Research on New Media Content Production Based on Artificial Intelligence Technology

Xiaocui Wang1,*, Chuanlin Liu1, Yue Qi2
1Shandong Communication & Media College, No. 8678, Jingshi Road, Jinan 250200, China
2Shandong Institute of Commerce and Technology, No. 4516, Luyou Road, Jinan 250100, China

*41353153@qq.com

Abstract. At present, the main application of artificial intelligence in the media content production industry is to greatly reduce the application threshold, to a certain extent, to enable media workers to collect data from the low-end and produce visualization works for media terminals free from repetitive labor. Such as visual effects production, special effects design, video editing, subtitles sorting, data collection and comparison, image-text audio-video conversion, host broadcasting, and press release writing, are now increasingly completed through artificial intelligence programs. The working procedures of media content production are becoming more and more automated and intelligent.

Keywords: Media Robot, Artificial Intelligence, Media Content Production.

1. The production process of media content is fully intelligent
In content production, big data is used as the support, and the visual presentation method is adopted to allow the audience to have a more objective and comprehensive understanding of the process of news. In terms of content, the layout of each output video graphic product can also be completed quickly according to the established template. The traditional editing work of news, editing, and typesetting can be done automatically.

In 2018, Xinhua Zhiyun company launched the media artificial intelligence platform "Media Brain" to make smart technology more "local" and assist content editors to collect, process, and distribute news resources better and faster.
Smart manuscript writing robot, tracking hotspots, writing articles, it only takes 2 seconds from getting the material to completing the publication. For example, stock market news and sports news in the financial category can automatically generate text manuscripts by robots. In addition to writing news briefs and writing information based on data templates, crawling and summarizing the entire network information [1]. It can also cover account and secret login, sliding verification, follow and fan operations, content operations, forwarding comments, etc. It supports timer tasks and realizes scheduled user interaction. These functions greatly improve the speed and efficiency of editors and reporters.

Intelligent editing, through functions such as face recognition and voice recognition, automatically grab the corresponding image, and automatically realize the stripping. For example, when watching news or sports games, you can only take screenshots of a certain character or a certain period of time. Even during the live broadcast, you can capture all the pictures of a certain character through automatic face recognition, and automatically generate news one by one. Face recognition is used for many purposes. For example, a football game requires Messi’s lens. Recording Messi’s face will automatically generate a video of all Messi’s shots. At the same time, through voice recognition, all voices are converted into text, subtitles are automatically added, and the article is automatically disassembled and released. Provides the timeliness of news production. Conducive to news generation in sports competitions, live news, conference news, or major news reports.

Another application of face recognition is used for conference news, especially CCTV news broadcasts or current affairs news of municipal TV stations. Leaders appear more frequently in meetings. We pass the discussion to national or local leaders. The facial feature information of the leaders is stored. The robot “knows” these leaders and automatically tracks their faces in the video stream. For example, a conference news lasts more than an hour, and the leaders’ shots only appear by accident. You can use it to capture the shots of the leaders and edit them specifically.

"Fool-style" editing, quick voice cut, modify the voice like a text. Use smart templates to lower the production threshold for video news and video packaging. Just upload material content, and you can produce short videos that are already packaged in a fool-like and fast manner. There are various types of templates, such as templates for emergencies, templates for conference themes, etc. The production of data news is more concise. Through a large number of data templates, you can quickly produce a news similar to a template just by importing the data through an Excel table. There is no need for the participation of art editors and technical personnel, such as map, chart, line chart, and column comparison chart, which realizes quantitative production. For example, the typhoon robot can realize the visual production of the typhoon path. After entering the place of entry, passing place, and coordinates, directly input the text content to generate a news report, so that the typhoon entry and the news are connected to form a complete news.

The virtual anchor becomes a host who works 24 hours a day. Just input text, it can be broadcast automatically, and you can choose different background types. The image of the anchor can also be set by yourself, or it can be cartoon or human. It completely simulates the situation of real people and can set expression. action. In breaking news and some regular news reports, it has replaced reporters. For example, some news happens late at night, the host cannot catch up in time, the material is lacking, there is no picture and no voice, you can use the robot to make a temporary news. In the future, there
is no difference from live broadcasts, intelligent broadcast robots have been fully popularized. For example, "Jiang Xiaobai", the virtual female anchor of Dazhong.com's poster news, has officially started.

Robot reporter. From the Xinhua News Agency robot reporter Jiajia in 2018 to the "Xiaodu" of China Central Radio and Television in 2019, robot reporters have moved from virtual to reality, able to answer questions by reporters, and predict online hot words through big data analysis. In addition, it can also perform information services such as location query and surrounding query, as well as emotional services such as chat and entertainment, and perform technical services such as information face recognition and photographing, making it an intelligent "all-rounder".

