Optimization and Dilemmas of "AI Anchor" in News Broadcasting

Kang Yiqiong

Shanxi Normal University, Taiyuan, China
kyq10140828@163.com

Abstract: *Although most of the time AI technology existed only as the assistant of human anchors, nowadays AI anchors have gradually begun to replace some human anchors. Admittedly, AI anchors have advantages over human anchors in many aspects. However, in this phase, there are still some difficulties for AI anchors in the process of development, because the insufficient and immature technology makes them impossible to correctly and deeply understand human emotions and attitudes.*

Keywords: *AI anchors, broadcasting, advantages, shortcomings*

1. Introduction

In October 2021, the State Administration of Radio, Film and Television (SARFT) issued the "14th Five-Year Plan for the Scientific and Technological Development of Radio, Television and Audiovisual Networks", which pointed out that it was necessary to accelerate the development of all-IP production and broadcasting standards, promote the intelligence of the live broadcasting processes, enhance the widespread use of virtual anchors, innovate the program form, and improve the efficiency of broadcasting and production and the level of intelligence. In the past decade, artificial intelligence technology has been deeply integrated with several industries, and it has also continued to promote the development of the media industry, deconstruct and reshape the technological structures and industrial patterns of the media industry. Precisely, "AI anchor" is an advanced product in the development of the smart media era [1].

2. Background and development status of AI anchors in news broadcasting

With the rapid development of artificial intelligence technology, "AI anchor" has become a force to be reckoned with in the field of news broadcasting. The birth of "AI anchor" stems from the double pursuits of efficiency and quality of news dissemination. Its core lies in the technical support, which is based on the intelligent concept of "natural interaction" and "knowledge computation" under split technology. The two engines of "speech synthesis" and "image synthesis" are based on the recording and collection of lip shapes, voices, facial expressions, human bodies and other key points of human anchors' broadcasting. Then, the speech recognition technology in speech synthesis and the face recognition technology in image synthesis are jointly modeled and trained[2]. It is made of three-dimensional face reconstruction, expression action modeling technology, deep learning and other technologies for joint modeling and training [2].

Since 2018, the application of intelligent anchor technology has developed rapidly in China. At the Fifth World Internet Conference, the first full-simulation intelligent virtual host in the world developed by Sogou and Xinhua News Agency, "Xinxiaohao", was officially unveiled. However, because it is the first generation of AI synthesized anchors, there are some technical imperfections. For example, "Xinxiaohao" only has facial expressions without any body movements, and there are still other issues. At the same time, media industry has also cooperated with many research and development organizations, and successively launched their own AI anchors. For example, the financial and economical virtual hosts, "Jiangtao" and "Xiaohuikang", and the virtual anchor "Xiaoxi", which is capable of giving voice feedback, etc. By the end of 2021, there were more than 6,500 AI anchors on various platforms, and in 2019, the AI anchor "Xinxiaomeng" had already begun to participate in the coverage of the National People's Congress (NPC). Although she had not received any journalism training, she successfully completed the broadcast and added some body movements, further enhancing the users' audio-visual experience. At the 2022 Beijing Winter Olympics, AI anchors from major

mainstream media have been widely applied, inspiring more attention to the exciting Winter Olympics. "Xinxiaowei" also appeared at this time. Compared with the previous generation of AI anchors, "Xinxiaowei" has made great progress in both appearance and broadcasting expression. At the same time, "Xinxiaowei", with its "micro-modular" feature, was designed and developed to realize flexible "dressing", and the hairstyles and clothes could be switched to different news scenes. During the 2023 National People's Congress, the series of integrated media products "Metaverse at the Congress" once again attracted people's attention. The first NPC Bit Digital Intelligence Man modeled after Huang Maoxing, a deputy to the 14th NPC, traveled through the "Gulangyu Metaverse" and the "Great Hall of the People Metaverse", leading the audience to experience the atmosphere of the two sessions in an immersive way and delivering the voices of the two sessions. "Metaverse + Virtual Digital Man" forms a new mode and a new pattern of information dissemination by creating a digital intelligence scene [3].

