

Emotion Mining in Film and Television Comments under the New Media Environment

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Abstract

In the era of new media, our lives have undergone tremendous changes. New media technologies have changed the way we obtain information, especially the popularization of the Internet, which has brought a series of conveniences to the public, and people have begun to use them. It is in this environment that online film reviews come into being. The emergence of online film reviews has changed the era of paper-based film reviews, enabling the general audience to participate in the development of the film review industry and have their own right to speak. new changes. A series of changes, such as the diversification of film criticism forms and the multi-level audience, have injected new strength into the film criticism industry. Such changes are of undeniably important significance to our information life and to the development of film criticism. The comparative study analyzes the advantages of online film reviews in expanding the platform and position of film review comments, promoting the innovation and development of film review forms, and providing follow-up forces for the development of film reviews. For problems such as low recognition degree, corresponding effective solutions are put forward according to the existing problems. This paper will expound the problems of perfecting the law and improving the media literacy of the audience, and analyze its effectiveness in solving the problems existing in online film reviews. Through the above research and analysis, I put forward some expectations for the development direction and development prospects of film criticism.

Keywords

New Media; Film and Television Reviews; Emotion Mining; Model.

1. Introduction

In today's new media era, earth-shaking changes have taken place in people's daily life and social environment. Especially, the innovation of media technology has brought great changes to the information life of the masses [1]. The way of looking through a large number of books, newspapers, magazines and other paper media to find information and obtain information has been broken by the new media technology of Internet. As a new thing, the Internet has many advantages that paper media does not have since its birth [2]. The interactive, timely and convenient features of the Internet have attracted more and more audiences, and people have gradually changed the previous information acquisition methods and started to use the Internet to meet their own information needs [3]. It is in this media environment that the development of film criticism has also changed. The era in which the paper media film reviews dominate has ended, and the online film reviews, a new form of film reviews, are showing their strong adaptability to the new era and gathering a lot of popularity [4]. When people get used to the convenience brought by the Internet, they also begin to use the Internet to publish film reviews. Ordinary people exchange their ideas and opinions on the open and interactive platform of the Internet, and collide with common film lovers anytime and anywhere, which changes the situation that experts, scholars and other authoritative people have the dominant right to speak in the era of paper media film reviews, so that ordinary people can also have their own right to

speak and participate in the development of film reviews in China [5]. This is a change of great historical significance, both for social culture and for the development of film criticism.

Nowadays, online media has replaced paper media and has become the most important platform for mass film reviews. The terminal media for film review reading is also increasingly concentrated on various online forums, film communities, social networking sites, and video film reviews, replacing traditional newspapers, magazines, and film reviews. magazines, books, etc. [6]. The birth of every new thing is always accompanied by various debates and discussions. The development of anything is the unity of progress and tortuousness [7]. There are twists and turns in the progress, and moving forward in the twists and turns is the only way for all new things to develop [8]. Although there are indeed some problems in the process of development and growth of online film criticism as an emerging force that have not been solved perfectly, but online film criticism is by no means a garbage dump of "noise and dust flying together". Covering one's ears and stealing the bell, objectively facing the positive significance of online film reviews, further excavating the functions and values of online film reviews, and contributing to the healthy development of film review ecology, this is also the significance of this paper.

2. Problems and Countermeasures for the Healthy Development of Film and Television Criticism under the New Media Environment

2.1. Problems in Current Film and Television Reviews

After the emergence of the Internet, new media challenged the timeliness view of traditional media content production and the information control right of professional journalists, and reconstructed a content production mode with dynamic timeliness and users' participation in content production, which greatly improved the timeliness and interactivity of film and television comments. However, driven by the freedom of the subject identity of film and television comments, the complexity of the Internet environment and commercialization, problems such as "network water army" emerged one after another [9]. The "network water army" is a group of employed network writers who publish specific information for specific content on the Internet, also known as "network gunners", usually called "water army". They influence normal users by publishing, replying and disseminating blog posts. Its basic operation mode is to publish articles or comments on BBS, Post Bar, Weibo and other network platforms to fabricate public opinion or influence the trend of network public opinion, so as to create momentum for certain business activities or attack business rivals. In recent years, some film and television works are marketed by means of the Internet, among which many investors use the "network water army" to enhance the reputation of film and television works and promote their investment works [11]. The "Shuijun" will publish articles and comments on forums, Weibo, Post Bar and other platforms, praising the film and television works of this department, improving their scores and reputation, and even some "Shuijun" will discredit competitors' works by making negative comments and scoring low marks on other film and television works in the same period, thus shaking the audience's intention of watching movies [12]. It can be seen that these "network water forces" not only seriously endanger the overall credibility and market environment of film and television works, but also weaken the creative enthusiasm of film critics.

