Research on Paths and Mechanisms of Deepseek-R1 Empowering Aesthetic Creation of Film Art from the Perspective of New Liberal Arts

Yuxiang Liu
Taishan University, Tai'an 271000, Shandong, China

Abstract: The wave of New Liberal Arts construction is promoting interdisciplinary integration and technological empowerment, bringing about paradigm-level innovations in the field of film art aesthetic creation. This paper focuses on the Deepseek-R1 artificial intelligence model, and deeply explores the specific paths and internal mechanisms through which this model empowers film art aesthetic creation from the perspective of New Liberal Arts. The research results show that Deepseek-R1 plays a role in key links of film creation such as narrative generation, audio-visual design, and emotional transmission through three core paths: data-driven creative assistance, cross-modal expansion of aesthetic expression, and construction of a human-machine collaborative creative ecology. Its empowerment mechanisms are mainly reflected in three dimensions: the coupling of technical instrumental rationality and artistic value rationality, the adaptation of algorithmic logic and aesthetic laws, and the collaboration between creative subjects and technical carriers. This study aims to provide theoretical support for the innovative development of film art in the era of artificial intelligence and the advancement of interdisciplinary integration practice in film disciplines under the background of New Liberal Arts.
***Keywords*:** New Liberal Arts; Deepseek-R1; film art; aesthetic creation; artificial intelligence

1. Introduction

As an educational reform concept adapting to the needs of the times, New Liberal Arts emphasizes breaking down disciplinary barriers and promoting in-depth integration of humanities and social sciences with natural sciences and engineering technologies to cope with complex challenges in the digital and intelligent era[1]. Film art, as a highly comprehensive discipline, has both aesthetic and technical attributes, and its creation process has always been closely linked to technological innovation. From silent films to sound films, from black-and-white films to color films, from film shooting to digital production, every major technological breakthrough has promoted the reconstruction of film aesthetic paradigms.

The rapid rise of artificial intelligence technology has opened up new possibilities for film art creation. Among them, Deepseek-R1, as a new generation of generative artificial intelligence model, has shown great potential in the field of content creation with its excellent cross-modal understanding and generation capabilities, complex logical reasoning capabilities, and large-scale data processing capabilities. Compared with traditional AI tools, Deepseek-R1 can not only complete basic creative assistance work, but also interact with human creators at the aesthetic level, participating in the entire creative process from idea conception to finished product output.

In this context, in-depth exploration of the paths and mechanisms of Deepseek-R1 empowering film art aesthetic creation from the perspective of New Liberal Arts has important theoretical and practical significance. Theoretically, this study can enrich the research results in the interdisciplinary field of artificial intelligence and art, and construct a systematic analytical framework for technology empowering artistic creation; practically, it can provide reference for film creators to use artificial intelligence tools and promote the innovative development of the film industry.

2. New Demands for Film Art Aesthetic Creation from the Perspective of New Liberal Arts

2.1 Shift in Interdisciplinary Integration Thinking

The "disciplinary integration" and "problem orientation" advocated by New Liberal Arts require film creation to break away from the constraints of a single art discipline and actively absorb knowledge from multiple disciplines such as computer science, psychology, sociology, and data science [2]. For example, in narrative design, Black Mirror: Bandersnatch cleverly combines the decision-making psychology of the audience in cognitive psychology, analyzes the emotional acceptance mechanism of the audience when facing plot choices, and uses big data technology to insight into the current social cultural preference for interactive narrative, thus designing a multi-branch narrative structure that allows the audience to participate

in the plot development. This interdisciplinary thinking is not a "invasion" of art by technology, but expands the expression boundary of film art through knowledge integration.

2.2 Expansion and Extension of Aesthetic Dimensions

With the continuous development of digital technology, film aesthetics has gradually shifted from "truth within the screen" to "interactive immersion", and from "author-centered expression" to "multi-participatory co-creation". In the context of New Liberal Arts, film aesthetics is no longer limited to traditional elements such as narrative rhythm, composition, light and shadow, but also covers new dimensions such as the fluency of human-computer interaction, the immersion of virtual scenes, and the adaptability of personalized content [3]. Taking Ready Player One as an example, the film constructs a huge virtual game world "OASIS". During the viewing process, the audience can not only feel the wonderful story, but also experience the strong immersion brought by the virtual scene, which is an embodiment of the new dimension of film aesthetics.