3. Optimization and Dilemmas of AI Anchors in News Broadcasting

3.1. Application Advantages

3.1.1. Systematization and Intelligentization of News Broadcasting Processes

Behind-the-scenes workers only need to enter the determined key words and phrases of the news into according systems, and AI, based on complex algorithms and a large amount of data, will be able to extract the corresponding news materials by searching big data through "Natural Language Processing (NLP)" and "Machine Learning" by mimicking the appearances and expressions of human anchors. All at once, the integration of information to form a complete text script and voice script is also successfully completed, and the final generation of AI anchors will be produced. This not only greatly improves the efficiency of scripting and avoids human-induced delays and errors, but also guarantees the timeliness of news broadcasting.

Round-the-clock broadcasting means that news content can be updated in real time. Whether it is international news, change in financial market or progress of sports events, viewers can get the latest information at any time. Different spectators have different news consumption habits. Some viewers may seek information at unconventional times, especially early morning and midnight. Round-the-clock broadcasting is able to meet the needs of these viewers, which increases overall reach and market share.

Compared with human anchors, AI anchors do not need to rest and can work continuously, which greatly improves the efficiency and reliability of news broadcasting. In emergency situations, such as natural disasters or emergencies, round-the-clock broadcasting can quickly disseminate important information and help the public understand the situation and take appropriate measures to report in a timely manner. As AI anchors can automate broadcasting, especially at night or other off-peak hours, the reliance on human resources greatly reduced.

3.1.2. Comprehensive and in-depth news broadcasting content

As AI anchors can quickly extract information from a variety of data sources, including social media, news websites, and public databases. These data are processed and analyzed, enabling AI anchors to provide more comprehensive coverage, covering more angles and details. Through deep learning techniques, AI anchors are able to not only understand the basic information of the news, but also recognize and interpret the meaning and context behind it. This enables AI anchors to provide more in-depth coverage, digging into the causes and possible consequences of the events. Meanwhile, AI anchors can customize personalized news content based on users' preferences and historical behaviors.

Personalization is reflected not only in the selection of news topics, but also in the depth and angle of coverage. For topics of users' interests, AI anchors can provide more detailed information and analysis. Some of these AI anchors also allow users to participate in generation and discussion of news content in an interactive way. This interactivity not only increases user engagement, but also makes the news content more affluent and diverse.

3.1.2.1. High quality of generated content

The application of AI technology is not limited to news content collection and distribution, but also includes news content generation. Through NLP and deep learning technology, AI can automatically write texts of news reports and even generate video news. The application of this technology makes the generation of news content more efficient and diversified. AI can create news content in a variety of styles and formats based on a large amount of data and patterns to meet the needs of different audiences. Simultaneously, AI can also assist journalists with in-depth reporting, revealing trends and connections

behind news events through data analysis, providing viewers with more comprehensive and in-depth news coverage.

3.1.2.2. Fast retrieval of key information

AI news anchors have powerful big data processing capability, which can sift out key data from the huge amount of information in a short period of time and provide valuable materials for news broadcasting. When a major event occurs, AI news anchors can quickly analyze relevant news reports, social media comments, and official statements and extract key information in the first time to provide viewers with comprehensive and accurate news content. This efficient information processing ability makes AI news anchors have significant advantages in the field of news broadcasting. In addition, AI news anchors have the ability of real-time updating, which can keep an eye on news trends around the world and provide the audience with the latest information. For example, in sports events, AI news anchors can pay attention to the process of the game in real time and provide spectators with instant information about the game situation, scores, rankings and so on. This ability to update in real time makes AI news anchors have a high degree of timeliness in the field of news broadcasting. AI news anchors also has the ability of personalized recommendations, which can recommend relevant news content for the audience according to their interests and needs. Traditional news anchors often need to face the entire audience groups when reporting news, making it difficult to meet the personalized needs of different viewers. AI news anchors can provide customized news recommendation services for the audience by analyzing the audience's historical browsing records, search records and other data.

3.2. Application Shortcomings and Dilemmas

3.2.1. Lack of "sympathetic" in broadcasting

Human announcers' broadcasting is usually with facial expressions, body languages to interact and communicate with the audience, while the technical bodies of AI anchors lack the narrative foundation in multiple contexts such as social, cultural and educational, and have only external narrative content, reflecting the facial expressions and other gestural languages through the technology, which is only imitated to the appearance but not to the charisma [4]. At present, because the level of technology is still in development, different AI anchors show strong similarities in appearances, actions and other aspects. Although their voices can achieve a high degree of restoration of human announcers' voice tones through imitation and learning, these are only mechanized technical voices, which are unable to achieve a high degree of personalization. AI anchors on different platforms have attenuated the artistic attributes of language, weakening the sense of beauty, becoming common flow production lacking spirits and charms, and becoming a homogeneous "virtual symbol", making it difficult to achieve long-term development [4].