Intelligent shooting robots have been used on a small scale in the news scene during this year's epidemic. On September 25, 2020, the National Smart Filming Industry Summit discussed the future development direction of the smart filming industry, and demonstrated the integrated application of 5G technology and smart filming robots. You only need to move your fingers on the tablet or mobile phone to complete the remote control. A series of manipulations of the live broadcast equipment in Hefei, thousands of miles away, and through AI recognition technology, the six cameras in the audience are controlled without a cameraman, automatically identifying and tracking the speaker's picture.

Artificial intelligence has made tangible progress in the production and application of media content. The media technology industry will be an area where intelligent software and people are more complementary and closer cooperation, changing the pattern of news production. All products can be robotized.

The first step of artificial intelligence is to "kill" reporters, replacing text production capabilities, and now replacing technologies created by editing and collaboration functions. In addition, the smart shooting robot that has not yet been put into use on a large scale will "kill" the cameraman. At present, the production process of media content is gradually being robotized. From the perspective of reporters, the changes brought about by the use of intelligent robots are mainly the improvement of efficiency. Let reporters and editors focus more on creativity, and the content itself is not limited by these technologies.

2. **One-click conversion of picture, text, audio and video**

"Robot reporters" have inherent absolute advantages in data processing and image, text, audio, and video conversion. They can integrate and process large amounts of data in a few seconds to achieve one-click transformation, which is beyond human reach.

Video rotating images, content distribution for new media platforms such as WeChat official accounts, Weibo, Moments of Friends, etc. of animated images in Gif format. Due to copyright, duration, format and other reasons, some materials cannot be uploaded to the new media platform. This technology can be used to organize videos, pictures, etc., and re-transform the format to upload and distribute.

One-click text to voice. Enter a paragraph of text, click the voice, and automatically generate voice news for you, eliminating the need for dubbing. At the same time, the speaker is automatically identified through voice recognition. At the same time, poster news can be generated with one click, and materials can be imported through templates to automatically generate news.
One-click conversion of images and texts to videos can be converted from word or image format to video format. If you encounter a manuscript of a correspondent, the document is full of text and pictures, and it is directly generated as a general news, and the visual effect is not good. That can integrate text and pictures, and automatically generate a video with its own transition. At the same time, you can generate subtitles from the text, extract the summary to generate subtitles, automatically add dubbing, and automatically wrap the video. It can also support the web link of the WeChat official account, you can input the web link of the WeChat official account, the text automatically generates the voice, and the picture generates the video.

One-click switching of the screen ratio, intelligent cropping, for different smart terminal devices, the screen ratio is also different, there are 9:16, 2:3, 1:1, you can crop the screen according to the desired output ratio without damage Picture quality.

Now artificial intelligence needs to be refined, but its advantage is that the more it is used, the smarter it is, because the more data templates available for analysis and reference, the smarter it is. Now the news made with smart robots is pushed in large numbers on WeChat official accounts and APPs.

One-click access to the editing background, the editing backgrounds of different platforms are unified into one platform, and editors can directly edit, produce and distribute to different platforms such as WeChat, Weibo, and clients to complete one-click push, including live broadcasts.

Personalized customization of "media robots". Artificial intelligence technology continues to deepen. "Media robots" have been discussing the integration of "content" and "technology" to make content operation more convenient and technology simpler and operable. At the same time, change the linear distribution of news content, especially the characteristics of video news, and conduct in-depth excavation and several processing in accordance with its flashing characteristics. Through multi-channel fission-type communication and the aggregated application of multiple communication methods, news The content is precipitated and refined to find the most valuable part of it.

At the same time, through one-click intelligent packaging, new forms are given to the news, forming the material for the second transmission, and making the transmission more dimensional and deeper. In 2019, Xinhua Zhiyun company launched more than 30 "media robots" for the first time in China, becoming a major manufacturer and service provider of "media robots" in China.

3. Intelligent use of major current affairs news to change the reporting process

Every year, the National Two Sessions have also become an important display platform for the intelligent means of media. The two sessions will show the "new tricks" of media reporting methods.

From the Google Glass that appeared in 2014, it has assembled multiple functions such as voice recorders, cameras, and mobile phones. It can control the process of taking photos and videos through voice and facial expressions, and can connect to a wireless network for live broadcast.

By 2016, the VR panoramic camera has changed the audience's viewing angle. Through 360-degree panoramic shooting, it breaks the limitation of space and allows the audience to feel the immersive effect.

In 2017, the intelligent live broadcast platform "Iron Man" completed the entire process of information collection and publication, and synchronized recording and live broadcast of ordinary video, panorama, and VR [2].
In 2018, Xinhua Zhiyun launched the short video intelligent production platform "Media Brain", which integrates content shooting, video editing, and automatic distribution, and produced a short video news of the two sessions in 15 seconds[3].