2.3 Adherence to the Value of Humanistic Care

Although New Liberal Arts emphasizes technological empowerment, it always takes humanistic spirit as the core. As an important carrier of cultural communication, film art must adhere to humanistic care in the application of technology during its aesthetic creation process, and avoid falling into the misunderstanding of "technology supremacy". Artificial intelligence can assist in generating stunning visual spectacles, but cannot replace human beings' profound thinking on the meaning of life and social values; algorithms can analyze audience preferences, but cannot define the ultimate value of art. Just like the film A.I. Artificial Intelligence, although it uses a lot of advanced special effects technology to create a future world, the core of the film is always the discussion on human emotions and the meaning of love, which fully reflects the balance between technological application and humanistic care, and this is exactly what film creation under the perspective of New Liberal Arts needs to pursue.

3. Technical Characteristics, Empowerment Paths and Mechanisms of Deepseek-R1

3.1 Core Technical Characteristics of Deepseek-R1 and Its Alignment with Film Art

As a new generation of generative AI model, Deepseek-R1 has unique technical architecture and functional characteristics, enabling it to deeply integrate into the aesthetic creation process of film art and realize the creative integration of technology and art. Its core technical characteristics are first reflected in cross-modal understanding and generation capabilities. It can process multi-modal data such as text, images, audio, and video, and realize the conversion and generation between different media forms. For example, when a creator inputs a text description like "a mysterious castle with moonlight shining on the spire, surrounded by dense dark forests", Deepseek-R1 can convert it into a storyboard containing the panoramic view of the castle, the light and shadow of the moonlight, and the details of the forest. This capability is highly consistent with the "audio-visual combination" media characteristic of films.

These technical characteristics enable it to form multi-level alignment with film art creation[4]. In terms of the creation process, film creation includes script development, pre-production, shooting, post-production and other stages, and Deepseek-R1 can provide targeted support in each link. In the script development stage, it can generate rich plot details based on a simple story outline; in the pre-production stage, it can design storyboards that meet narrative needs; in the post-production stage, it can give suggestions on editing rhythm, etc., which is deeply integrated with the creation process. In terms of aesthetic expression, human creators are good at emotional depth and value judgment, while Deepseek-R1 has advantages in information processing speed, cross-domain association, and style imitation accuracy, forming a complementary relationship of "perceptual insight + rational assistance". In terms of innovation experiments, innovative attempts in film creation often need to bear high costs and risks, but Deepseek-R1 can quickly generate multiple creative schemes for creators to choose from, reducing the cost of trial and error. For example, when exploring the visual style of future cities, the model can generate design schemes of various styles such as "combination of high technology and retro elements" and "full ecological green buildings" in a short time, providing strong reference for final decision-making.

3.2 Specific Paths of Deepseek-R1 Empowering Film Art Aesthetic Creation

From the perspective of New Liberal Arts, Deepseek-R1 constructs a full-chain empowerment path from idea inspiration to finished product optimization by participating in key links of film creation, promoting the innovation of aesthetic creation mode. In terms of narrative conception and script generation, it provides multi-level support through data mining and logical generation[5]. When creators input the core theme "emotional bond between artificial intelligence and human beings", the model will generate related creative points and symbolic symbols such as "artificial intelligence sacrifices it-

self to protect human masters" and "human beings gradually become dependent on artificial intelligence and reflect on the nature of emotions" based on massive data of science fiction novels, film cases, etc. After determining the core idea, it can assist in constructing various narrative structures such as "linear narrative" and "multi-line interweaving". In terms of line generation, it can imitate the language style of different characters, such as generating rigorous and professional lines for a calm scientist, and playful and humorous dialogues for a lively young person, and can adjust the density of lines according to the plot rhythm.