3.2.1.1. Lack of interaction with the audience

The commonest news program form is news interview, but for AI news anchors, it is still a difficult task. In addition, to complete a high-quality news broadcast, which requires the anchor's professional interview ability and flexible reaction ability, obviously AI anchors have not been able to reach the corresponding height.

3.2.1.2. Lack of "empathy" with the audience

In the process of broadcasting, human anchors, through audio and video to communicate, determine whether the audience can accurately receive the dissemination of information. Therefore, as to successfully carry out the broadcasting tasks of "incident rescues" or "impromptu reactions", AI anchors make judgments through algorithms, but only stay on the surface of the text itself and can not go to "recognize" the emotions behind it, so that they can not meet deeper emotional needs of users.

3.2.2. Lack of "diversity" in news broadcasting

Although AI intelligent news anchors can simulate human verbal expressions through the algorithms, its expression ability is relatively limited and is difficult to be flexible as human anchors. In addition, the knowledge reserve of AI intelligent news anchors mainly relies on a predetermined database, and the update speed and scope of their knowledge are limited. Human anchors can interact with the audience in real time to increase the interests and appreciation of the programs. AI intelligent news anchors can not realize the real interaction only according to the preset program. It also leads to a relatively weak ability in innovation. In the face of unexpected events, human anchors can react quickly and adjust their broadcasting strategies according to the scenes. AI intelligent news anchors may be limited by the program when dealing with emergencies and unable to make an effective response in time.

3.2.2.1. Miss the ability of derivative work

Derivative work is the key to show the announcers' capability and personalization. Derivative work requires the announcers must be conscious, thoughtful and expressive. The significance of derivative work is to mobilize the announcers' own life experience, so that they always remember the duties and missions of the work, with full enthusiasm into the creation of broadcasting and hosting. At the same time, it constantly expands the scope of cultural knowledge, enhances own ideological and moral cognition and improves the ability of aesthetic sentiment and humanistic care, ultimately realizing its professional value and existence value. Derivative work not only contains a lot of information, but also contains cultural attributes, with unique artistry and aesthetics. AI anchors obviously cannot possess the ability to practice derivative work [5]. In addition, AI anchors may not yet be able to accurately resolve problems when encountering unexpected situation and other problems, such as script errors.

3.2.2.2. Be difficult to maintain artistic style

Personal style in broadcasting is formed through practices, unique and steady. Not only related to personal stage experience, but also it has a close connection with education degree, education mode, life state of individuals. Thinking patterns between AI anchors and human anchors are different, so AI anchors can not have a complete subjectivity and be independent of human anchors to shape another style of art. Although AI anchors have more advantages over human anchors in many other aspects, the unrepeatable nature of the artistic style determines that it is difficult for AI technology to realize the transplantation and performance of real dependant art.

4. Thoughts and Suggestions on AI Anchors in News Broadcasting

4.1. Deep emotional expressions

Emotional expressions mean conveying the anchors' emotional attitudes and emotional reactions to news events through verbal languages, voices, facial expressions and other means. This way of expression can make news more attractive and infectious, so that the audience is more likely to resonate. However, it is not easy for AI news anchors to realize emotional expressions, because AI anchors are based on artificial intelligence technology, and their "emotions" are not real, but are simulated by algorithms. This requires us to make a breakthrough on the relevant technology so that AI anchors can better understand and simulate humans' emotional expressions. Voices are important carriers of emotional transmission, so it is necessary to make the voices of AI anchors more natural and emotional by improving voice synthesis technology. In addition to voices and emotions, facial expressions are also an important part of emotional expressions, therefore, the facial expression generation technology is optimized to make the facial expressions of AI anchors more abundant. If such technology can be realized, it is also necessary to establish an emotional response model so that AI anchors can produce corresponding emotional responses, according to the nature and content of the news events.

