

Research on the Application of Artificial Intelligence Technology in the Field of Broadcasting and Hosting

HeJia

Beijing People's Haidian District Integrated Media Center, Beijing, 100019;

Abstract: In recent years, with the rapid development of network technology, the entire media industry has undergone earth-shaking changes. The emergence of emerging technologies such as artificial intelligence has brought tremendous changes to the media, triggering new content production and communication models, and also altering the creation methods and thinking in the field of broadcasting and hosting. This paper introduces the practical effects of applying artificial intelligence technology in the field of broadcasting and hosting, and focuses on discussing the main problems and future development directions of artificial intelligence technology in this field.

Keywords: Artificial Intelligence; Broadcasting and Hosting; New-type Communication; AI Anchor; Virtual Hosting

DOI:10.69979/3041-0843.25.01.049

Introduction

In recent years, artificial intelligence technology has continuously matured and rapidly entered people's vision, sweeping across multiple fields and affecting people's production and lifestyle. The rapid development of intelligent connection technology has forced the media industry to take on a new look, and the development of artificial intelligence technology has greatly promoted the transformation of the media industry. With the emergence of emerging technologies such as artificial intelligence, the media has undergone tremendous changes, which have triggered new content production and communication models, as well as people's thinking and creation. The application of artificial intelligence technology in radio programs has promoted the development of intelligence and virtualization in the radio and television industry, bringing new vitality to radio and television programs and unprecedented ways of program interaction. Moreover, AI live broadcasting is based on technology, which can balance efficiency and accuracy. However, with the application of artificial intelligence technology, we can also see that there are still some deficiencies in its application in radio and television programs. This paper analyzes several existing problems, appropriately applies artificial intelligence according to the specific requirements of the broadcasting and hosting field, and also provides some references for future practical applications.

1 Practical Effects of the Application of Artificial Intelligence Technology in the Field of Broadcasting and Hosting

The emergence of Chinese AI virtual hosts has brought a great impact on major media. In May 2018, iFlytek launched an online anchor named "Kang Xiaohui", who hosted the program Live Broadcast of the Yangtze River on Anhui Channel. "Microsoft Xiaobing" also appeared on Looking East. During this year's Two Sessions, Xinhua News Agency used a Chinese AI synthetic anchor to conduct real-time news reports. Does this mean that all news in the future can be broadcast by Chinese AI anchors? Shenzhen TV's Innovative China used the voice of the late Li Yi, which was artificially synthesized. The successful replication of artificial synthesis technology has had a huge impact on hosting, dubbing, and other fields. In some high-tech programs, artificial intelligence is also indispensable. For example, in Wit Beyond Measure and Come on, Future 2, an intelligent robot named "Jiuge" developed by Tsinghua University can create poems according to the plot of the story. The Hangzhou News Network broadcast in 2024, with the official launch of the AI video platform developed by Hangzhou Culture, Radio, Film and Television Group. It was created based on the real anchors Yuchen and Qiyu, who recorded and synthesized it. Their appearance, expressions, and even voices were made to be as similar to themselves as

possible. With the handover of work by intelligent anchors, these two major anchors finally got to go home for the holidays. This has also become the first "news network"-type news program hosted and broadcast entirely by digital humans.

It can be seen that artificial intelligence has gradually played a very important role in many programs. In terms of functional allocation, AI anchors in news programs act as full-time hosts and can independently complete the work of hosting a program. In variety shows, AI anchors mainly function as assistants to human hosts, playing a role in adding brilliance to the program. The AI hosts that have been launched have relatively complete capabilities. Basically, they can add positive effects to the program. They can not only popularize relevant knowledge but also attract the attention of the public, arouse the audience's curiosity, and thus increase the program's viewership ratings.

2 Analysis of Main Problems and Development Prospects of the Application of Artificial Intelligence Technology in the Field of Broadcasting and Hosting

2.1 Problems of AI Anchors in Work Compared with Human Anchors

2.1.1 Lack of emotional interaction

Artificial intelligence is a new type of communication medium that can accurately and effectively convey pre-input text information to the audience. However, compared with traditional broadcasting work, traditional hosts inject appropriate emotions into the audience during the broadcast, allowing the audience to feel the host's emotions while watching and listening. Under the rendering of such emotions, the appeal of the news is enhanced, making the audience feel immersive, which strengthens the news's appeal and thus improves the quality of broadcasting and hosting. Different tasks, scenarios, and communication methods lead to different emotional expressions, which indicates that the lack of emotional presentation is an important factor restricting the success of AI anchors' live broadcasts. In addition, various unexpected situations may occur during live broadcasts, requiring hosts to respond accordingly based on the actual situation. AI can only broadcast according to pre-set texts and is difficult to deal with emergencies.