In the post-production and aesthetic optimization stage, Deepseek-R1 improves production efficiency and aesthetic accuracy through intelligent analysis. Based on narrative logic and audience attention curve, it will put forward suggestions on editing points, such as suggesting to shorten the duration of each shot in action scenes to enhance the sense of tension; in lyrical scenes, extend the shot duration to make the audience more immersed. For the color tone of the whole film, it can carry out unified processing, such as processing the memory segments into warm orange-yellow tones and the real segments into cold blue tones, distinguishing time and space through colors. In scenes containing special effects, such as the alien spaceship landing scene in the film, the model can assist in adjusting the matching degree between the light and shadow of the spaceship and the surrounding environment, and the coordination between the flight trajectory and aerodynamics, avoiding the special effects from being abrupt, and realizing the unity of technology and aesthetic reality.

At the same time, in terms of audience feedback and creation iteration, Deepseek-R1 can predict the audience's acceptance of narrative styles and audio-visual elements based on data such as the cultural background and viewing history of the target audience. For example, for teenage audiences, it may suggest adding more popular internet terms and fashionable visual elements to the film. After the preview, it collects the audience's emotional reactions, such as the time points of laughter, the duration of silence, etc., as well as evaluation texts, analyzes specific feedbacks such as "the plot rhythm is too slow" and "the motivation of a certain character is unclear", locates the weak links of aesthetic experience, and puts forward modification suggestions such as "speeding up the plot progress in the first half" and "adding plots introducing the character's background", promoting the continuous optimization of creation.

3.3 Mechanism of Deepseek-R1 Empowering Film Art Aesthetic Creation

This full-process empowerment is not a simple technical superposition, but realizes the reorganization of creation elements and the reconstruction of creation laws through deep mechanisms. In terms of aesthetic material processing, a "digital transformation - algorithmic recombination" mechanism has been formed. First, convert scattered and unstructured aesthetic materials, such as rain fight scenes in classic films, Van Gogh's paintings, mysterious images in folk tales, etc., into structured data recognizable by algorithms; then, based on creation needs and aesthetic laws, reorganize these digitized materials across time and space and fields. For example, combining the costume style data of Tang Dynasty court ladies' paintings with future technology material data to reorganize and generate unique future costume designs with unique aesthetics, which are applied in science fiction films to create new aesthetic images. This mechanism breaks the limitations of human creators' individual experience, but also requires creators to have the ability to screen digitized materials and endow them with meaning, avoiding meaningless symbol stacking.

In terms of aesthetic experience, a "immersion enhancement - dimension expansion" mechanism has been constructed. On the one hand, by optimizing the immersion of audio-visual language, such as designing lens movement trajectories more in line with human visual habits and producing sound effects more matching emotions, the audience's "sense of substitution" is strengthened. Just like in horror films, the lens designed by the model moves slowly, combined with gradually enhanced low-frequency sound effects, which can make the audience more truly feel the atmosphere of fear. On the other hand, with the help of interactive technology and personalized generation capabilities, the dimension of aesthetic experience is expanded, making the audience change from "passive recipients" to "active participants". For example, in the interactive film Late Shift, Deepseek-R1 generates personalized plot branches in real time according to the audience's choices, and each decision of the audience will affect the direction of the story, enabling everyone to obtain a unique aesthetic experience. However, this mechanism also needs to be alert to the problem that "excessive catering" to audience preferences may dispel artistic depth.

In the dimension of interdisciplinary integration, a "knowledge transfer - method innovation" mechanism has been formed. As an interdisciplinary product, Deepseek-R1 transfers algorithm optimization methods in computer science to film creation, improving the accuracy of the creation process; transfers emotion computing models from psychology, optimizing the emotional appeal of narratives by analyzing audience's physiological response data such as heart rate and pupil changes; transfers pattern recognition technology from data science to realize quantitative analysis of aesthetic laws. For example, when designing the plot of a romantic film, the model applies emotion computing technology to analyze the audience's heart rate changes caused by different love plots, and adjusts the ups and downs of the plot accordingly, realizing the integration of "artistic intuition" and "scientific data", promoting the transformation of film art from "experience-based creation" to

"data-assisted precise creation", and enriching the methodological system of film research.

