Analysis of the Adaptive Representation of Artificial Intelligence Uncertainty

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Abstract: This article analyzes the uncertainty of artificial intelligence. The uncertainty of artificial intelligence includes algorithm and data uncertainty, knowledge uncertainty, consequence uncertainty and context uncertainty. The author combined artificial intelligence to analyze the adaptive representation of uncertainty. This article studies how to clarify governance principles, how to do a good job in artificial intelligence assessment, how to strengthen technological governance, measures to introduce social governance and improve global governance. The author's purpose is to reduce the uncertainty of artificial intelligence and enhance the application effect of artificial intelligence in the industry.

1. Introduction
The development of artificial intelligence has exerted an extraordinary impact on modern society. This impact has penetrated into almost all fields such as industry, agriculture, service industry, scientific research, medical care, and education. Even daily life is no exception, such as the widespread use of smart phones and sweeping robots. However, the development of artificial intelligence, especially its application field robots, has encountered great challenges, that is, how intelligent robots can think and act like humans. This paper analyzes the adaptive characterization of the uncertainty of artificial intelligence, and proposes some governance measures, which have a positive significance for enhancing the effect of artificial intelligence applications.

2. Uncertainty Analysis of Artificial Intelligence

2.1. Uncertain Algorithm and Data
Algorithm is the foundation of artificial intelligence behavior decision-making. It determines the goal and realization path of artificial intelligence behavior. Machine learning is simplified to an inductive process based on data and hypotheses. The method of machine learning is "creating hypotheses-data verification-proposing new hypotheses-generalizing new rules". In this way, the programmer makes the machine make judgments and decisions in the new environment. However, the lack of data and unreasonable preset conditions will directly affect the output of machine learning. In addition, during the calculation of the algorithm, the classification of data types is less clear. Therefore, in the calculation process, there will be more confusion, which reduces the accuracy of the algorithm calculation results. Otherwise, the algorithms currently used by artificial intelligence are also in a stage of continuous improvement. In this stage, the uncertainty of the results obtained will also increase.

2.2. Uncertainty Knowledge
Although the uncertainty of knowledge can be reduced in certain ways, it cannot be completely eliminated. Because the factor that causes this uncertainty is not just a lack of knowledge. As far as
artificial intelligence is concerned, some uncertainty stems from itself. Therefore, we not only have to face the realm of ignorance, but also there are some even realms that we completely unknown. Take ocean exploration as an example. At present, we can explore and understand less than 10% of the fields. We are still in an unknown state for many natural phenomena in the ocean. Moreover, a lot of knowledge was established, and then new discoveries confirmed that the previous theories were wrong, such as "geocentric theory" and "heliocentric theory". These are the conclusions obtained during continuous exploration. The uncertainty of these knowledge will also affect artificial intelligence to a large extent. In addition, some of the information being explored will also provide reliable data support for the establishment of the artificial intelligence knowledge framework.

2.3. Uncertainty of Consequences
The consequences of the social application of artificial intelligence are also uncertain. For example, artificial intelligence may cause unemployment. The structural unemployment brought about by artificial intelligence is inevitable, and the work originally completed by humans has become completed by humans and artificial intelligence. Moreover, in the context of increasing perfection of automation technology, many industries have completed the transformation from manual production to mechanical production. In addition, the short mechanical production cycle and high precision have caused many labors to be gradually eliminated, which has caused the problem of unemployment. For example, Shanghai has achieved initial results in the study of "unmanned vehicles", which has had an impact on the taxi industry. If this technology is fully implemented, it will also cause unemployment of taxi drivers, thereby burying hidden dangers of instability in social development [1].

2.4. Uncertainty Contextual
From the current application situation, the realization of artificial intelligence needs to be completed in a specific context, and the uncertainty of context will also have a greater impact on the uncertainty of artificial intelligence. For example, the various premises and prejudices that exist in the context. If there is no reliable data to support program evaluation, it will affect the final evaluation results of artificial intelligence and increase the uncertainty of the entire evaluation process. Moreover, the existence of early warning is an imperfect manifestation. It exists in the individual's mind in a decentralized manner, and extending to the knowledge level can also cause contextual instability. In addition, the inability to improve the consensus of contextual content will also reduce artificial intelligence's awareness of knowledge content, thereby increasing the uncertainty of artificial intelligence [2].

3. Adaptive Representation Analysis of the Uncertainty of Artificial Intelligence

3.1. Set the Context to Embed Artificial Intelligence
Analyzing it from the perspective of adaptive representation, it can be found that the context will adjust its own adaptability in the process of optimization, so that it can meet the requirements of the new context. In other words, it needs to rely on various types of scientific theories when embedding in artificial intelligence before context. At the same time, the embedding process also needs to go through the steps of problem assumption, problem trial and error, conclusion verification, detail correction, etc., in order to improve the reliability of the embedding result. In practical applications, we need to adjust the adaptability of the structure to meet the new application requirements. For example, when international students are studying abroad, the people they face are basically local students who speak foreign languages. In order to ensure the fluency of information communication, it is best for international students to communicate in the language of the country. When they encounter some vocabulary they don't understand, they can also use body language to assist in communication to complete the communication task in that context. Artificial intelligence can be seen as a combination of multiple contexts. It can switch languages according to actual needs to achieve smooth communication with each other [3].
3.2. Building a Corpus to Assist Artificial Intelligence
In the rapid development of artificial intelligence, corpus is an important evidence for artificial intelligence to construct the background context. Moreover, in the corpus application, the task will be refined to a certain problem to improve the pertinence of problem solving and the adaptability of artificial intelligence. Under normal circumstances, when a problem environment is clearly defined, the following parts are mainly included. First, the initial state of artificial intelligence is the initial state that has not yet been tasked. Second, describe the current available status of the subject, with the corresponding status [4]. Third, describe each action state in detail. That is, a transformation model is established to describe the state of each node in detail to improve the stability of the action process. Fourth, complete the target test. Given a certain application state, determine the application situation of the target to improve the reliability of state development. Fifth, the path cost function is established. Reasonably evaluate the applied value of each path to find the optimal solution inside the system and complete an operation process.

