

The Importance and Countermeasures of Ethics Education in Artificial Intelligence Education

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Abstract: The ethics education of artificial intelligence is an important work for the popularization and practice of artificial intelligence. The slow development of the ethics education of artificial intelligence in China is difficult to match with the strategy and situation of the rapid development of national artificial intelligence. With the importance of artificial intelligence in the implementation plan of "new infrastructure", the importance of artificial intelligence ethics education has become increasingly prominent. This paper believes that the current AI ethics education in Chinese universities is difficult to cover the needs of intelligent research and development and industrial development, and there are problems such as lack of specialization and standardization. The embedded ethics teaching and simulated ethics experiment methods adopted abroad have strong reference significance. This paper puts forward some suggestions from the aspects of the combination of AI ethics education and practice, the standardization of teaching materials and the concern of domestic AI ethics.

Keywords: Artificial Intelligence; Ethics; Education; Embedded Ethics

Introduction

The development of new technologies has brought about a series of ethical, legal and social problems, and ethics is particularly important in the development of science and technology. Ethics education has been incorporated into various fields of science education, including science, engineering, agriculture, medicine and other professional courses. Taking artificial intelligence as an example, its rapid development has brought a series of ethical problems, but the development of artificial intelligence ethics education in China is relatively slow. The government has begun to increase investment in the construction of artificial intelligence infrastructure and personnel training, among which the importance of ethical education has become increasingly prominent. Integrating AI ethics education into school education and strengthening students' attention to and cognition of AI ethics issues can cultivate more AI talents with ethical literacy.

1. Current situation of artificial intelligence ethics education in Chinese universities

With the rapid development of the field of artificial intelligence in our country, artificial intelligence ethics education has become more and more concerned. The Ministry of Education approved 180 new "artificial intelligence" majors in universities in 2019, but compared with other ethics fields, artificial intelligence ethics education still needs to solve a series of problems. Teaching materials often need to be compiled by teachers, and there is a lack of unified and standardized teaching. The lack of case base also leads to different interpretations of the same case, and it is difficult to form a consistent cognition. In addition, the development of artificial intelligence is uncertain and may bring uncontrollable impacts on law, social ethics, international relations, etc. Therefore, standardized and systematic artificial intelligence ethics education is essential, and by strengthening the influence of ethical education, it can help prevent negative consequences and avoid the old road of "pollution first and treatment later".

2. Overview of artificial intelligence ethics education in foreign universities

In comparison, a large number of foreign universities have set up artificial intelligence ethics courses, with a large number of departments and topics, which provide useful experience for domestic artificial intelligence ethics education. At present, more than 90 universities in the world have opened ethics courses related to artificial intelligence, not only the traditional computer department, but also the philosophy department, history department, law department, economics department, etc., the course covers a variety of topics. In order to standardize and professionalize the ethical education of artificial intelligence, the two foreign teaching methods are especially useful for reference, which can help AI students develop in-depth ethical cognition and provide experience in dealing with ethical issues.

2.1 Embedded ethical teaching

Embedded EthCS is a new approach to integrating ethics into computer science education by integrating it with the existing curriculum to help students gain a deeper understanding of the relevant ethical issues while learning about specific technologies. In this

way, students can develop the habit of ethical thinking during the study stage, laying a good ethical foundation for their later work, while satisfying students' needs for ethical consideration without the need for new ethics courses^[11].

In accordance with the philosophy of embedded ethics, the collaborative team will equip each course with a teaching assistant with a philosophical background to collaboratively design an ethics module that allows students to gain further ethical thinking skills through practical handling of specific problems. These small modules are designed to help students identify and anticipate ethical problems in the development and use of computer technology, reason about these problems and potential solutions, either alone or in collaboration with others, and effectively communicate their understanding and approaches to solving these problems. With a strong focus on "active learning" and assignments, the content is designed to allow students to apply philosophical ideas to practical moral problems in order to exercise their newly acquired ethical reasoning skills and give them practical training in context. ^[11]

2.2 Simulated ethical experiment method

The new method of integrating ethical thought with natural science teaching is achieved by simulating ethical experiments. This method requires students to integrate ethical viewpoints into the designed experiment, and strengthen the ethical evaluation of the experiment through positive feedback, so as to realize the combination of theory and practical application, so that students can master and apply ethical theory through specific experiments.

Microsoft AI School, for example, designed an experiment in Responsible Conversational AI. By providing a set of background knowledge (such as general stakeholders) and Responsibility imperatives, students are asked to design a conversational AI and assess its reliability, ease of use, and possible (negative) consequences. Allow students to understand what responsibility is and the associated ethical principles ^[12].

In addition to the aforementioned teaching methods, the international community also adopts game education, immersive theater and other methods to conduct artificial intelligence ethics education ^[7]. These teaching methods can greatly enhance students' cognition of the ethical issues of artificial intelligence, make up for possible loopholes in understanding, and effectively improve students' ethical awareness and alertness.

3. Strengthen China's AI ethics education response strategy

3.1 Improve the privacy protection system of educational artificial intelligence

As the volume of data grows, artificial intelligence is widely used to discover patterns, relationships, trends, and patterns, but it has also sparked disputes over individual privacy rights. In order to protect privacy rights, it is necessary to further improve the privacy protection system of artificial intelligence. Practitioners need to pay more attention to privacy protection, expand their knowledge and sensitivity of privacy protection, and enhance technical and legal protection measures, develop perfect privacy security mechanisms and adopt secure encryption means. It is also necessary to improve the privacy protection education system. Finally, the regulatory authorities should strengthen supervision and provide better market environment and legal protection for enterprises to promote the better development of the industry.

3.2 Reasonable adjustment of conflicts of interest in educational artificial intelligence

The development and application of artificial intelligence technology has brought great value to society, but it has also caused conflicts of interest and ethical problems, which need to be solved with the principles and methods of ethics. Therefore, it is very important and necessary to add ethics education to artificial intelligence education. AI practitioners should be trained in compliance awareness and compliance with relevant laws and regulations, industry standards and ethics. It is also important to respect user privacy and ensure information security, and relevant measures should be taken to strengthen privacy protection, and reasonable handling of user data collection, use and release. In addition, attention should be paid to public participation and feedback, conflicts and disputes between different stakeholders should be resolved through communication and exchange, and fair and just solutions should be formulated. ^[1]

3.3 Optimize the accountability mechanism for smart technology and data

There may be bias and errors in the use of AI technology and data, which can cause public concern and affect reliability and security. Therefore, it is particularly important to strengthen ethics education in artificial intelligence education. There is a need for accountability mechanisms to classify, document and publish smart technology and data issues to identify and resolve them in a timely manner. In addition, AI practitioners should focus on reasonable collection and use of data, and strengthen the supervision and management of data.

Fair and transparent workflow design, strengthened supervision, and timely release of information such as error handling and question answering will also help the public obtain timely and comprehensive responses to technical and data issues, and improve the public's credibility and acceptance of AI technology. ^[13]

Conclusion

To sum up, with the rapid development and wide application of artificial intelligence technology, ethics education plays an increasingly important role in artificial intelligence education. How to strengthen ethics education in artificial intelligence education, improve the rationality and safety of the application of artificial intelligence technology, and protect the rights and interests of human society and human values is an urgent problem to be solved. In this regard, we need to formulate corresponding countermeasures from all aspects. It includes strengthening the education of ethical knowledge in artificial intelligence education, establishing a sound intelligent technology accountability mechanism and a transparent and fair data management mechanism to strengthen the formulation and implementation of relevant laws and regulations.

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