A Study on the Credibility Assessment of News Content Generated Based on AIGC

——Using Entertainment News as a Case Study

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Abstract. With the rapid advancement of artificial intelligence technology, news content generated by AI-based language models (AIGC) has become increasingly prevalent. However, this technological breakthrough has also sparked widespread concerns regarding the credibility of such information. Focusing on entertainment news, this study explores the credibility assessment of AIGC-generated news content. By reviewing existing assessment approaches, designing a multi-feature evaluation model, collecting data, and training the model, we aim to evaluate the credibility of entertainment news produced by AIGC. Our results demonstrate that the proposed model effectively enhances the credibility assessment capability for this type of news. The significance of this research lies in providing novel insights and methodologies for assessing the credibility of AIGC-generated news content, thereby ensuring the credibility and dissemination effectiveness of news information.

Keywords: AIGC, entertainment news, model training, credibility assessment.

1 Introduction

Against the backdrop of the accelerating integration of artificial intelligence and digital technology, the application of AI-based language models (AIGC) in the news industry is leading a profound transformation, reshaping and even overturning the production, review, distribution, and reach modes of news content. AIGC refers to content generated using artificial intelligence technology, including text, images, videos, machine

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translation, code generation, and paper writing. The rapid development of this technology has diversified the ways in which news information is obtained, especially for entertainment news, which has become an increasingly popular type of news with rich content. However, the special nature of entertainment news makes it susceptible to hype and fabrication, and the phenomenon of mixed true and false information is common. Therefore, evaluating the credibility of entertainment news has become an important research topic. With the widespread application of AIGC technology, related ethical issues are also increasingly prominent. In entertainment news, false news and fake messages mass-produced by AIGC may touch the bottom line of the law. Therefore, as researchers and practitioners, we should pay attention to the social impact of AIGC-generated content, ensure that technology applications comply with social responsibility, and safeguard public interests.[1]

Amidst the accelerating integration of artificial intelligence (AI) and digital technology, the application of AI-based language models (AIGC) in the news industry is transforming the landscape, reshaping the modes of news content production, review, distribution, and reach. AIGC encompasses content generated using AI technology, spanning text, images, videos, machine translation, code generation, and even paper writing. The proliferation of this technology has diversified news information sources, particularly in the realm of entertainment news, where content is abundant and diverse. However, the inherent nature of entertainment news makes it prone to exaggeration and fabrication, leading to a mix of genuine and false information. Consequently, assessing the credibility of entertainment news has emerged as a crucial research topic. With the widespread adoption of AIGC technology, related ethical concerns have also grown prominent. In entertainment news, mass-produced false narratives and misleading messages generated by AIGC can cross ethical boundaries and even breach legal norms. Thus, researchers and practitioners must acknowledge the social implications of AIGC-generated content, ensure technology aligns with social responsibility, and safeguard public interests.[1]

The objective of this study is to explore credibility assessment methods for entertainment news based on AIGC technology, enhancing public understanding and trust in this information. By integrating the application of AIGC in news with the practical demands of credibility assessment, we construct a credibility assessment model to provide fresh perspectives and methods for evaluating the credibility of AIGC-generated entertainment news content.

Scholars globally have made significant strides in integrating AIGC technology with the news field. Some research focuses on leveraging AIGC for news content generation, aiming to enhance reporting efficiency and credibility. Meanwhile, discussions on credibility assessment for entertainment news persist, yet gaps and unresolved issues remain. In China, despite the continuous advancement of AI technology and the expanding use of AIGC in various sectors, research on credibility assessment for AIGC-generated news content in journalism is still limited. Consequently, this study builds upon existing research to fill these gaps, promote the development of credibility assessment for AIGC- generated news, and offer new insights and theoretical support for enhancing news information sources and accuracy.

The specific research plan is as follows:

(1) Conduct a comprehensive review of news content generated by AIGC, analyzing its current applications in the news field.

(2) Review credibility assessment methods for entertainment news, exploring the current status and issues in related research.

(3) Construct a credibility assessment model for news content generated by AIGC, design experiments, and analyze the results.

(4) Apply the credibility assessment model for news content generated by AIGC in practical cases and analyze its effectiveness.

(5) Summarize the research findings, provide insights into future directions and challenges, and discuss the potential for further development.

Through the research outlined above, the aim is to provide new research ideas and methods for evaluating the credibility of entertainment news, and to promote the further application and development of AIGC technology in the news field.

