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Research Article

Application of AI in the news industry: a case study of China's news coverage of the Paris Olympics

Huang Yaxin[a*]

Postgraduate student, Peoples' Friendship University of Russia named after Patrice Lumumba

awesome.yaxin@yandex.ru

ORCID: 0009-0006-3866-439X

[a] RUDN University, Miklukho-Maklaya Str., 6, Moscow, 117198, Russia

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Abstract:

This paper explores the application of artificial intelligence (AI) in the news industry. Taking the Chinese media's coverage of the 2024 Paris Olympics as an example, it analyzes how AI technology changes the process of news collection, production, distribution and interaction, thereby affecting the effect of news dissemination and the audience experience. The article outlines the development of AI and its current application in the news industry,

[*] Corresponding author
E-mail address: awesome.yaxin@yandex.ru

and explores the positive impact, prospects and challenges of AI application in the news industry, aiming to provide reference for the future development of the news industry.

Keywords: artificial intelligence, news coverage, China, media technology, the Paris Olympics

Introduction

In the digital age, the rapid development of artificial intelligence technology is profoundly changing the operating model of the news industry. From the efficiency of news collection, to the intelligence of news production, to the precision of news distribution and the depth of audience interaction, AI technology has comprehensively revolutionized the ecology of the news industry. As a global sports event, the 2024 Paris Olympics has become an important stage for Chinese media to show the results of AI technology applications, bringing unprecedented viewing experience to the audience, and also highlighting the important role of AI in news dissemination.

Since the concept of "artificial intelligence" was first proposed in 1956, AI technology has experienced a booming development from early expert systems and machine learning to today's deep learning, natural language processing and other fields. With the improvement of computing power, the explosive growth of data volume and the continuous optimization of algorithms, AI technology has gradually moved from the laboratory to practical application. It’s becoming a key force in promoting social progress and industrial upgrading.

The application of AI technology in the news industry is multifaceted nowadays. In the news collection stage, AI can

conduct real-time monitoring to different activities all over the world, as well as collect various types of information and provide richer materials for journalists. In the stage of news production, the natural language generation technology enables AI to generate news articles automatically, especially in areas with fixed structures and patterns such as sports event reporting and financial data interpretation. AI can quickly generate accurate and objective news content, greatly improving the efficiency of news production. In the news distribution process, with the help of machine learning algorithms, AI can make personalized recommendations for news based on user interests, browsing history and other data. It accurately pushes content that users are interested in to them, and improves the user's reading experience and the dissemination effect of news media. In addition, AI also enhances the interaction between news and audiences, it provides users with real-time news interpretation, Q&A and other services through intelligent voice assistants and chat bots, which narrows the distance between the media and the audience.

Case Study: China's News Coverage of the Paris Olympics

As an important copyright holder of the 2024 Paris Olympics, China Media Group (CMG) has made full use of its new media platform, app China Media Group Mobile to provide a comprehensive and multi-level Olympic coverage for global audiences. The Olympic column opened in China Media Group Mobile not only covers the live broadcast of the event, but also includes rich content such as city scenery, pre-match conditions, Olympic stories, etc., which allows audience to fully understand all aspects of the Paris Olympics. What's more, China Media Group

Mobile also provides a schedule and reservation function for audience to easily follow the events they are interested in.

In terms of technological innovation, CMG demonstrated its independently developed ultra-micro camera real-time image acquisition and processing system, as well as 8K ultra-high-definition broadcasting technology. The application of these technologies provides an immersive viewing experience. The audience can clearly see every move of the athletes from multiple angles. For example, in the broadcast of track and field competitions, these cameras can capture every subtle expression and movement of athletes on the track, making the audience feel as if they are at the scene of the competition themselves. 8K ultra-high-definition broadcasting technology further improves the clarity and detail of the picture, the audience can feel the tension and intensity of the competition more vividly.

Besides, CMG also uses AI technology to improve the efficiency of program production, including intelligent transcription, lyrics, translation, dubbing, etc. These technologies greatly improves the quality and speed of reporting. In event reporting, AI transcription can convert game commentary into text in real time, making it easier for viewers to understand the game by reading text in noisy environments or when they cannot watch videos. The lyrics and translation functions ensure that viewers from different language backgrounds can watch the game without obstacles, enhancing the international influence of the report. The dubbing function provides professional commentary services for some games without live commentary, enriching the audience's viewing experience.