4.2. Deeper Learning for Core Values

In the development process of AI intelligent news anchors, we should integrate core values into the algorithm designs. This means that the requirements of core values should be fully taken into account when writing codes and building models, so that intelligent anchors can consciously follow these principles when broadcasting news. We need to provide them with affluent learning resources, which includes all kinds of books, articles, videos on core values, as well as relevant news report cases. Through continuous learning, the intelligent anchors can better understand and master the connotation of Core Socialist Values. At the same time, in the actual operation of the AI intelligent news anchors, we need to establish a set of perfect real-time supervision and feedback mechanisms. By monitoring the content of the intelligent anchors' announcing in real time, we can immediately correct and guide the intelligent anchors, once they are found to be in violation of the core values. Simultaneously, we can also continuously optimize the algorithms and adjust the learning resources, according to the feedback information, so that the intelligent anchors can better learn and promote the core values.

4.3. Diversification of development areas

AI news anchors can be introduced into more languages and regions. Currently, AI news anchors are still mainly focused on the Chinese and English markets, but there are many other languages and regions around the globe with unmet needs. By developing multilingual AI news anchors, we can make news and information from all over the world accessible to more people and promote cross-cultural communication and understanding. Secondly, AI news anchors can conduct in-depth study and research

in specific fields. For example, there is a strong demand for real-time information in the fields of finance, sports and entertainment, etc. AI news anchors can provide more accurate and in-depth reports by learning specialized knowledge and terminology in these specific fields. This will help meet the needs of different audience groups and optimize the users' experience. In addition, AI news anchors can also combine "Big Data" and "Cloud Computing" technology to achieve personalized recommendations and intelligent push. Through the analysis of users' behavior data, AI news anchors can understand the interests and needs of users and recommend the most appropriate news content for them. This will help to enhance user stickiness and satisfaction, and at the same time inspire more potential of the news media.

4.4. Enhance the refined operation

AI news anchors can deeply collect and analyze massive news data through big data analysis and machine learning technology, thus improving the accuracy and objectivity of news broadcasting. By comprehensively analyzing news materials from different sources and means, AI news anchors can present the truth of news events in a more rounded way, avoiding inaccurate reports caused by subjective bias or incomplete information. Meanwhile, it can push more accurate and personalized news content for users according to their interests, browsing history and other data. This helps to improve the users' reading experience and increase user stickiness. And it is also conducive to the news media to expand the audience and improve the communication effect. In addition, AI technology can help news organizations realize automated and intelligent news production processes. For example, AI news anchors can automatically categorize and label news materials to improve the efficiency of news editing and reviewing, and can also assist journalists in on-site reporting, transmitting live images and sounds in real time, through intelligent devices to improve the timeliness of news reporting. It can also interact with users in real time by means of intelligent voice assistants and the online column "Q&A" to answer their questions and collect their feedback. This helps news organizations understand users' needs in a timely manner, adjust broadcasting strategies, and improve the relevance and effectiveness of news dissemination. In the process of strengthening refined operations, AI news anchors must strictly abide by journalistic ethics and regulations to ensure the truthfulness, fairness and legality of news reports. At the same time, news organizations should strengthen the supervision and training of AI technology to ensure that AI news anchors do not violate the privacy, reputation and other legitimate rights and interests of others when performing their duties.

5. Conclusion

AI anchors and human beings have never been hostile relationships. The era of "everything is media" and "human-machine symbiosis" is approaching. AI anchors will replace part of the human anchors' work in the future, but this still needs to go through a lot of learning. "AI anchor", as a right-hand man of human anchors, is only an innovation in technology, and is a tool that can be controlled. And human anchors will not be replaced anytime soon in the future, because the core of news anchors is not the external skills of news broadcasting, but the inner emotional communication between human beings. AI learns human beings' emotional expressions, which still needs a lot of time and more advanced and precise technology.

References

[1] Zhou Yiren, Wang Hanxi. Exploring the innovation path of AI anchors in news broadcasting in the age of smart media[J].Journalism Research Guide,2023,14(18):121-123.
[2] Shi Kun, Yue Yanhui. Analysis of the application and development of "AI synthesized anchor" in news dissemination[J]. China Radio and Television Journal,2023,(09):72-74.
[3] Huang Hongzhen, Qin Ying. The use, value and development space of AI anchors in news broadcasting [J]. Modern Audiovisual,2023,(12):75-79.
[4] Wu Jianzhong, Yang Fan, Li Qingxin. Retrospect, reflection and prospect: the technological embodiment of AI anchors[J]. Young Reporter,2023,(04):60-63.
[5] WANG Qiusuo, LU Yuhui. Transformation and value of broadcasting and hosting art in the era of intelligent media--Taking "AI synthesized anchor" as an example[J].China TV, 2021,(04):86-91.