Journal of Artificial Intelligence Practice (2025)
Clausius Scientific Press, Canada

DOI: 10.23977/jaip.2025.080209
ISSN 2371-8412 Vol. 8 Num. 2

Ethical Challenges and Countermeasures of Artificial Intelligence Generated Content in the New Media Era

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Keywords: Artificial Intelligence Generates Content; New Media Era; Ethical Challenge; Governance Countermeasures; Media Literacy

Abstract: With the development of the new media era, AIGC (Artificial intelligence generates content) has been widely used, but the ethical issues caused by it have attracted much attention. This paper aims to deeply analyze the ethical challenges faced by AIGC in the new media era and explore the governance countermeasures. Through literature research, this paper combs the relevant academic literature and comprehensively analyzes the present situation in this field. It is found that AIGC faces many ethical challenges, such as authenticity and credibility, intellectual property and originality, privacy and security, and guidance of social values. The root causes involve technical limitations, imperfect legal policies, lack of industry self-discipline and lack of public media literacy. Based on this, this paper puts forward multi-dimensional governance countermeasures from technical governance, improving legal policies, strengthening industry self-discipline and improving public media literacy, so as to promote the healthy and orderly development of AIGC in the new media environment and safeguard good media ecology and social public interests.

1. Introduction

In the new media era, with the rapid development of information technology, AIGC has been deeply integrated into all aspects of information dissemination [1]. From automatic news writing to intelligent advertising design, from virtual anchor broadcasting to personalized social media content push, AIGC is changing the pattern of information production and dissemination at an alarming rate. However, this technology-driven change in content production has not only brought efficiency and innovation, but also caused many complex ethical problems [2]. AIGC has greatly enriched the content ecology of new media by virtue of its efficient and batch generation ability and its innovation on the basis of imitation [3]. However, it should not be ignored that ethical dilemmas such as false information dissemination, intellectual property disputes, threats to privacy security, and deviation in guiding values have come one after another, seriously affecting the order of new media communication and social public interests.

At present, the research on AIGC is mostly focused on the technical level, and the discussion on ethical issues is still in its infancy, especially in the complex and changeable communication environment of new media, and the related research is even more scarce [4]. An in-depth analysis of the ethical challenges faced by AIGC in the new media era and its root causes, and the exploration of practical countermeasures will not only help to standardize the rational application of AI

(Artificial intelligence) technology in the media field and maintain a healthy and orderly new media ecology, but also be an inevitable requirement for safeguarding the public's right to know, privacy and cultural rights and interests and promoting the harmonious development of society [5]. Therefore, it is of great theoretical and practical significance to carry out systematic research on this subject.

2. Basic characteristics and development trend of AIGC in the new media era

AIGC refers to all kinds of content automatically generated after learning and analyzing massive data through algorithm model based on AI technology [6]. It is different from the creation of human beings based on their own consciousness and experience, and it is a product driven by technology. In terms of types, it covers various forms such as text, image, audio and video.

2.1. The characteristics of AIGC in the new media era

The demand for new media content is huge and immediate, and AIGC can produce a lot of results in a short time. Taking the field of news writing as an example, a specific algorithm can instantly generate news reports such as sports events and financial reports according to preset templates and data input, which greatly improves the content production efficiency [7]. AI learns a lot of existing content to master patterns and laws, so as to imitate creation. However, in the process of learning, it will also produce unique combinations and expressions, showing innovation. In the new media environment, AIGC can interact with users. Users can influence content generation through instructions and feedback, and the platform can also make the generated content more personalized based on user data.

2.2. Development trend analysis

With the continuous advancement of AI technology, the field of generating content continues to expand. From the initial simple text to the creation of complex film and television scripts and virtual reality scenes, it is expected to set foot in more creative fields in the future. The combination of AIGC and new media platforms is getting closer and closer. New media provides communication channels and data support, while AI helps new media to achieve accurate content push and immersive experience creation. The two promote each other and promote the continuous evolution of new media ecology.

