

Research on the application of AI technology in news communication practice

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Abstract: In the era of financial media with the rapid development of information technology, AI technology has been widely used in the field of news communication, and has improved the production efficiency and quality of news to a certain extent, bringing new opportunities and challenges to the field of news communication. Based on this, this paper starts from the basic overview of AI technology in news communication, analyzes the practical application of AI technology in news communication, and puts forward development prospects, in order to provide certain reference value for promoting the application of AI technology in the field of news communication.

Key words: AI technology; News communication; Practical application

Applying AI technology to the practice of news communication, the automatic generation of news headlines and news summaries can be realized through machine learning and natural language processing, and the efficiency of news production can be improved. At the same time, AI technology can also be applied to the assessment of news communication effect, user opinion analysis and emotion recognition, etc., to help news communication organizations better understand user needs and public opinion dynamics. However, although AI technology has great potential in the field of news communication, it also faces some challenges. Therefore, how to realize the scientific and efficient application of AI technology in news communication has become an important topic in the current news communication industry.

I. AI technology in news communication

1. Basic concepts of AI technology

Artificial Intelligence (AI) technology, also known as artificial intelligence technology, refers to the ability to simulate and replicate human intelligence and apply intelligence to machines and computer systems. The development of AI technology originates from the imitation and understanding of human intelligence, as well as the automatic processing and solving of various intelligent tasks. By mimicking and learning from human thinking and behavior patterns, AI technology can achieve a variety of functions such as speech recognition, image recognition, natural language processing and machine learning. The basic principles of AI technology include machine learning, deep learning, and natural language processing. Machine learning refers to the ability of computer systems to learn and make decisions autonomously by having them learn from data. Deep learning is a special form of machine learning that enables high-level abstraction and processing of complex problems by building multi-layered neural network models that mimic the way the human nervous system works. Natural language processing refers to transforming human language into a form that computers can understand and process, enabling functions such as translation between languages and sentiment analysis.

2. The main application scenarios of AI technology in news communication

At present, the application scenarios of AI technology in news communication are very extensive. The following are some major application scenarios: (1) News monitoring and analysis: AI technology can automatically collect and analyze a large amount of news data, helping news organizations and media companies to understand the news in real time. Through the text mining and emotion analysis of AI technology, the content and attitude of news reports can also be analyzed, helping journalists to better grasp the direction of public opinion. (2) News recommendation and personalized service: The recommendation algorithm based on AI technology can recommend news content in line with users' interests according to their personal preferences and reading habits. This personalized recommendation can improve the user's reading experience and enhance the user stickiness of the news communication platform. (3) News generation and writing assistance: AI technology can be used to automate the generation of news reports, thereby improving the efficiency of news production. AI technology can also assist news writing, help journalists provide relevant materials, data and copywriting suggestions, and improve the quality and accuracy of news manuscripts. (4) Network public opinion monitoring: AI technology can grasp the dynamics of public opinion in real time through monitoring and analysis of social media, micro-blogs, forums and other network platforms. This is an important means for the government, enterprises and institutions as well as news organizations to timely understand the public voice and respond to crisis events. (5) Speech recognition and automated broadcasting: The speech recognition function of AI technology can convert text content into speech, and realize automatic broadcasting of news content. This is widely used in media platforms such as radio stations, news clients and smart speakers, providing more channels for news dissemination.

II. The practical application of AI technology in news communication

1. Generating news headlines based on AI technology

With the rapid development of AI technology, certain progress has been achieved in the generation of news headlines based on AI technology. The technology utilizes related technologies such as machine learning and natural language processing to automatically generate attractive and accurate news headlines through the learning and analysis of massive data. Using AI technology, it is possible to automatically analyze news content through computers, extract key information therein, and generate news headlines that conform to grammar and

semantic rules. This can not only save the working time of editors, but also improve the accuracy and expression effect of headlines. At the same time, news dissemination often involves numerous fields and topics, each of which has its own specific language expression. Using AI technology, news content on different topics can be classified and analyzed, and then news headlines matching them can be generated according to the corresponding language models and rules. This can ensure the consistency of news headlines with content, improve the effect of information delivery and the degree to which readers are attracted. In addition, AI-based news headlines can also understand the interests and needs of users through the analysis of their historical clicks, reading behaviors and social media data, so as to generate news headlines suitable for their tastes according to their personalized preferences. This helps improve users' reading experience and the effect of news dissemination. However, the generation of news headlines based on AI technology also faces some challenges. On the one hand, access to high-quality training data is a key issue. For the generated headlines to be accurate and attractive, a large amount of and high quality training data is needed to build effective models and algorithms. On the other hand, the generation of news headlines also needs to consider the expression of semantics and emotion, which is a more complex task for machine learning and natural language processing, and needs to further improve the intelligence and precision of AI technology.

