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The influence and development of artificial intelligence on automobile emergency system

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Abstract: In the automobile industry, the application of artificial intelligence is more and more extensive, among which the emergency hedging system of automobile is one of the important fields of artificial intelligence application. With the increasing growth of automobiles, traffic road safety has become a topic often talked about in People's Daily life. With the rapid development of artificial intelligence, many automobile companies begin to use artificial intelligence to help the car emergency hedging system. Artificial intelligence will greatly enhance the timeliness, accuracy and safety of the automobile emergency system. This paper aims to discuss the influence and development of artificial intelligence on automobile emergency avoidance system, and analyze its advantages and disadvantages and future development trend. Which has a very obvious help to the automatic driving technology, but also laid the development of automatic driving technology.

Keywords: Artificial intelligence; Automobile; Emergency hedging.

1. Introduction

With the gradual maturity of artificial intelligence technology, the shadow of artificial intelligence has begun to appear in all fields. Various types of fuel vehicles and new energy vehicles have begun to use artificial intelligence to detect and assist the control of cars. At the same time, China's policy is also encouraging the development of artificial grace. In the past, the car can only judge the road condition by the driver's naked eyes in dangerous situations, and in extremely dangerous and abusive weather, the driver may be too late or unable to judge the road condition, resulting in a car accident, while artificial intelligence can assist the driver to help monitor the road condition or make emergency avoidance of the vehicle under the premise that the driver cannot react. So as to improve safety.

2. Current status of the development of artificial intelligence and emergency hedging systems

2.1. Development and status quo of artificial intelligence

At present, artificial intelligence is developing very rapidly. At present, artificial intelligence may have surpassed human beings in some professional fields. For example, in large factories, artificial intelligence can monitor the workshop situation in real time, and make the first response when there is a fire or some chemical leakage. Although artificial intelligence can surpass human beings, it has no way to deal with some complex problems. For example, at present, in solving mathematical problems, artificial intelligence cannot innovate or modify the original formula. However, as time goes on, the problems that AI cannot innovate on the basis of the original will be solved, and AI can also participate in science and various aspects of innovation and invention. At the same time, there are also many automobile companies using artificial intelligence to improve vehicle safety and realize automatic driving by using artificial intelligence.

2.2. Development and status quo of emergency hedging system

Since the last century, after the appearance of automobile anti-lock braking system (ABS), EBD, LDWS, ACC, ESP, TPMS have appeared one after another. At present, the mainstream systems of most automobile brands are: ABS, ESP, LWDS, LPMS. At present, the mainstream automobile companies are still using these systems, but "Volvo" has achievements in the automotive emergency hedging system. In 1991 Volvo invented the Side Impact Protection System (SIPS), which uses structural mechanics to disperse the energy generated during a side impact. It also added side airbags to the system. The Slow Point Information System (BLIS) was first introduced in 2003, with a starting speed of 12km/h and a range of up to 70m. In 2010 Volvo introduced the Trust Detection System with full automatic braking, which can detect objects above 80 cm, but will brake and slow down if it gets too close. In 2018, it added an "Intelligent Collision Avoidance system for Facing vehicles". Now Volvo has introduced a liDAR system to improve road detection. At the same time, with the rapid development of new energy vehicles, artificial intelligence has a greater improvement in automotive emergency systems.

3. The relationship between artificial intelligence technology and emergency hedging system

3.1. Characteristics of artificial intelligence technology

3.1.1. High efficiency

Artificial intelligence has played a great and even critical role in many fields. It can use big data, cloud computing technology, information technology and computer technology, which makes it get results quickly in special or complex situations, which makes artificial intelligence can calculate results and execute them in extreme time. It does not need a lot of time to find a lot of information like artificial

intelligence. Artificial intelligence can find a lot of information on the network through its powerful "brain", such as what is the situation on the road in front of it, where there is a car accident or where there is a control, artificial intelligence can quickly find answers from the network. It can avoid the danger caused by human reasons. Artificial intelligence can also observe the fatigue of the driver to determine the corresponding emergency distance of the car and even remind the driver to pay attention to rest to prevent accidents

3.1.2. Stability

Artificial intelligence is similar to the program of a computer, which enables it to execute commands without minor errors. With the rapid development of artificial intelligence in recent years, the response and computing power of artificial intelligence have been greatly enhanced, which makes it a great help in the automobile emergency hedging system. Moreover, semiconductor also plays a key role in artificial intelligence system. The stronger the chip processing information ability, the stronger the artificial grace is for information processing ability. Major technology companies: Google, Microsoft, Amazon, etc., began to develop their own chips, while AMD and other companies began to launch AI-related types of chips, which proves that chips are crucial to AI. At present, the stability and performance of the chip are very strong, which also proves from the side that artificial intelligence can play a stronger ability under the premise of the current hardware system is very complete.