3. Ethical challenges AIGC faces in the new media era

In the new media environment, information dissemination is extremely fast. If AIGC is used maliciously, it may produce a lot of false news and false advertisements. These false information will mislead the public and disrupt social order. Different from human creation content, AIGC is difficult to determine the original source and authenticity [8]. Because its generation process involves complex algorithms and a large amount of data, it is difficult for ordinary audiences and even professionals to trace the source of the content and verify its authenticity, which provides an opportunity for the spread of false information.

In the traditional concept, the creative subject is human beings with subjective consciousness and creativity. However, AIGC challenges this cognition. Although it relies on human beings to set algorithms and provide data, it can independently generate some creative content, and there are ethical problems in the identification of its creative subject. At present, there is no conclusion about the copyright ownership of AIGC. Whether it belongs to the enterprise that develops the algorithm,

the main body that provides data, or the user who uses the technology to generate content, the views of all parties are different. This ambiguity easily leads to copyright disputes and hinders the healthy development of the content industry.

AIGC needs a lot of data for training and learning, which may contain users' personal privacy information. If the data is poorly managed, there is a risk of privacy leakage. Figure 1 shows some common malicious content types and their potential harm. It can be seen from the table that malicious text can be used for online fraud, inducing users to transfer money and causing economic losses; Malicious images may be used for terrorist propaganda and disrupt social stability.

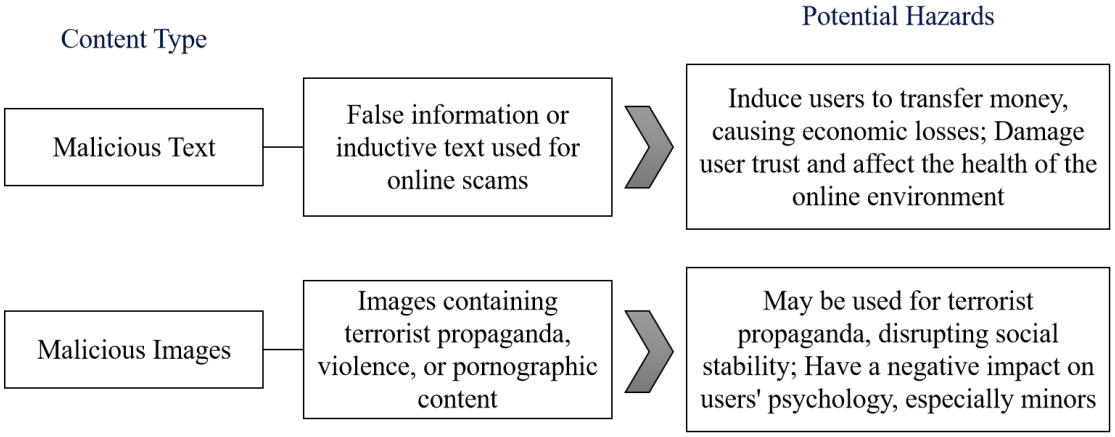

Figure 1 Some Types and Hazards of Malicious Artificial Intelligence-Generated Content

AI algorithm is based on existing data learning. If the data is biased, the generated content may strengthen social prejudice and discrimination. For example, in the generation of recruitment information, if there is gender and racial prejudice in the training data, the generated recruitment requirements may further deepen this inequality. In addition, AIGC pays attention to data and algorithmic logic, and may lack humanistic spirit such as human emotion and cultural connotation. Long-term exposure to such content may affect the public's cognition and pursuit of humanistic values and lead to the weakening of social and cultural connotations.

4. An analysis of the root causes of AIGC ethical challenges

(1) Technical limitations: AI algorithm relies on a large number of data for training. If the data is biased, it will lead to systematic errors in the algorithm. The problem of algorithm black box is also prominent, and the internal operation mechanism of complex deep learning algorithm is difficult to be fully understood, which makes it difficult to conduct effective ethical review of its generated content.

AI technology is developing with each passing day, and new generation models and applications are constantly emerging. However, the corresponding regulatory technology failed to keep pace. For example, the detection technology for generating false audio and video by deep forgery technology can only identify about 60% of obvious forged content at present, and the detection accuracy is even lower for carefully processed forged content. This makes it difficult for a large number of AIGC with ethical risks to be effectively intercepted at the initial stage of communication.