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Alibaba Cloud: Cloud Broadcasting and AI Enhanced Technology

As the designated cloud service provider of the Olympic Games, Alibaba Cloud has achieved scale and technological innovation in cloud broadcasting through the OBS Cloud platform. Cloud broadcasting not only reduces costs and improves flexibility, but also provides a multi-angle and immersive viewing experience through the application of AI technology.

At the Paris Olympics, cloud computing is replacing satellites and becoming the main way to broadcast live Olympic events. More than two-thirds of the live broadcast signals of the Olympics will be transmitted from Paris to more than 200 countries and regions around the world through the Olympic Broadcasting Cloud supported by Alibaba Cloud, reaching billions of viewers. This is officially defined by the Olympic Organizing Committee as a historic moment comparable to the launch of satellite broadcasting in 1964. Today, cloud computing technology supported by Chinese technology company Alibaba Cloud will become the mainstream technology of the next era of the Olympics. According to the data, 11,000 hours of live broadcast footage of the events has been distributed to the world through Alibaba Cloud.

Alibaba Cloud AI enhancement technology has been deployed in 14 venues of the Paris Olympics and used in the broadcast of more than 20 events, including rugby sevens, badminton, athletics, basketball, beach volleyball, table tennis, wrestling, tennis, judo, and breakdancing. These technologies can achieve high-degree-of-freedom playback images in live broadcast signals, while it used to take more than ten hours to achieve this in the past. The most used applications included:

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1. 360 real-time playback: Through high-speed camera arrays and advanced cloud computing technology, the system can capture exciting moments in real time during the game and replay them from multiple angles. This technology has been applied to the broadcast of rugby sevens, badminton, athletics, basketball and other events.

2. 3D tracking of athletes: Using AI technology to track and analyze athletes' movements in real time and generate 3D models, viewers can watch athletes' technical movements from different angles and better understand the details of the game.

3. Virtual studio: Through virtual reality (VR) and augmented reality (AR) technology, the virtual studio is created to make the audience feel as if they are at the scene of the game.

4. Digital human broadcast: Using AI-generated digital human images, real-time commentary and analysis of the games is provided, making the experience more interesting and interactive.

What's more impressive is that Alibaba Cloud helped restore and colorize Olympic archive footage from the Olympic Games Paris 1924, allowing contemporary audience to experience these iconic moments in enhanced viewing quality and vivid colors. Furthermore, Alibaba Cloud utilized its colorization technology to produce "To the Greatness of Her," an 8-minute short film highlighting the evolution of gender equality in sports. This film, featuring restored and colorized photographs of celebrated female athletes, was showcased at the Alibaba Evening in Paris.

In addition to CMG and Alibaba Cloud, other platforms such as Migu and Tencent have also used AI technology to launch a variety of viewing functions. Migu has launched an AI intelligent commentary function, which automatically generates commentary content in combination with real-time data analysis. This function

can not only provide professional commentary and analysis based on the real-time data and situation of the game, but also generate personalized commentary content based on the audience's preferences and focus. For example, in basketball games, AI intelligent commentary can focus on the technical characteristics and game performance of different players based on the audience's attention to different players, providing the audience with more intimate viewing services.

Tencent integrates its products to provide full-match schedule data and video on demand services. Audiences can view the game schedule, game results and related data anytime and anywhere through the Tencent Sports platform, and can also choose to watch the game video on demand according to their needs. Besides, Tencent also uses AI technology to conduct in-depth analysis of game data, providing viewers with services such as game win-loss prediction and player performance evaluation, which increases the fun and interactivity of watching games.