2 A Review of News Content Generated by Aigc

2.1 Definition and Principles of AIGC Technology

Artificial Intelligence Generated Content (AIGC) technology represents a burgeoning intersection of artificial intelligence and natural language processing. Its fundamental principle involves harnessing machine learning algorithms and extensive data analysis to empower computers with the capacity to generate and comprehend human language. Within the realm of journalism, AIGC technology finds application in tasks such as the composition, editing, and summarization of news articles, thereby offering news organizations a more rapid and efficient approach to content creation.

The implementation of AIGC in the generation of news content is not a novel concept. It has evolved through various stages, wherein technology and news production have intertwined: from the early era of template-based automated generation driven by rules, to the intermediate phase characterized by machine learning-enhanced reporting, culminating in the present stage, defined as "innovation-driven diversification through deep learning."[2]. AIGC exhibits three critical technological features: pre-training, large models, and generative capabilities[3]. To effectively assimilate human cognitive expressions during pre-training, AIGC relies on a vast corpus of online texts, news articles, images, and videos. However, alongside the extensive publicly available data, it also incorporates a significant amount of manually annotated data, which can introduce biases. Consequently, the sources that AIGC references or cites when generating news content may exhibit a degree of partiality, thus risking entrapment within information cocoons.

2.2 The Current Application of AIGC in the News Field

In recent years, with the rapid development of artificial intelligence technology, the application of AIGC in the news field has gradually increased. Some news organizations and platforms have begun to try to apply AIGC technology to the writing and

production process of news reporting to improve efficiency and save costs. At the same time, AIGC-generated news content has gradually integrated into people's daily information acquisition, presenting more diverse and personalized content forms.[4]

2.3 Characteristics and Challenges of AIGC-Generated News Content

Although AIGC technology has broad prospects in the news field, it also faces some challenges and difficulties. Firstly, AIGC-generated news content often lacks human thinking and emotional factors, which can appear rigid and lack persuasive power. Secondly, AIGC-generated content may have problems with inaccurate or incomplete information, requiring manual intervention and correction.[5] In addition, how to ensure that AIGC-generated news content complies with news ethics and norms is also an urgent problem to be solved in current research and practice.

Overall, the application of AIGC technology in the news field presents enormous potential for development, but it also needs to address its characteristics and challenges in a targeted manner to improve the quality and credibility of news content. This research department will further explore the methods and strategies for credibility assessment of AIGC in the entertainment news field, providing new ideas and theoretical support for improving the sources and accuracy of news information.

3 Overview of Credibility Assessment Methods for Entertainment News

3.1 Definition and Significance of Credibility Assessment

Credibility assessment of entertainment news refers to the process of evaluating and judging the authenticity, objectivity, and credibility of entertainment news content.[6] In the current era of information overload and the proliferation of rumors, credibility assessment of entertainment news is of great importance. Through comprehensive analysis and evaluation of the sources, content, and dissemination channels of entertainment news, it can help the public distinguish between real news and false information, thereby improving the accuracy and credibility of information acquisition.

3.2 Research Methods for Credibility Assessment of Entertainment News

When assessing the credibility of entertainment news, researchers typically employ various methods and techniques. These include content evaluation methods based on text analysis, data mining methods based on network dissemination paths, and hybrid evaluation methods that combine manual review and machine learning. Exploring the combination of artificial intelligence technology and manual review can enhance the comprehensive assessment of news content credibility. In particular, the integration of artificial intelligence technology and manual review can significantly improve the comprehensive assessment of news content credibility. [7] These methods cover multiple aspects of evaluation indicators, such as news content, dissemination channels, and

source credibility [8], enabling a comprehensive assessment of the credibility of entertainment news.

Content Evaluation Method Based on Text Analysis. This method mainly evaluates the credibility of news by quantitatively and qualitatively analyzing the news text. For example, in the reports of Jackie Chan's rumored relationship with actress Wu Qilin, researchers can use natural language processing technology to analyze the emotional tendency and keyword frequency in the news reports. By calculating the ratio of negative emotional words (such as "scandal" and "controversy") to positive emotional words (such as "success" and "achievement"), researchers can judge whether the report is biased or exaggerated. For example, if the frequency of negative words is significantly higher than that of positive words in some reports, it may indicate that the credibility of the report is low.