(2) Imperfect laws and policies: Traditional intellectual property laws are built around human creative subjects, so it is difficult to directly apply to AIGC. In terms of copyright ownership, the current law does not clearly define the copyright owner of AIGC, which leads to the vague relationship between rights and obligations. In terms of privacy protection laws, in the face of the complicated data collection and use methods of AI, the existing legal provisions cannot be fully

covered, which makes the privacy protection of users have loopholes. In the aspect of AIGC ethics, there are many shortcomings in policy making. Although some areas have issued relevant policies, their expressions are vague and difficult to operate in actual implementation, which cannot provide a clear ethical boundary for industrial development.

(3) Lack of industry self-discipline: Some technology companies pursue commercial interests too much and ignore ethical responsibilities when developing and applying AI generation technology. In order to pursue the speed and quantity of content generation, the algorithm is not fully ethically reviewed, which leads to ethical risks in the generated content. For example, in order to seize the market quickly, some content generation platforms did not fully consider the problem of data deviation in the process of algorithm optimization, which led to the generation and dissemination of a large number of biased content. At present, AIGC related industry standards have not been unified. Different enterprises have great differences in content generation specifications and data usage rules. This not only increases the difficulty of industry supervision, but also makes it difficult for consumers to judge the compliance and reliability of content, which is not conducive to the healthy development of the industry.

(4) Lack of public media literacy: The public has limited understanding of the technical principles and potential risks of AIGC, and it is easy to believe such content. According to the survey, about 40% of the respondents believe that the news generated by AI is completely authentic and lacks the ability to question and identify its authenticity. Most people lack the consciousness of actively participating in AIGC ethical supervision. When faced with the content that may have ethical problems, only about 20% people will choose to feed back to the relevant platforms or regulatory authorities, resulting in a large number of ethical problems that cannot be discovered and solved in time.

5. Governance countermeasures of AIGC in the new media era

(1) Technology governance path

Developers should strive to improve AI algorithm and reduce data bias. At the same time, the transparency of the algorithm is improved, and the decision-making process and logic of the algorithm can be understood through technical means. For example, an algorithm interpretation platform is established to show users and regulators how the algorithm generates content and enhance public trust in the algorithm. Increase investment in false content detection technology, and use machine learning, blockchain and other technologies to identify false news, malicious images and other content. For example, using the non-tamperable characteristics of the blockchain, a unique logo is added to the content to achieve accurate traceability of the content.

(2) Perfection of laws and policies

The legislature needs to amend the existing laws on intellectual property rights and privacy protection to make them applicable to AIGC. Relevant departments should clarify the copyright ownership of AIGC and stipulate the legal boundaries of data collection and use. At the same time, it is necessary to formulate special laws and regulations for AIGC, standardize the generation and dissemination of content, and set clear penalties for violations. Government departments should introduce policies to guide the healthy development of artificial intelligence industry and encourage enterprises to integrate ethical considerations into technology research and development. The supervision needs to be strengthened, and the AIGC should be regularly supervised by establishing special supervision institutions or enriching the existing institutional strength. For example, content generation platforms should be regularly reviewed to ensure that they conform to ethical norms.

(3) Strengthening self-discipline in the industry

Enterprises should establish a correct ethical concept and incorporate ethical responsibility into

enterprise strategy and daily operation. Enterprises or organizations should establish an internal ethical review mechanism, conduct ethical evaluation on algorithms and data before content generation, monitor them in real time during the generation process, and adjust the content that may have ethical problems in time. Relevant departments should strengthen the supervision of the internal ethical review mechanism of enterprises to ensure its effective operation. Some large scientific and technological enterprises have set up special ethics committees to examine the ethical impact of new technologies and products.

Industry organizations should take the lead in formulating unified AIGC ethical standards and norms. Covers data usage, content review, user privacy protection and so on. As shown in Figure 2, the standards are defined from multiple dimensions such as data source legitimacy and content value orientation, so that enterprises can follow rules in the process of content generation and promote the healthy development of the industry as a whole.

