induced legal issues	Smart residence is based on the housing to integrate audio , video , network communications , automation , and artificial intelligence technologies to complete an intelligent integrated system . It can provide security for the family and there are convenient services that can enhance the family's taste . It is an important condition for achieving an ideal family life , and it is also an eco-friendly and efficient life style that we are looking forward to . In China , economic income has gradually increased from this stage , and there are open-ended communities . Home security has become a hot topic of concern . From internal security to external security are important aspects of home security . Merchants use artificial intelligence to connect video , access control , appliances , and gas to determine risks and alert them in time . Everything has advantages and disadvantages . We can understand there is a camera in public places , but in the private sector , it is less concerned with privacy . Therefore , we use smart cameras , access control and other devices to record our living habits and personal privacy . Although these can make the machine more familiar with the user , if the privacy data is abused or stolen by the merchant , the consequences are unimaginable . Who is responsible ? How to deal with ?
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2. Conclusion:

The most important thing in the application process of artificial intelligence technology is to pay attention to ethical issues. Each kind of ethical path will have an advantage. At the same time, it corresponds to its limitations and can choose the path of moral design according to the applied product scenario. Science and technology are created by humans to serve humanity, but artificial intelligence technology should be better able to contribute to the discovery of humanity for the benefit of mankind.

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