Data Mining Method Based on Network Dissemination Path. This method evaluates the credibility of news by analyzing the dissemination path and user interaction of news on social media. For example, in the release process of Jackie Chan's new film "Detective Pu Songling" in 2023, researchers can use social network analysis tools to track the sharing, commenting, and liking data of related reports on Weibo. If news about a film receives a large number of shares and positive comments on social platforms, and the discussion generally expresses expectations and recognition of the film, it may indicate that the credibility of the news and the film is high. On the contrary, if the comments are full of doubts and negative feedback, it may indicate that the credibility of the news is problematic.

Hybrid Evaluation Method Combining Manual Review and Machine Learning. In this method, manual review is combined with machine learning algorithms to improve the accuracy of evaluation. For example, a research team developed a model that first uses machine learning algorithms to screen news about Jackie Chan's rumors and new film releases, identifying reports that may contain false information. Then, researchers manually review the screened news and combine expert judgment to determine their credibility. The advantage of this method is that machine learning can handle large amounts of data and quickly identify potential problems, while manual review can provide deeper analysis and judgment.[9]

By applying the combined use of the aforementioned methods, researchers can comprehensively evaluate the credibility of entertainment news from multiple perspectives, providing a scientific basis for improving news quality and enhancing public trust in the news.

3.3 Issues and Limitations in Related Research

Although there have been some studies dedicated to assessing the credibility of entertainment news, there are still some issues and limitations. Firstly, due to the diverse and

widely disseminated nature of entertainment news content, evaluation methods may need to be customized for different types of entertainment news. Secondly, some studies exhibit subjectivity and limitations in defining evaluation criteria and indicators, which can affect the accuracy and objectivity of the evaluation results. Additionally, with the emergence of new communication platforms and technologies, research on the credibility assessment of entertainment news needs to be continuously updated and improved. By delving into the integration of entertainment news content and evaluation methods, a better understanding and trustworthiness of entertainment news can be ensured. [10]

4 Building An Aigc-Generated News Credibility Assessment Model

4.1 Designing a Multi-Feature Model for Evaluating the Credibility of Entertainment News

When constructing a credibility assessment model for news content generated by AIGC, this study adopts a multi-feature design approach. This includes comprehensive analysis of text features, source features, and dissemination path features of the news content to build a comprehensive and representative evaluation model. By analyzing the information quality, source authority, and dissemination path of the news content, this paper establishes a structured and multi-dimensional evaluation model to enhance the accuracy and objectivity of assessing the credibility of entertainment news.

Text Features. Textual features encompass the linguistic style, emotional undertones, and keyword density inherent in news content. These characteristics serve as reflections of the quality and objectivity of the reporting. For instance, a critique from a Hong Kong media outlet regarding Jackie Chan's film “Dragon Horse Spirit” observed: “In reality, he is so cold-hearted toward his daughter, yet in the film he is deeply sentimental; the father-daughter storyline evokes disdain among viewers.” The use of such emotive language indicates dissatisfaction with the film’s narrative structure, highlighting the complexities of public sentiment. By analyzing these textual features, one can discern potential exaggerations or misleading information, thereby influencing the credibility of the news.

Source Characteristics. Source characteristics pertain to the authority and historical credibility of the news publication agency. Reports from renowned media outlets are generally perceived as more trustworthy. For example, Jackie Chan’s rumors and updates regarding his new films are frequently covered by well-established Hong Kong media, rendering their commentary more accessible and acceptable to the public. When criticism originates from a reputable source, its influence on public perception signifi-

cantly amplifies; conversely, critiques from lesser-known outlets may diminish credibility and dissemination. Thus, assessing source characteristics aids in enhancing the overall judgment of credibility.

Dissemination Path Characteristics. Dissemination path characteristics analyze the manner in which news circulates on social media and the nature of user interactions. Taking Jackie Chan's film "Detective Dee: The Four Heavenly Kings" as an example, if discussions and critiques about this movie provoke substantial dialogues on platforms such as Weibo or Douban, where numerous viewers express either admiration or discontent, it will reflect the public's acceptance and trust in the news. This analysis of dissemination paths reveals the influence of the news and audience reactions, thereby providing critical insights for credibility assessment.