In 2019, the intelligent robot attracted the attention of the media industry, from the AI-synthesized female anchor "Xin Xiaomeng". From speech, gestures, movements to micro-expressions, it can already follow its prototype Xinhua News Agency anchor Qu Meng to "make the fake and the real".

To the reporter's assistant "Xiao Bai", through AI technology, the voice and intonation of the CCTV's celebrity Bai Yansong was used as the object of imitation, processing a large amount of news information in real time.

In 2020, the application of holographic images, smart shooting, AR interaction and other smart means, the degree of intelligent media production is deeper. In specific news work, with the in-depth use of intelligent technology, reporting efficiency has been greatly improved, and the scope of innovation, areas of innovation, and innovative technologies are constantly being introduced. Artificial intelligence technology is used to reconstruct the entire process of production, production and dissemination of current affairs news.

From Google Glass, a portable and wearable shooting device that integrates projection, camera, control and other functions, to realize simple human-computer interaction, to VR shooting to increase user experience, from changes based on appearance, form and experience to real In recent years, media content has become more intelligent and more grounded, achieving a qualitative leap, and changing the reporting process of current affairs news.

From 15 seconds to make a short video of the two sessions in 2018, to a short video of 6 seconds in 2020. From foreign technology to domestic original research and development, from reporting gimmicks to real applications, from single-point distributions of central-level media such as Xinhua News Agency and China Central Television to the multi-point blooming of media groups such as Xinjiang, Guangxi, Tianjin, and Zhejiang. Current affairs news The entire process of intelligent applications is becoming more and more popular.

Especially during the two sessions in 2020, due to the restrictions of the epidemic, on-site reporting will be restricted. With the help of cloud technology, the two sessions will report the real and intuitive experience of online meetings and the real-time acquisition and broadcast of offline meetings. For example, Hunan Broadcasting and Television Station has realized cloud interviews and cloud editing through the mobile app and 5g and AI algorithms in Huawei’s original R&D technology. Sichuan Media Group has used broadcast and television 5G+ technology to realize the data transmission of large-screen TV video data and small screen of mobile phone, Cloud live broadcast and cloud recording realized in other TV programs have also been widely used.

4. Precision of big data application
Through the analysis of robots and the support of artificial intelligence technology, the whole process of content distribution tracking is realized, and the accurate delivery of personalized recommended content is realized. Data capture and data analysis have gradually become more convenient, which also provides a new way of thinking for news distribution. By continuously paying attention to the user's browsing content and preferences, performing intelligent calculations, the user's "portrait" is obtained, so that the content can be accurately placed. At present, artificial intelligence technology has
penetrated into all walks of life. In the media industry, the addition of artificial intelligence technology has subverted the traditional news dissemination pattern. Robot writing frees traditional reporters from primary tasks, greatly improves the efficiency of news production, and personalized recommended content enhances the stickiness between users and content production[4].

The source of news, through which channels are disseminated, and through which fission channels are distributed, is like a cell division diagram. It can track the entire process of news dissemination. In addition to completing copyright tracking, it can also be used as an assessment of dissemination. Assess the like rate, comment rate, and repost rate of the work. At the same time, data analysis of the entire network is formed, which audiences read the completed media works and which platforms are used. At the same time, it can also sink to the bottom to track specific user data, including who is watching and which mobile phone is watching. Tag all users and use artificial intelligence to identify these tags.

Through algorithm upgrade and parameter setting, such as the person who browsed a certain keyword in the last 15 days, age group, gender, location and other parameters can be accurately set. Through continuous running-in with the platform intelligent robot, the delivery is accurate within a week. The rate can be increased from 50% to 95%. Through this setting, the accurate contact information can be obtained, thereby enhancing the communication effect.

Local media can also cooperate with comprehensive media platforms such as Alibaba and Tencent to obtain a panoramic analysis of users. Big data can summarize the faces of users and become electronic living people. So as to realize intelligent directional push. Using algorithm technology to capture the audience's attention points from every corner of the Internet, media robots analyze and judge the data and can assist in content distribution. Although the application of big data raises great ethical issues, such as user privacy, it is still very convenient only from the application level.

From the application of manuscript robots, intelligent broadcasting, automatic capture and editing technology to intelligent shooting, artificial intelligence has been popularized in the field of media content production. The robot operation is very grounded and has strong functions. Every key link has set off a wave of change because of artificial intelligence. Artificial intelligence starts from "killing" the reporter, to "killing" the host, to "killing" the editor and technology, to "killing" the cameraman, covering the entire process of media content production.

In general, the application of artificial intelligence in the media field has just started. In the fields of social news, entertainment, and sports, in the professional division of labor such as content production, editing, and review, a large number of artificial intelligence is doing it, in Douyin or People Daily newspapers and other media are also conducting modular news production. However, its technology needs to be refined, and it is necessary to be cautious in the application of major current affairs news.

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