2. News summary generation based on AI technology

News summary is an important existence to help readers quickly understand the content of the full text and save reading time. The traditional method of summary generation is usually done manually by editors, which needs a lot of time and labor. With the development of intelligent technology, AI technology can help news media realize automated news production process, improve work efficiency, and ensure the accuracy and reliability of the summary. However, in the generation of news summaries based on AI technology, there are still several aspects that need attention. The first is text preprocessing, including noise removal, word segmentation and part-of-speech tagging. Then there is feature extraction, which helps generate summaries by extracting key information and features from the text. The next step is to choose a suitable generation model, which can be a statistical model, a rule-based model or a deep learning model to generate the summary. The final step is to evaluate the quality of the generated summary, which can be evaluated using either automatic evaluation metrics or manual evaluation. With the continuous development of the news communication industry, sometimes there are problems in semantic understanding and expression of news abstracts generated by AI technology. Especially for complex news content, the generated abstracts may be difficult to accurately express the information of the original text. Secondly, there is the problem of information selection and filtering. How to select the most important information to generate the abstract is a challenge. In the future, professionals related to news communication should further study models based on deep learning, and at the same time, they can also explore the use of multi-modal information, such as combining image and text information to generate richer and more accurate summaries. In addition, the performance of the models can be improved through larger data sets and more accurate annotation.

3. User perspective analysis based on AI technology

The application of AI technology in news communication has become more and more common, among which user opinion analysis is a research field that has received wide attention. User opinion analysis aims to understand the public's attitudes and views on different topics or events by analyzing the views and emotions expressed by users on online platforms such as social media, website comments and forum posts. User opinion analysis based on AI technology mainly includes two key tasks: sentiment analysis and opinion extraction. Sentiment analysis refers to the judgment and classification of user text emotions through natural language processing and machine learning technology, which can generally be divided into positive, negative and neutral emotions. Opinion extraction refers to extracting key words or phrases that can represent users' views from user texts to further understand users' positions and opinions on specific topics. The analysis of users' opinions based on AI technology has important application value in news communication. First of all, it can help journalists better understand the attitudes and emotions of readers and viewers towards news events, so as to better adjust the way and Angle of reporting and improve the effect of information dissemination. Secondly, user opinion analysis can also be used for public opinion monitoring and crisis public relations, helping institutions and organizations find and respond to public concerns and grievances in a timely manner, and maintaining a good public image and reputation. At present, user opinion analysis based on AI technology still has the following problems that need to be improved. For example, the training of AI technical models requires a large amount of annotated data, but there may be problems of subjectivity and inconsistency in the acquisition and annotation of annotated data. In addition, user perspective analysis needs to consider the context and the characteristics of the target domain, and the traditional general model may not be effective when dealing with domain-specific perspective analysis. At the same time, for some implicit or indirect views, the current model still has difficulties.

III. The development prospect of the application of AI technology in the practice of news communication

In the field of news communication, with the increasing maturity of machine learning and natural language processing technology in AI technology, AI technology can more accurately analyze and understand the needs and preferences of users, so as to provide personalized and customized content for news communication. This will further enhance user experience and increase users' attention and participation in news content. At the same time, with the development of deep learning technology, AI technology can learn a large number of news materials and language models, and AI technology can automatically generate eye-catching headlines and concise summaries, thus improving the effect and efficiency of news communication. In addition, AI technology can also be used to evaluate and analyze the effect of news communication. Through AI technology, news communication practitioners can more comprehensively understand users' views and feedback on news, so as to provide more accurate data analysis and decision support for media organizations and news practitioners.

However, in the era of information explosion, the application of AI technology often needs the help of algorithms to screen and recommend content, which requires the algorithm to be able to make objective and fair selection and judgment, so as to avoid the bias and misdirection of information filtering. At the same time, the application of AI technology also faces the problem of data privacy and security. A large amount of user data is used to train and optimize AI technology algorithms, but how to protect the privacy and security of user data and prevent leakage and abuse has become an important issue. In the future, when AI technology is applied to the news and communication industry, it is necessary to strengthen humanistic care and ethical thinking in technology research and development and application practice, and further promote the scientific and efficient application and vigorous development of AI technology in the field of news and communication.

IV. Conclusion

To sum up, with the continuous progress and iteration of AI technology, the news and communication industry will usher in new development opportunities in the era of converged media. Therefore, on the basis of the application of AI technology in the generation of news headlines, the generation of news summaries, and the analysis of user views, professionals related to news communication should increase the research on AI technology in the field of news communication, so as to improve the efficiency and quality of news communication, meet the diversified needs of users, and provide effective guidance and reference for journalists. So as to promote the integrated development and innovation of the news and communication industry.

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