The anonymity of the Internet allows people to comment on the Internet with almost no restrictions, and can comment on any film and television works anytime, anywhere. Due to differences in audiences in terms of age, educational background, occupation and aesthetic taste, this has resulted in a complex and diverse environment for film and television reviews. In this environment where everyone can post a film and television review as a film and television critic, although the number of film and television reviews has increased

unprecedentedly, the quality is not good. For example, on some one-stop Internet ticketing platforms that integrate online ticket purchases, user social interaction and movie ratings, the audience's movie reviews are more of an intuitive emotional expression after watching the movie, and lack of deeper understanding of the works. In addition, from these comments, we can find that the audience pays far more attention to the actors than to the in-depth discussions on the audio-visual language and thematic interpretation of the works. Therefore, in this environment, the professionalism of film and television reviews has gradually been eliminated by a large number of popular film reviews, and the de-cultural nature of film and television reviews has become more and more obvious.

Professional film and television critics play an immeasurable role in guiding audiences to choose films. Therefore, many investors gradually incorporate film and television reviews into film and television marketing and publicity, and pay more and more attention to the packaging of film and television works in order to achieve cost recovery and The purpose of profit maximization. Under such a premise, individual film and television investors use money and connections to "buy" professional critics and let them publish "false film reviews" that attract the general public to watch before and during the film's release, which results in some viewers being criticized by the critics. After "flickering" into the theater, he shouted that he was cheated, and requests for refunds also occurred from time to time. In order to promote film and television works, some filmmakers specially organize special screenings and exchange money for film reviews to improve film and television reputation. However, these so-called "film and television reviews" are not a measure of film quality, but a tool for false propaganda. If things go on like this, film and television reviews will lose their credibility. The subjective factors such as life feelings and experience of some film and television critics interfere too much with the reviews themselves. The purpose of writing a review is not to draw the reader's attention to the reviewer and their subjective feelings, but to highlight the movie being reviewed. Film and television critics should try their best to avoid giving review results without narrating reasons, nor can they use absolute language to make absolute descriptions of movies, such as the best movies, the greatest movies, the most wonderful movies, etc. In addition, a professional film and television critic can locate and classify film and television works, but no matter how many film and television works he has watched, he cannot arbitrarily rank the works based on his own subjective likes and dislikes.

2.2. Countermeasures for the Healthy Development of Current Film and Television Criticism

In film and television commentary, subjectivism and one-sidedness are easy to appear if it is untrue and objective. In film and television criticism, we should always keep in mind the mission, adhere to the people-centered, cultivate and build high-level, deep-level, temperature-sensitive and sharp film theoretical criticism, and give full play to the positive, constructive and leading role of film theoretical criticism. Film and television critics should use a serious, rigorous and professional attitude to evaluate a film and television work and try their best to restrain impetuous feeling; We should pay attention to the cultivation of professional ability, improve our appreciation by watching more film and television works, improve our professional quality by reading and writing more articles to improve our writing level, and provide people with higher quality film and television commentary works. Attention should be paid to the effective use of advanced network tools. In the process of changing and developing times, the network has become more and more popular. Relevant staff should pay attention to the timeliness of information, scientifically and rationally use network tools to comment on works, and use the convenience of the network to improve the influence of film and television works. Internet film and television commentary is developing very rapidly in the new era, but the related theories have not kept up well, and the related theoretical research is very few and

relatively deserted. The continuous progress and development of online film reviews will greatly affect film and television reviews, and will also impact the concept of film and television critics to a certain extent, and even promote the transformation of film and television reviews. Therefore, film and television critics should fully understand the film and television reviews under the network environment, provide a better value platform for online film and television reviews, and then promote the healthy and orderly online film and television reviews to achieve sustainable development. In order to get a good development of film and television, we should fully consider and adapt to the actual needs of the current society, and then seek better development in the changing market economy. Film and television critics should coordinate the relationship between professional film and television commentary and amateur film and television commentary, weigh the importance between self-pursuit and market demand, fully tap external resources and make effective use of them, so as to better promote the progress and development of film and television commentary through external resources, better adapt to the development trend of film and television in the new era, and build a positive, healthy, scientific and reasonable film and television evaluation mechanism and standard. The general framework of multi-stage box office forecast is shown in Figure 1.