In general, the innovative cases of reporting on the 2024 Paris Olympics show that the development of media technology is constantly driving the transformation of sports event communication. Through the application of technologies such as cloud computing, artificial intelligence, 5G, and ultra-high-definition broadcasting, the audience's viewing experience has been greatly improved, and it has also provided new possibilities for the international communication and cultural exchange of sports events. The comprehensive coverage of China Central Radio and Television, Alibaba Cloud's cloud broadcasting and AI enhancement technology, Migu's AI intelligent commentary, and Tencent's diversified services together constitute a diversified,

personalized, and interactive reporting system, bringing unprecedented Olympic viewing experience to global audiences. These innovations not only demonstrate the broad prospects of the combination of technology and sports, but also provide valuable reference and inspiration for the development of future sports event reporting. With the continuous advancement of technology, future sports event reporting will be more diversified, personalized, and interactive, bringing more surprises to global audiences.

Advantages, Challenges and Prospects of AI in the News Industry

The application of AI technology in the news industry has already become a trend. The application of AI technology in China's reports on the Paris Olympics is not a single case. Global news media including BBC, CNN, The Times and other media groups are all gradually integrating various artificial intelligence technologies into their editing and reporting work nowadays. And the advantages of such intergration are obvious.

News organizations use machine learning to analyze audience preferences, enabling personalized content recommendations and flexible paywall systems that cater to individual readers. This helps increase engagement and optimize revenue models.AI-powered computer vision allows journalists to work with visual data in innovative ways, such as detecting manipulated images, analyzing satellite imagery, and creating dynamic visual content for events. AI supports automated content creation by using structured data to produce timely news stories in areas like sports, finance, and crisis reporting. This reduces the workload for journalists and ensures consistent coverage of recurring or data-heavy topics.

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It is undeniable that while AI technology continues to bring convenience to the news industry, it also brings many challenges and problems. Many users have expressed concerns about the data collection and personalized recommendations of news media, believing that once these data are leaked or abused, the privacy rights of users will be seriously violated. In addition, since AI systems process and generate information based on algorithms and data, if the data source is unreliable or the algorithm is biased, it may cause errors and false information in the generated news content. How to take effective technical measures such as encryption, backup, and access control to protect user privacy and data security, and at the same time establish a more complete data review and verification mechanism to improve the accuracy and reliability of AI systems is an urgent problem for news media to solve.

However, it is certain that in the future, AI technology will continue to maintain the momentum of rapid development in the news industry, and new technological innovations and application models will continue to emerge. For example, combined with technologies such as virtual reality (VR) and augmented reality (AR), it will bring a more immersive news experience to the audience; use blockchain technology to ensure the authenticity and credibility of news information and prevent the spread of false news; through sentiment analysis technology, more accurately grasp the emotional needs of the audience and provide support for the emotional expression of news reports.

At the same time, the integration of AI and other cutting-edge technologies will continue to deepen, promoting the digital and intelligent transformation of the news industry and creating more

innovative and influential news products and services. In addition, with the continuous increase in data volume and the increasing maturity of data analysis technology, AI will play a greater role in data mining and analysis in the news field. News media will be able to dig deeper into the laws and trends behind the data, discover news clues and stories hidden in the data, and thus achieve in-depth reporting driven by data. In sports event reporting, through the comprehensive analysis of multi-dimensional data such as athletes' training data, competition data, physiological data, etc., the audience can be revealed the secrets of athletes' success, the key to winning or losing the game, and the future development of sports events. Deep-seated issues such as the future development of sports events provide more valuable and inspiring news content.

Conclusion

The application of artificial intelligence technology in the field of news is profoundly changing the ecology and pattern of the news industry. Taking the Chinese media's coverage of the 2024 Paris Olympics as an example, we have seen the huge potential and value of AI in news collection, production, distribution and interaction. It not only improves the efficiency and quality of news dissemination, meets the personalized needs of the audience, enhances the interactivity and sense of participation of news, but also provides broad prospects for the future development of the news industry. However, we must also be aware that AI still faces many challenges in the application of news in the field of information authenticity, privacy protection, ethics and morality. Therefore, while actively embracing AI technology, news media should strengthen technology research and development and innovation, improve relevant systems and norms, improve the

quality and ability of practitioners, ensure the healthy and orderly development of AI technology in the field of news, provide audiences with more high-quality and reliable news information services, and promote the continued prosperity and progress of the news industry in the era of digitalization and intelligence.

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