2.1.2 Unnatural broadcasting

Radio and television programs are not just the transmission of words and symbols, but also an artistic creation that integrates emotions and language. In the work process, for the same sentence, different emotions and expressions can be used, paying attention to language skills to ensure that the content of the text can integrate with the surrounding environment. However, virtual anchors based on AI technology have the disadvantage of being rigid. They can only perform simple text translation and transmission, completing live broadcasts with the assistance of intelligent voice, resulting in unnatural AI anchors. When applying AI technology to hosting work, its communication method is based on pre-set texts. In terms of language expression and hosting style, it is difficult to compare with traditional hosting. It cannot perfectly integrate temperament, emotions, voice, and text, making its programs lack any artistic beauty, which is a drawback of using AI technology in hosting work.

2.1.3 Lack of particularity in secondary creation

Secondary creation is an important means to avoid program homogenization, highlight individuality, and an indicator of the professional level of program hosts. AI hosts can convert written content into audio and video, but they have not yet reached the level of secondary creation. Different from simple language conversion, secondary creation is characterized by the host's conscious, thoughtful, and attitudinal creative expression. Only in this way can the true feelings, authority, and ritual nature of the work make the transmission of the work more authentic and allow people to have a deeper understanding of the beauty of the work. It is difficult for an AI anchor to make efforts in secondary creation. In addition, AI anchors cannot achieve other secondary creation capabilities such as error correction in secondary creation, handling unexpected events, etc. They may also cause accidents due to flaws in language output or technical errors, leading to issues related to scientific ethics.

2.2 Analysis of Development Prospects of the Application of Artificial Intelligence Technology in the Field of Broadcasting and Hosting

2.2.1 Will Artificial Intelligence Technology Replace Human Anchors?

Whether artificial intelligence technology is applied on or off stage, it cannot completely replace human anchors. Based on the above research, traditional hosts have irreplaceability.

Emotions are irreplaceable. Human emotions are very subtle, showing different expressions in different tasks, environments, and communications. Therefore, the emotions of traditional broadcasting hosts cannot be replaced. Artificial intelligence technology cannot compete with this. Feelings are irreplaceable. Human emotions are subtle things, and emotions generated due to changes in things, situations, and communication with others are different. Therefore, in traditional TV programs, the emotions of anchors are irreplaceable. Artificial intelligence is not up to the task.

The issue of individuality is the focus of discussion. Personality has always been a hot issue, and everyone has their own views. Personality can be divided into behavior, values, attitudes, personal emotions, and beliefs, etc. Since AI anchors have no emotions, they naturally have no personality. Although programs can make AI robots more unique in some specific aspects, this is only a rigid personality, not a real one. Since AI is rarely used in major events, its ability to handle problems independently is not high, while radio and television anchors are better at grasping major events and frequently appear in programs. During performances, some special situations often occur. In dealing with emergencies, intelligent robots do not have sufficient adaptability to cope with them.

2.2.2 Artificial Intelligence Technology Promotes Human Anchors to Improve Professional Quality and Charisma

Under the background of the integration of intelligent media, "AI anchors" not only bring impact and challenges to traditional news anchors but also provide new platforms, starting points, and opportunities for traditional news anchors to enhance their core competitiveness. In this context, news anchors who are stagnant in thinking, only read according to the script, and have stagnant professional quality will face the threat of being abandoned by the times. Kang Hui, the anchor of CCTV News, said: "AI anchors are not 可怕; what is 可怕 is that your broadcasting is not as good as AI." Therefore, news anchors should find their own irreplaceability and deepen it, improve their weaknesses, and only in this way can they ensure that they will not be abandoned by the times and can always have a place in front of the microphone.