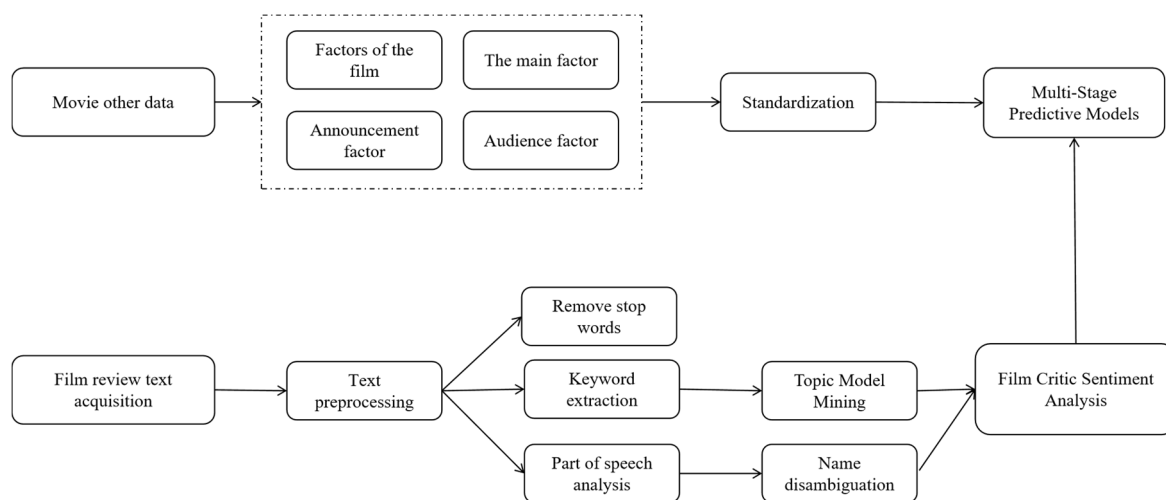


Figure 1. Overall framework of multi-stage box office forecasting

Film and television commentators should strengthen the practice and practice of film and television commentary writing. One of the important ways to improve the writing level of film and television commentary is to consciously carry out the writing training and writing practice of film and television commentary. Each form of comment writing has its special regularity, especially the writing of film and television comments. The problems involved in comment writing are multifaceted and extremely complex. Only after long-term learning and training and mastering the regularity can we write excellent film and television comment works with clear views and profound analysis. Comment is a kind of aesthetics of appreciation and writing. Film and television comment is the practical application of certain film and television theoretical views and aesthetic tendencies. Watching movies is for yourself, but comments are not mainly written for yourself, but for others. The purpose of comment writing is to convey your feelings and understanding of the work to others. Knowing this is very different from not knowing it. Writing training mainly includes two aspects: on the one hand, it is appreciation for the purpose of comment writing. This appreciation is not general appreciation, but appreciation with special purposes. Purposeful appreciation will make a person have special attention and special sensitivity; The other is to comment on the structural elements of a film and television work. The process of comment writing is also a process of artistic discovery. It is in this process that

commentators' artistic sensitivity to various elements of film and television works can be continuously stimulated and trained. Practice has proved that this special artistic sensitivity can only be improved and enhanced through repeated and continuous training. Only through continuous writing training and deepening our understanding of the above two aspects in the process of writing training can we become a sober and passionate commentator who can make a difference in the development of film culture.

3. Construct the Emotion Mining Model in Film and Television Commentary

3.1. Analysis of Emotional Tendency

Sentiment analysis is to dig and analyze the emotions contained in words and sentences. As the main way of people's communication, language must contain a lot of people's emotions. For example the following two examples:

Example 1: I like you, like your kindness, like your tenderness, like all of you.