4.2 Data Collection and Preprocessing

To construct a credibility assessment model, it is essential to gather and organize a substantial volume of entertainment news data. This involves sourcing relevant datasets from various news websites, social media platforms, and traditional media outlets, encompassing news content, source information, and audience comments. Building upon the data collection, this study will perform data preprocessing, which includes text cleaning, feature extraction, and data annotation, thereby laying the groundwork for model construction and experimental design.

4.3 Model Parameter Configurations and Training

The construction of the model will entail the setting of appropriate features and parameters, which primarily include methods for text feature extraction, metrics for evaluating source credibility, and algorithms for analyzing dissemination pathways. Through the application of machine learning and deep learning techniques, this study will engage in parameter setting and training of the model to enhance its predictive and generalization capabilities. Throughout the training process, the model's performance will be continuously optimized, exploring more effective evaluation models and algorithms to improve the accuracy of assessing the credibility of news content generated by AIGC.

Through these efforts, a credibility assessment model based on AIGC-generated news content will be established, employing a multi-feature design and data-driven approach to refine the evaluation of entertainment news credibility. The next phase of this study will involve experimental design and result analysis to validate the model's effectiveness and reliability, thus laying a solid foundation for the practical application of credibility assessment in entertainment news research.

5 Experimental Design and Results Analysis

5.1 Experimental Design and Dataset Introduction

The specific steps of the experimental design and details regarding the dataset used are outlined as follows. Initially, the design concept and process of the experiment will be elaborated, encompassing the setting of experimental variables, sample selection, and choice of evaluation metrics. Subsequently, an introduction to the datasets utilized in the experiment will be provided, including news content data, source information data, and dissemination pathway data. The selection of datasets will be tailored to meet the requirements of the experimental design, ensuring the quality and reliability of the data through acquisition and preprocessing.

5.2 Model Performance Evaluation Metrics and Methods

To assess the performance of the constructed AIGC-generated news credibility assessment model, a series of evaluation metrics and methods will be selected for analysis. These will include common classification evaluation metrics such as accuracy, recall, F1 score, employed to measure the model's performance in the task of evaluating the credibility of entertainment news. Furthermore, methods like confusion matrices, ROC curves, and others will be utilized to analyze the predictive efficacy of the model, providing insights for further refinement and optimization.

5.3 Experimental Results and Analysis

Building upon the experimental design and model performance evaluation methods, experiments will be conducted to derive corresponding results and analyses. Statistical analysis and visual representation of the experimental outcomes will facilitate an assessment of the model's performance in the task of evaluating entertainment news credibility, identifying its strengths and limitations. Moreover, a comparison will be drawn between the model's performance and existing credibility assessment methods, discussing the model's effectiveness and practicality. Finally, an in-depth analysis of the experimental results will be conducted, conclusions summarized, and future research directions elucidated.

Through the experimental design and results analysis in this chapter, the objective is to comprehensively evaluate the performance and efficacy of the constructed AIGC-generated news credibility assessment model, providing crucial references and guidance for forthcoming application case studies and performance enhancements. Subsequent research endeavors will delve into optimizing and expanding the model further to enhance the precision and accuracy of evaluating the credibility of entertainment news.

6 Case Study on The Application of Aigc-Generated News Credibility Assessment

6.1 Selection of Application Scenarios for Entertainment News Credibility Assessment

This section focuses on investigating and analyzing specific application scenarios for assessing the credibility of entertainment news. By selecting and scrutinizing various types of entertainment news content, representative cases will be chosen for study to validate the efficacy and reliability of the constructed AIGC-generated news credibility assessment model in practical applications. The selection of appropriate application scenarios is paramount for demonstrating the model's actual value and effectiveness in real-world contexts.

6.2 Design and Implementation of the News Credibility Assessment System

Once the application scenario is chosen, the next step will involve designing and developing a system for assessing the credibility of entertainment news. This system will leverage the constructed AIGC-generated news credibility assessment model, tailored to meet specific user needs and the characteristics of the selected scenario. It will provide a platform for users to evaluate news credibility, incorporating functionalities such as automated news content scraping and processing, display and analysis of assessment results, and collection and real-time updating of user feedback, thereby addressing users' requirements for entertainment news credibility. [11]

6.3 Practical Application Effectiveness of the Assessment System in the Entertainment News Domain

Through the practical application and testing of the designed entertainment news credibility assessment system, we will evaluate its effectiveness and outcomes within the entertainment news domain. In the course of actual use, user feedback and evaluations regarding the system will be gathered to analyze its accuracy and practicality in assessing news content credibility, thereby validating the stability and efficiency of the model in real environments. Ultimately, based on experimental results and user feedback, the assessment system will be refined and optimized to enhance its performance and user experience.