3.1.3. Portability

Artificial intelligence does not need a lot of space, artificial intelligence is basically equivalent to a program, only need a chip that can support its calculation and a memory disk that can support it to collect data can make artificial intelligence work normally, for the car, every inch of space must be used on the place. Artificial intelligence can be easily used in the car. AI components may only need to be the size of a box, which frees up a lot of space to add other important things, and can also narrow the car reference. The feature of small space greatly improves the usability of AI and the performance of small space can make it able to make it can be used in many scenarios. Small size in the vehicle can also reduce the weight of the vehicle, which makes the vehicle can be installed with more safety equipment and some living equipment, strengthen the safety of the car and reduce the cost of the car, increase sales.

4. The combination of artificial intelligence and emergency hedging system

4.1. The role of emergency hedging system and artificial intelligence

In the era of rapid growth of automobile performance, people have higher requirements for automobile safety performance, which promotes the development of automobile emergency system. With the rapid development of information technology and artificial intelligence, many automobile companies begin to combine artificial intelligence technology to enhance the safety of the car driving in the same group. At present, artificial intelligence plays a decisive factor in the automobile emergency system, and then judging whether a car can have an excellent emergency avoidance system depends on whether she has an excellent artificial intelligence system. With the help of artificial intelligence system, the automobile emergency avoidance system can react in a short time and help the driver avoid danger.

4.2. The key role of artificial intelligence in the emergency avoidance system

Artificial intelligence plays an important role in the emergency hedging system, it can be said that artificial intelligence plays a key role in the emergency hedging system. Without the help of artificial intelligence for emergency hedging, the emergency system may not be able to deal with emergencies in the first time. The definition of an emergency system is to help the driver out of danger when the driver cannot predict or solve the problem in time. The traditional emergency system only has a single sensor to ensure the normal operation of the emergency system. At present, with the help of human resources, the emergency system can just work more efficiently.

5. Future development of artificial intelligence and emergency hedging system

5.1. The development of artificial intelligence is essential

The development of artificial intelligence has reached a period of rapid development, and the computing speed and information processing ability are constantly improved, so that the emergency hedging system can be used normally in complex situations. At present, many new energy vehicles are equipped with certain AI capabilities, so that the car can better help the driver cope with the emergency situation in the driving. Among them, the emergency hedging system is also constantly improving, so that it will not hurt the driver when there may be an accident in the future. At the same time, in the future, the car may even realize full automatic driving, and the probability of car accidents will be reduced.

5.2. The emergency avoidance system is more secure

Artificial intelligence improves the safety of the emergency hedging system, increases its response ability, makes the emergency hedging system safer, and the increase in response speed makes the driver safer, reduces the probability of accidents, and largely avoids accidents caused by unrelated things such as looking at mobile phones. At the same time, it improves the response speed of the sensor, and does not cause accidents because the sensor does not work, but also can strengthen the work efficiency of the emergency system, so that the emergency system is more effective and safer.

5.3. Artificial intelligence system and emergency hedging system to promote the future development

Artificial intelligence and emergency hedging system are of great help to automatic driving technology. It can be said that artificial intelligence and emergency hedging system are the predecessor of automatic driving technology. With the development of artificial intelligence and emergency hedging system, it is of great significance for automatic driving technology. This makes the automatic driving technology more mature, plays a pivotal role in the future artificial

intelligence exhibition, promotes the development of artificial intelligence, lays a certain foundation for the development of artificial intelligence in the future, and also paves the way.

6. Current defects of artificial intelligence

Although there are many advantages and disadvantages of artificial intelligence, there are also some aspects that need improvement and progress at present. Although the current stability of artificial intelligence is improving, it cannot meet the complex road conditions. Moreover, the current artificial intelligence is relatively simple in the field of automotive emergency system, and it does not have the ability to deal with any road conditions. In complex road conditions, the driver is still needed to assist, and in the absence of wireless network, artificial intelligence cannot obtain the road conditions ahead. Can only be detected by the sensors of their own vehicles. Cannot predict dangerous situations.

7. Closing Remarks

Artificial intelligence is the crystallization of human wisdom, which has been used in many fields, in combination with emergency first system to protect the life safety of drivers. Although at present, artificial intelligence and automobile emergency hedging system have been very mature, but even if the artificial can only be very mature, we humans still have a long way to go in these fields, the ultimate purpose of automobile emergency hedging is to avoid the driver in the driving process from the possible injury or reduce the driver received harm, until one day, The automobile emergency hedging system can completely avoid the occurrence of car accidents, and at that time, it has very important help for the driver and the society. At the same time, it can realize complete driverless driving in the future.

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