Example 2: I hate you, hate your hypocrisy, hate your weakness, hate everything about you.

In: 1 In this comment, we can easily judge that the speaker has a praising emotion, and we can know that this sentence is a comment of affirmative emotion tendency. In the comment of example 2, it is easy to see that this is a critical sentence. From the example, we can see that there are always some words or phrases in the sentence that can reflect the emotional tendency of the commenter, and we can judge the semantic tendency of the whole sentence by studying the semantic emotional tendency of these words or phrases. This method is also a common method we currently use for comment sentiment mining analysis.

There is also an important aspect, for each sentence, the emotion expressed in the sentence is divided into degrees. Some comments express the strong emotional tendencies of commenters. For example the following example:

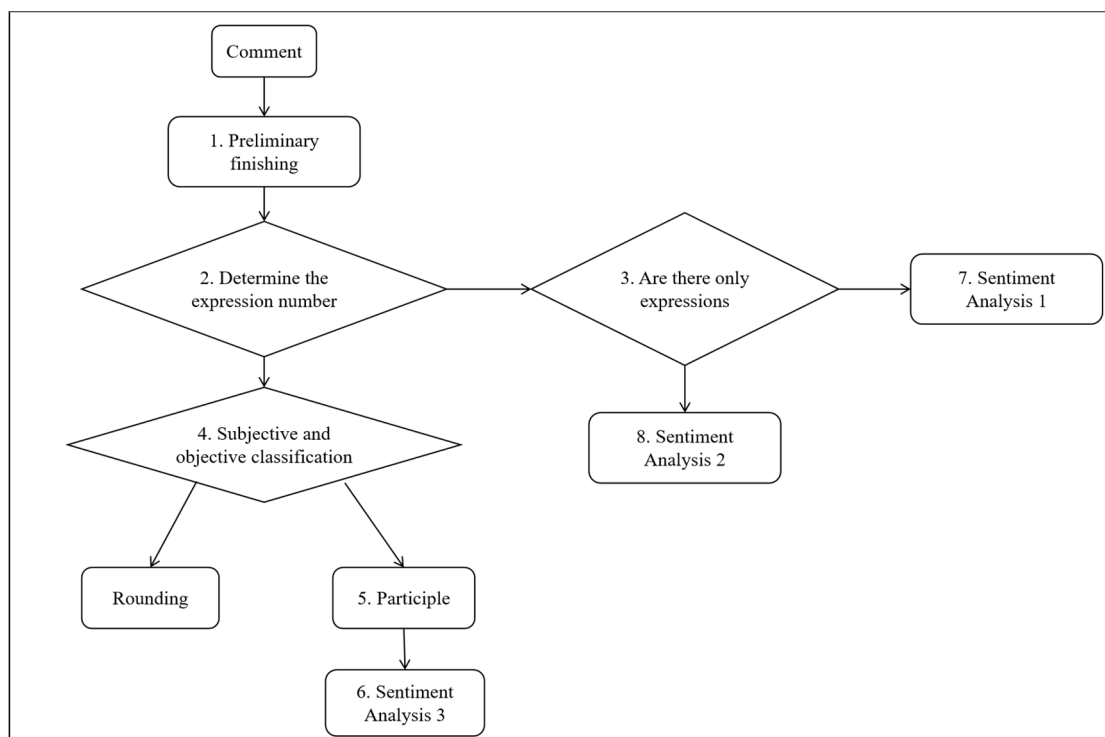


Figure 2. Emotion mining model of online movie reviews

Example 3: I hate you, you have no self-restraint.

Example 4: I don't like you, you have no self-discipline.

For these two sentences with qualitative emotional tendency, we find that the emotion expressed in the first sentence is stronger than that in the second sentence, mainly because the word "disgust" has a stronger negative emotional expression than "dislike". Each sentence expresses a certain degree of emotion, but here, we do not discuss the degree of emotion. We only discuss the classification of emotion, that is, the division of commendatory emotional tendency and critical emotional tendency. The emotion mining model of online movie reviews is shown in Figure 2.