3.3. Artificial Intelligence Contextual Adaptive Representation
Under normal circumstances, the adaptive representation of artificial intelligence is mainly composed of the following three attributes. They are the sufficient storage information of the system, the completeness of the system structure and the internal variables. As shown in Figure 1, take the case of "rheumatism" as an example. In the uncertain world, it is mainly composed of variables such as joint pain, rheumatism, bone hyperplasia, weather, and hidden conditions (ie unknown factors). The weather is independent of other variables in the application. At the same time, the variable of hidden emotion is also in a relatively independent state. It can be seen from Figure 1 that rheumatism is the direct cause of joint pain and may also cause bone hyperplasia. In addition, there is also a direct link between bone hyperplasia and joint pain. But the hidden condition can also cause joint pain. Therefore, we still need to do a good job in the early stage to improve the reliability of system operation [5].

![Figure 1 Schematic Diagram of the Adaptive Characteristics of Rheumatism](image)

3.4. Analysis of New Technology Integration
The ultimate requirement of artificial intelligence is to make it 100% reach or even surpass artificial subjects. The entire process of artificial intelligence also needs to be completed in accordance with established rules. In a known certain environment, we need to optimize and adjust this static feature. Moreover, we also need to clean up the application targets and complete the required target retrieval tasks. However, the premise of all this is the adaptability of the goal itself. In the process of incorporating new technologies, the most commonly used content is the artificial neural network system, which is used with the coding system to apply the original content. This can not only improve technical awareness to a large extent, but also perform reliable analysis of some application characteristics, so as to maintain causal factor cognition, thereby improving the stability of the system operation process [6].
4. Governance Measures for Artificial Intelligence Uncertainty

4.1. Clear Governance Principles
By clarifying the governance principles, the uncertainty of artificial intelligence can be dealt with in a targeted manner, thereby improving the reliability of artificial intelligence operation. In practical applications, the precautionary principle is the primary application principle of artificial intelligence, which is mainly reflected in the following two aspects. First, use the convenience provided by the new technology to sort out some complex causal relationships to improve the reliability of system operation [7]. Second, start with the current known knowledge and discuss some uncertain potential effects. Afterwards, take active measures to deal with them, so as to improve the mutual application effect.

4.2. Do Well in Artificial Intelligence Assessment
By doing a good job of artificial intelligence evaluation, we can understand the current operation of the system and take timely measures to deal with the problem, so as to improve the reliability of the system operation process [8]. In the process of system evaluation, it mainly experienced the following three stages. (1) Long-term evaluation, that is, to evaluate the situation of artificial intelligence from the technical level, and further process its application capabilities in order to improve the effect of the application system. (2) Constructive evaluation, relevant staff should conduct factor analysis from a social perspective to achieve a state of technical feedback adjustment. (3) Real-time evaluation, that is, combined with multi-disciplinary knowledge to carry out application analysis of the entire system so as to ensure the rationality of the evaluation structure.

4.3. Strengthen Technical Governance
We can strengthen technical governance in response to the uncertainty of data algorithms, improve the governance starting point of the system application stage, and enhance the adaptability of artificial intelligence. In specific applications, relevant staff can analyze the content of algorithm technology, algorithm rules, design standards and other content to obtain reliable analysis results. Moreover, we also need to do a good job of controlling data sources to improve the effect of system distribution balance. At the same time, discuss the application status of the system itself and increase the performance of artificial intelligence by 30%-50% [19].

4.4. Introducing Social Governance
By introducing social governance, the problem of uncertain values of artificial intelligence can be solved and the stability of the social structure can be improved [10]. Technological changes will cause corresponding negative problems such as labor unemployment and industrial restructuring. These are also key issues that need to be considered in social governance. We should formulate corresponding treatment measures in time so that social instability can be comforted in time, so as to improve the reliability of the system's operation.

4.5. Improve Global Governance
Through improving global governance, we can continuously optimize the technical system of artificial intelligence and improve the applicability of system applications. During the development of technology, it will bring about the problem of rights expansion. Relying on the relationship between reliable legal control technology and power can make it continuously optimize the technical system, thereby improving the perfection of the system operation process [11].

5. Conclusion
In summary, clarifying governance principles can deal with artificial intelligence uncertainties in a targeted manner, and doing a good job of artificial intelligence assessment can understand the current system operation; strengthening technological governance can improve the governance starting point
of the system application stage; introducing social governance can solving the problem of uncertain values; improving the global governance system can continuously optimize the technical system of artificial intelligence. Furthermore, doing a good job of artificial intelligence uncertainty analysis has a positive effect on improving the adaptability of the system during operation.

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