In this context, higher requirements are put forward for the development of China's radio and television industry. According to the content and process of hosting work, in the future, the application of artificial intelligence in radio and television work will be divided into three parts: broadcast content generation, voice broadcasting, and content interaction. The application of artificial intelligence in radio and television industry has become a trend and an inevitable development. Therefore, it is very meaningful to supplement the application of artificial intelligence in live broadcasts in terms of content generation, content broadcasting, and content interaction. Assisting TV anchors can enable the audience to have a better audio-visual experience. In contrast, the advantages of artificial intelligence in live broadcasts are obvious under the background of technological assistance, such as intelligence and super learning ability, but there are also limitations caused by algorithm bias and defects in flexibility such as changes in tone and intonation in live broadcasts due to lack of thinking. It can be seen that although "AI anchors" have core technical elements and obvious relative advantages, they cannot replace real anchors in reality. In this context, the personality construction and quality reconstruction of anchors themselves are of great significance.

2.2.3 Human-Centered Human-Machine Collaborative Development

The interaction and collaboration between media and information technology have become a new trend. Therefore, it can be expected that the media industry will gradually promote the transformation of the media industry in the future, making news production more convenient, faster, and more real. In the future development process, the human-centered collaborative development mode with "human as the leader" and "human as the core" will inevitably become the mainstream direction of TV development. The biggest advantage of "AI anchors" is that they can reduce errors through manual input, conduct live broadcasts 24 hours a day, and even operate at no cost, only making profits, thus saving expenses. However, during this period, "AI anchors" have also encountered some tricky problems. They are not capable in many fields such as information transmission, handling emergencies, guiding public opinion, and expressing emotions. Therefore, future TV news should be assisted by "AI anchors" with clear division of labor and mutual complementarity, which can not only ensure program quality but also improve work efficiency. For example, on November 24 this year, CCTV broadcast the first AI-hosted program with sign language live broadcast, which is undoubtedly good news for the disabled.

In addition, there is a large amount of underexplored information on the Internet. "AI anchors" can rely on their own strengths to extract useful information from a large amount of information, while traditional anchors are only responsible for analyzing existing information. The two complement each other, making the overall content more extensive and rich.

If AI can replace humans in some work, the saved labor can be used at a higher level. In the future, it will be a world of intelligent media, not only the combination of humans and machines but also the possibility of "human-machine integration". If AI can become a real "assistant", the industry will develop more rapidly and healthily.

3 Conclusion

Artificial intelligence has advantages that humans do not have in many aspects. With the development and innovation of science and technology, the advantages of AI anchors have become more and more obvious. They can ensure the real-time and accuracy of data, continuously improve and optimize data on this basis, produce massive amounts of effective information, and organically integrate with traditional media and online media programs. However, current intelligent technologies still face some irreparable defects. With the increasing popularity of artificial intelligence technology, it is not only a huge challenge but also a rare opportunity for traditional anchors and hosts to achieve a qualitative leap. For a new thing, we should dare to accept and question it, and while fully enjoying its benefits, we should also face up to the various challenges it poses.

In the future development of the broadcasting industry, anchors and hosts should regard AI technology as their helper rather than competitors, give play to the "rational" AI technology, and timely exert the "perceptual" side of anchors and hosts. The two complement each other to play the most powerful role, assisting broadcasters and hosts to do their work better. Thus, it will promote China's radio and television industry to move towards a healthy, harmonious, and innovative path, making China's radio and television industry bloom more brilliant innovative flowers.

References

- [1] Graeme McLean, Kofi Osei-Frimpong, Jennifer Barhorst. Alexa, do voice assistants influence consumer brand engagement? - Examining the role of AI powered voice assistants in influencing consumer brand engagement[J]. Journal of Business Research, 2021, 124: 312-328.
- [2] Alana Foster. BBC R&D LAUNCHES SYNTHETIC VOICE AND PERSONALITY STUDY[EB/OL]. <https://www.ibc.org/trends/bbc-randd-launches-synthetic-voice-and-personalitystudy/5467>. article, 2020-02-14
- [3] Jon Lafayette. Media Planning's Next Big Change Agent: AI[J]. Broadcasting & Cable, 2018, 148(16).
- [4] HuffPost Japan. NHK に "AI アナウンサー" が登場「ヨミ子さん」がニュース読みます [EB/OL]. <https://www.itmedia.co.jp/news/articles/1803/26/news127.html>, 2018-03-26.