3.2. Text Representation Model

Text representation model is used to represent the internal laws of natural language statistics and structure. If we want to process the text information, we must first determine the mathematical representation model of the text. It is generally believed that the best effect of text representation model should be as follows:

$$\text{Semantics understood by people} = \text{Text}$$

However, because the thoughts and expressions of different cognitive subjects are different, it is difficult to determine the best model. However, with the unremitting efforts of people, many text representation models have been developed in text information processing, including Boolean model, probability model, vector space model, and corpus based statistical language modeling methods. In the Boolean model, documents are represented by a keyword set of or. In the probability model, the statistical probability between entry documents is considered, and then the document model is represented. In the vector space model, the document is represented by a set of independent dimensional feature vectors, and then each feature is given a weight. Statistical language model obtains language knowledge from large-scale real corpus through deep processing, statistics and learning of corpus.

The following describes two commonly used text representation models, vector space model and statistical language model.

Vector space model.

The assumption of the vector space model is that, applying the "Bayesian assumption", it is assumed that the words or phrases that make up a text document are independent of each other in determining the category of the document, so we can use the set of words or phrases that occur in the document. To represent this document, that is, to represent this document with a mathematical model. It is assumed that the category to which a text document belongs is only related to the frequency of some specific words or phrases in the text document, and has nothing to do with the position or order of these words or phrases in the text document. Obviously, this premise will lose a lot of text-related information, but this assumption can simplify the representation and processing of text, thereby helping to achieve better results in text classification. As mentioned above, it is assumed that various semantic units such as characters, words, and phrases that constitute a text are collectively referred to as "terms", and the frequency of term occurrences in the text is referred to as "term frequency", then each term in a text document The word frequency information is enough to help classify it correctly. Therefore, we can use these "terms" as feature items to form a vector to represent the mathematical model of the document. The flow of the recommendation algorithm that only considers the score is shown in Figure 3.

