

Xinhao Liu(2020112921)

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Liyang Chen

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AI Greatly Improve the Development of Autonomous Driving

From machine learning to deep learning, AI is rapidly evolving. At the same time, image recognition, sensors, intelligent judgment algorithms continue to progress. As a result, the groundwork for driverless cars, once the stuff of science fiction, is already in place. Artificial intelligence is a hot issue at the national level, social level and enterprise level. In these contexts, this paper aims to introduce the influence of artificial intelligence on the development of automatic driving technology and its specific application, and appropriately explore its future possibility. In fact, in the theoretical process of autonomous driving, the control of artificial intelligence is essential to the perception of the surrounding environment, decision-making planning and control execution. At the same time, on the most critical level - safety, compared with human driving vehicles, the control of artificial intelligence has no emotion, which will make the control more accurate and ensure safety. In other ways, the combination of artificial intelligence and other technologies will create more possibilities. From a macro perspective, the automatic driving market has not been fully explored, artificial intelligence is constantly improving, and the prospect of automatic driving is very good.

One truth is that self-driving technology is no longer futuristic and a great change is coming. China has already acted. In February 2020, the National Development and Reform Commission and 11 other ministries jointly issued the Intelligent Vehicle Innovation and Development Strategy, which proposed the vision of realizing the large-scale production of

conditional intelligent driving vehicles (L3 level) by 2025, and pointed out that the research of AI should be further strengthened in order to achieve faster development of autonomous driving technology. Not only the country, but also many companies have been developing autonomous driving technology for a long time to take the lead in the market. Internet giant Baidu announced a joint venture with Geely Auto to form a smart car company in January 2021. With the rapid development of AI in recent years, they gradually shifted their research focus on automatic drive.

It has to be said that The Times are moving so fast that many of ordinary people can't catch up. But are we already using smart tools such as intelligent translation, smart home, weather forecast, traffic light control and so on? Yes, artificial intelligence is already everywhere and now it promotes the development of intelligent transportation. There is no doubt that the advancement of autonomous driving is entirely dependent on AI technology^[5]. Firstly, with the help of various advanced sensors, the car reads the information of the surrounding environment^[3]. When planning action, various algorithms of artificial intelligence especially advanced deep learning such as convolutional neural network play a very key role. And when controlling action, AI connects software and hardware to ensure the accuracy of operation. We can put up an example. While self-driving cars are running, image recognition function that can read the information of the car's surroundings and classify it is very important. It is first through the camera to read the image of the surrounding environment, and then through a trained and mature artificial intelligence algorithm to read the picture of the road information, to complete the judgment of obstacles and other goals. Finally, the whole system will control the actual hardware such as steering wheel, throttle to complete the control of car turning,

deceleration and other operations.

The importance of artificial intelligence is also reflected in its safety guarantee in the process of automatic driving. Ideally, in terms of detail control, there is no doubt that these machines can do better^[1]. In theory, as long as people make enough fine sensors and design enough excellent artificial intelligence programs, there will almost never be any computational errors. Besides, if everything goes well, the transportation department can achieve the purpose of vehicle road coordination through the connection of artificial intelligence in the near future. When there is contact and communication between different vehicles^[4], the probability of traffic accidents can even be reduced to zero, which is historic and revolutionary for the development of contemporary transportation. All in all, we can rely on its safety.

The combination of artificial intelligence and other emerging technologies may play an unexpected role in promoting the development of automatic driving. For example, AI may play a role in the construction of new models^[2]. When people successfully design a car and hand over the data to artificial intelligence for processing, it will be able to quickly and cheaply analyze the service life and safety factor of the car without actually spending a lot of manpower and material resources to carry out real car experiments, which will reduce the cost of the car and show customers some technical details and suggestions. In addition, AI could revolutionize the logistics industry with autonomous driving. Automatic delivery cars can save a lot of human resources, so that people have more time and cost to carry out creative labor. At the same time, with the help of AI, I believe there are endless possibilities for autonomous driving.

Generally speaking, the background of the times requires the rapid development of automatic driving. At the same time, artificial intelligence can turn this demand into reality and

it is fulfilling it. From all aspects, autonomous driving is steadily moving towards the center of the transportation development stage. When self-driving cars replace human drivers, people will just need to simply pack their bags and get in the self-driving car during a trip, which will be perhaps the most remarkable feat in the history of human transportation. Please look forward to its future.

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