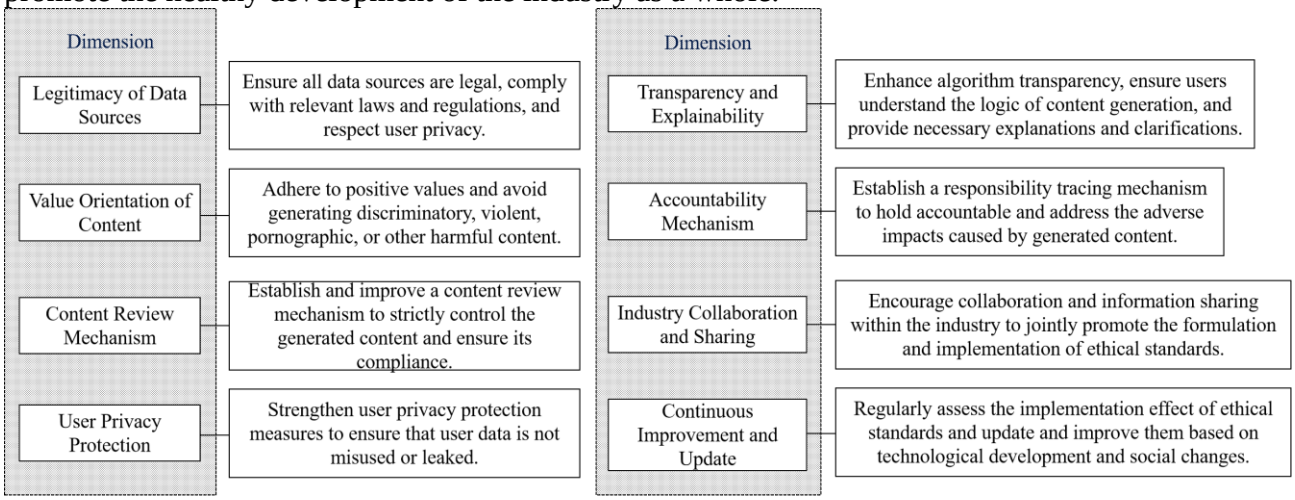

Figure 2 Ethical Standards Framework for AI-Generated Content Industry

(4) The improvement of public media literacy

Schools and social institutions should improve the public's ability to recognize and distinguish AIGC through school education and social training. Schools should incorporate relevant content into the curriculum system, such as offering artificial intelligence and media literacy courses to teach students how to identify false content. At the same time, community and network platforms should be used to carry out public welfare training to improve the overall media literacy of the public. Relevant departments need to establish a public reporting and feedback mechanism to guide the public to actively participate in AIGC ethical supervision. For the public who provide effective clues, appropriate rewards should be given to improve the enthusiasm of public participation. For example, a special reporting platform can be set up to deal with the ethical issues of public feedback in time, thus forming a good atmosphere for the common governance of the whole society.

6. Conclusions

This paper focuses on the ethical challenges and governance countermeasures of AIGC in the new media era. The research shows that AIGC brings innovation and efficiency to new media, but it does cause a series of complex and severe ethical problems. These problems not only threaten the authenticity and credibility of information dissemination, but also impact the traditional intellectual property system, and also have a negative impact on user privacy and social values guidance. In-depth exploration shows that the defects of algorithm and supervision at the technical level, the imperfection of legal policies, the lack of industry self-discipline and the lack of public media

literacy all constitute the root causes of these ethical challenges.

In view of the above problems, this paper puts forward multi-faceted governance countermeasures covering technology, legal policy, industry self-discipline and public level. On the technical level, R&D personnel should improve the security and credibility of the content by optimizing the algorithm and developing detection traceability technology. In terms of legal policy, the legislative department needs to revise and formulate special laws to strengthen policy guidance and supervision; All enterprises in the industry should earnestly fulfill their ethical responsibilities and jointly establish unified standards; The public should improve their media literacy and actively participate in the supervision work. Although these countermeasures are systematic and forward-looking, with the rapid development of AI technology, new ethical issues may emerge constantly. Future research can pay more attention to the dynamic balance between technological innovation and ethical governance, explore a more refined and intelligent governance model, continuously improve the ethical governance system of AIGC in the new media era, and promote its harmonious progress with social development.

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