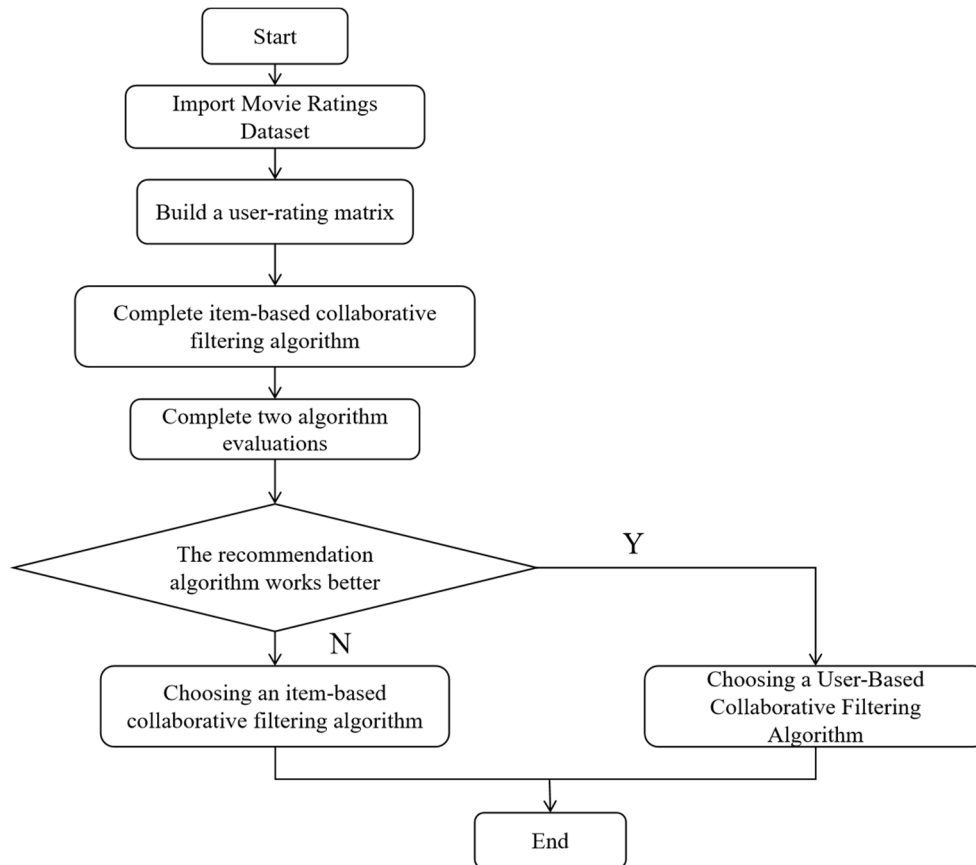


Figure 3. Implementation flow of recommendation algorithm considering only score

Vector representation is completely expressed by 0,1. That is, if the word appears in the text, the dimension of the word in the text vector is 1, otherwise it is 0. However, this method can't reflect the role of this word in the text, so gradually this method of expressing word frequency is replaced by a more accurate method of expressing word frequency. Word frequency can be divided into absolute word frequency and relative word frequency. Absolute word frequency, that is, the frequency of words appearing in the text indicates the text, while the relative word frequency is the normalized word frequency. Its calculation method mainly uses the TF-IDF formula. The following is a common TF-IDF formula:

$$w(t, \bar{d}) = \frac{tf(t, \bar{d}) * \log(N/n_t + 0.01)}{\sqrt{\sum \bar{nd} [tf(t, \bar{d}) * \log(N/n_t + 0.01)]^2}} \tag{1}$$

Among them, $w(t, \bar{d})$ is the weight of the word t in the text \bar{d} , and $tf(t, \bar{d})$ is the word frequency of the word t in the text \bar{d} , N is the total number of training texts, n_t is the number of texts that appear in the training text set t , and the denominator is the normalization factor. After the text is segmented by the word segmentation program, it first removes stop words, merges words such as numbers and names, and then counts the word frequency, which can finally be expressed as the vector described above.

Statistical language model

Statistical language model regards every sentence as a random process, while the words and phrases that make up the sentence are regarded as random variables. When calculate that probability value $P(S)$ of a natural language sentence S , assuming that the sentence S is compose of the smallest structural unit word $w_1 w_2 w_3 \cdots w_n$, the calculation formula for $P(S)$ is as follows:

$$p(s) = p(w_1 w_2 \cdots w_n) = \prod_{i=1}^n p(w_i / h_i) \quad (2)$$

Among them, $h_i = w_1 w_2 w_3 \cdots w_{i-1} w_{i+1} \cdots w_n$ is called the relevant context of w_i , and in specific applications, we usually only determine a certain range of contexts.

Statistical language model is widely used in speech recognition, text error correction, machine translation, part of speech tagging, Pinyin input and other application fields. With the first mock exam, the statistical language models can be divided into one model, one decision tree model, and the other one, the exponential model and the maximum entropy model. N-gram model is a statistical language model of sequential symbol co-occurrence relationship. Suppose there is a word string, which can be expressed as $W = w_1 w_2 w_3 \cdots w_n$. Using the calculation formula of statistical language model, $P(W)$ can be expanded as:

$$p(W) = p(w_1 w_2 \cdots w_n) = p(w_1) \prod_{j=2}^n p(w_j / w_1 w_2 \cdots w_{j-1}) \quad (3)$$

But we can see from the formula that $p(w_1 w_2 \cdots w_{i-1})$ is inestimable. Therefore, here we introduce the N-gram hypothesis, in which the probability of occurrence of the i word in W is only related to the nearest N words before it, so $P(W)$ can be simplified as follows:

$$p(W) \approx p(w_1 w_2 \cdots w_{N-1}) \prod_{j=N}^n p(w_j / w_{j-N} w_{j-N+1} \cdots w_{j-1}) \quad (4)$$

It can be seen that the larger the N , the more effective the model is. By comparison, the vector space model can simplify the statistical simulation of the text with multi-dimensional loudness, which reduces the complexity of the operation, so that the vector model of the text can be implemented very simply. However, when the vector space model is used for text representation, it will lose a lot of text-related information because it does not consider the order between the feature items. Statistical language model is a simple method for collecting language information, which saves a lot of labor. The collection of language knowledge by statistical language model method is an unsupervised learning process based on large-scale sample corpus, which saves a lot of labor and time. Statistical language model adopts the method of combining dynamic programming and probabilistic solution for fuzzy recognition of sentence pattern. Compared with the general knowledge-based rule matching solution, it has greater flexibility. Compared with knowledge-based rule matching, probabilistic calculation of statistical model can consume less solution running time, so it has greater real-time performance.