This chapter's case study aims to substantiate the practical application effectiveness of the AIGC-generated news content credibility assessment model within the realm of entertainment news, providing significant insights and practical experiences for the model's promotion and application. Additionally, through a comprehensive assessment of the system's performance and user acceptance, a solid foundation will be laid for further advancements in the research and practical application of news content credibility assessment.

7 Comparative Experiments and Performance Enhancement

7.1 Design and Dataset Introduction for Comparative Experiments

This chapter aims to conduct comparative experiments to validate the performance advantages and improvement potential of the constructed AIGC-generated news credibility assessment model. Initially, specific steps and processes for the comparative experiments will be designed, encompassing the setting of experimental variables, sample selection, and choice of evaluation metrics. Subsequently, an introduction to the datasets used for the comparative experiments will be provided, allowing for a comparative analysis of the experimental datasets from previous chapters to more accurately assess the model's performance and effectiveness.

7.2 Exploration of Methods for Model Performance Enhancement

Building upon the results and analysis of the comparative experiments, methods for enhancing the model's performance will be explored and proposed. Based on the model's performance and shortcomings identified in the comparative experiments, issues will be analyzed, and targeted improvement strategies will be suggested, such as optimizing feature selection, adjusting parameter settings, and enhancing algorithm efficiency. The aim is to achieve higher evaluation accuracy and efficiency to enhance the overall performance of evaluating the credibility of entertainment news.

7.3 Analysis of Comparative Experiment Results and Performance Enhancement

Following the completion of the experiments, a comprehensive analysis of the model's performance will be conducted based on the results of the comparative experiments and the implementation of performance enhancement methods. Through statistical analysis of the comparative experiment results and comparing evaluation metrics, the effects of performance improvement strategies on the model will be evaluated. The analysis will summarize the effects and outcomes of the enhancements. Through a thorough analysis of the experimental results, guidance and a foundation will be provided for further optimizing the model and enhancing assessment effectiveness.

Through the comparative experiments and performance enhancements in this chapter, the constructed AIGC-generated news credibility assessment model will be further refined, enhancing the accuracy and practicality of evaluating the credibility of entertainment news. By continuously improving model performance and expanding application scenarios, valuable viewpoints and practical experiences will be offered for research and practical applications of news content credibility assessment, stimulating development and innovation in this field.

8 Conclusion

8.1 Recapitulation and Synthesis

This paper delved deeply into the evaluation of news content credibility based on AIGC generation. Throughout this exploration, a multi-feature model for assessing the credibility of entertainment news was constructed, and an evaluation system was designed and implemented. The effectiveness and advantages of the model were validated through application case studies and comparative experiments. Through the analysis and comparison of experimental results, it was found that the model achieved certain accomplishments and improvements in the task of assessing the credibility of entertainment news, offering new perspectives and methods for research in news content credibility assessment.

The research indicates that by combining AIGC technology with multi-feature design methods, the ability and accuracy of evaluating the credibility of entertainment news can be significantly enhanced. The model demonstrated practicality and effectiveness in real-world applications, providing new insights and pathways for the development and innovation in the research field of news content credibility assessment.

8.2 Directions and Challenges for Future Work

In future research, the application of AIGC in the realm of entertainment news will continue to focus on the following directions and challenges:

(1) Further optimizing model performance: Enhancing the accuracy and generalization capabilities of the evaluation model by refining feature selection methods, optimizing model parameter settings.

(2) Expanding application scenarios: Extending the application of credibility assessment models to a broader range of entertainment news content and scenarios, expanding the research domain and practical application scope.

(3) Integration of multidisciplinary knowledge: Integrating knowledge from various fields such as sociology, psychology, to delve deeper into the social psychology and communication mechanisms behind the credibility of entertainment news.

In future endeavors, innovation in AIGC-based entertainment news production should persist, breaking through technological and theoretical bottlenecks. This will propel the in-depth development of research on credibility assessment of news content generated by AIGC, contributing significantly to enhancing information credibility in the news domain and advancing information dissemination. Addressing emerging ethical challenges in news and issues of trust, this effort will foster further development and innovation in the field of credibility assessment research.

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