4. Conclusion

Firstly, this paper systematically combs and analyzes the development trend of online film review communication, selects the most obvious characteristics at all levels of online film review from the perspective of comment subject, discourse form, communication path and content characteristics, and lists a large number of examples to demonstrate. Secondly, according to the media attribute of online film review and referring to the communication function of mass media, this paper analyzes and summarizes the five basic functions of online film review communication through the phenomenon of online film review. Finally, based on the previous demonstration of the relationship between function and value, this paper further discusses the deepening of the value of online film review at the social, cultural and commercial levels in the media environment, and excavates the positive role of online film review, so as to promote the healthy, stable and sustainable development of Online film review.

Finally, although there are still some problems to be solved, its birth and development comply with the requirements of the times. Especially in this new media era, it shows amazing vitality and attraction. However, the theoretical circle lacks due attention and Research on online film review, which makes online film review still in a state of spontaneous disorder. It is hoped that the academic and theoretical circles will pay more attention to and discuss online film review, conduct in-depth analysis and Research on it, point out a healthy and correct development path for its development, and contribute to the development of film review.

References

- [1] Li C , Sun Q . Innovation of film and television directing mode based on big data mining platform. *Boletin Tecnico/Technical Bulletin*, vol. 55, no. 16, pp. 149-155, 2017.
- [2] Liang Yuan, LiTsun-Hsuan. Department of Optoelectronics and Materials Technology, National Taiwan Ocean University, Keelung 20224, Taiwan. Controllable morphology of Bi₂S₃ nanostructures formed via hydrothermal vulcanization of Bi₂O₃ thin-film layer and their photo electrocatalytic performances. *Nanotechnology Reviews*, vol. 11, no. 1, pp. 284-297, 2022.
- [3] Phu V, Chau V, Tran V. SVM for English semantic classification in parallel environment. *International Journal of Speech Technology*, vol. 20, no. 3, pp. 487-508, 2017.
- [4] Moghaddam S , O'Leary S K. Empirical expressions for the spectral dependence of the refractive index for the case of thin-film silicon and some of its common alloys. *Journal of Materials Science*, vol. 30, no. 2, pp. 1637-1646, 2019.
- [5] Souza T , Nishijima M , Fava A . Do consumer and expert reviews affect the length of time a film is kept on screens in the USA?. *Journal of Cultural Economics*, vol. 43, no. 1, pp. 145-171, 2019.
- [6] Aguado L, María Fernández-Cahill, FJ Román, et al. Evaluative and Psychophysiological Responses to Short Film Clips of Different Emotional Content. *Journal of Psychophysiology*, vol. 32, no. 1, pp. 1-19, 2018.
- [7] Kjrstad H L , Jrgensen C K , Broch-Due I, et al. Eye gaze and facial displays of emotion during emotional film clips in remitted patients with bipolar disorder. *European Psychiatry*, vol. 63, no. 1, pp. 1-23, 2020.
- [8] KP Wynn. Domenig, Aya. *The day the sun fell*. DVD/PAL, 78 minutes, colour. London: RAI, 2015. 50.00 (+VAT): Book and film reviews. *Journal of the Royal Anthropological Institute*, vol. 24, no. 3, pp. 626-627, 2018.
- [9] Lee M, Jeong M, Lee J. Roles of negative emotions in customers' perceived helpfulness of hotel reviews on a user-generated review website. *International Journal of Contemporary Hospitality Management*, vol. 29, no. 2, pp. 762-783, 2017.
- [10] Yun L, Shumin Z, Xiaobing C. Research on the actual effect model of college ideological and political classroom teaching under the background of new media. *Revista de la Facultad de Ingenieria*, vol. 32, no. 16, pp. 322-329, 2017.

- [11] Ding D, Wang N , Zhang X , et al. Quantifying the interaction of water and radiation use efficiency under plastic film mulch in winter wheat. *Science of The Total Environment*, vol. 794, no. 3–4, pp. 148704, 2021.
- [12] X Zhao, Yuan S, Jin Z , et al. Perfect combination of LBL with Sol-Gel film to enhance the anticorrosion performance on Al alloy under simulated and accelerated corrosive environment. *Materials*, vol. 13, no. 1, pp. 111, 2020.