4. Challenges and Reflections on AI Empowering Film Creation from the Perspective of New Liberal Arts

4.1 Blurred Boundaries of Creative Subjectivity and Adherence to Values

While Deepseek-R1 empowers film art aesthetic creation, it also brings a series of ethical and aesthetic challenges, which need critical reflection under the guidance of New Liberal Arts concepts[6]. The deep participation of AI models may lead to the "decentralization" of creative subjectivity, and some creators may over-rely on the content output by the model, gradually losing their ability of independent thinking and original creativity. New Liberal Arts emphasizes "humanities leading technology", which requires creators to clearly define the "auxiliary tool" position of AI and always adhere to the right to judge artistic value. For example, in script creation, the model may provide multiple plot schemes, such as "the protagonist solves the conflict through violence" and "the protagonist chooses to forgive and reconcile", but the final theme and value orientation must be controlled by human creators, choosing plots that can better convey positive values, and avoiding algorithms generating "meaningless narratives" or content that violates ethics.

4.2 Risk of Aesthetic Homogenization and Maintenance of Artistic Diversity

Since Deepseek-R1 is trained based on historical data, the content it generates may implicitly imitate "mainstream aesthetics", and long-term use may lead to the homogenization of film aesthetics and weaken artistic diversity. In this regard, creators need to actively break through the "comfort zone" of the model, using it as a "stimulator of anti-mainstream creativity" rather than a "replicator of mainstream styles". For example, when creating a film about rural life, the mainstream aesthetics may be more inclined to beautiful pastoral scenery, while creators can deliberately input some niche artistic style data into the model, such as "rough documentary style" and "exaggerated expressionist techniques", guiding the model to generate experimental aesthetic schemes, thus promoting the innovative exploration of film art and enriching artistic expression forms.

4.3 Improvement of Data Ethics and Copyright Norms

Issues such as the copyright ownership of model training data and privacy protection are important ethical challenges in the field of AI creation. New Liberal Arts emphasizes "responsible innovation", which requires the establishment of strict data ethics norms in the process of technology application. It is necessary to ensure the legality and authorization of training data, avoid using unauthorized film clips, literary works, etc. as training data, and prevent infringement; protect personal privacy in audience feedback data, encrypt the collected audience information, and prevent information leakage and abuse; at the same time, clarify the copyright ownership of AI-generated content, and reasonably balance the interests of creators, technology providers and the public, creating a healthy legal environment for the application of AI in film creation.

4.4 Construction of Interdisciplinary Talent Training System

AI empowering film creation requires interdisciplinary talents who understand both art and technology. However, in current film education, there are still problems of "emphasizing art over technology" or "separating technology from art". In the context of New Liberal Arts, it is necessary to construct a compound talent training system of "art + technology + humanities". For example, in the curriculum, in addition to traditional courses such as film theory, screenwriting, and directing, basic courses on artificial intelligence, data aesthetics, and interaction design should be added, so that students can not only master the creation laws of film art, but also understand the basic principles and application methods of AI technology, cultivating their interdisciplinary thinking and practical ability, and providing solid talent support for the innovative development of film art.

5. Conclusion

From the perspective of New Liberal Arts, the empowerment of Deepseek-R1 to film art aesthetic creation is an inevitable result of technological innovation and interdisciplinary integration. It runs through the whole process of film creation through paths such as narrative conception, audio-visual design, post-production, and feedback iteration, and promotes film art to develop in a more efficient, diverse and in-depth direction through mechanisms such as aesthetic material recombination, creative role reconstruction, aesthetic experience expansion, and interdisciplinary method transfer.

However, technological empowerment is not equivalent to "technological replacement". The core aesthetic value of film art still lies in human beings' unique thinking and emotional expression on life, society and culture. In the future, under

the guidance of New Liberal Arts concepts, we need to strive to balance the relationship between technical rationality and humanistic sensibility, efficiency improvement and value adherence, standardized production and personalized innovation, and construct a new ecology of film creation of "human-machine collaboration, each showing its strengths".

This study also has certain limitations. For example, it has not conducted empirical analysis on the application effect of Deepseek-R1 in specific film projects. In the future, it can combine actual film cases, such as a film created with the help of Deepseek-R1, to deeply analyze its specific application and actual effect in the creation process, further verify the effectiveness of empowerment paths and mechanisms, and provide more specific and operable practical guidance for the intelligent development of the film industry.

References

[1] Wang Ning. Connotation, Paths and Prospects of New Liberal Arts Construction [J]. China University Teaching, 2020 (5):4-9.

[2] Wu Yan. New Liberal Arts: Era Demands and Construction Priorities [J]. China Higher Education, 2021 (10):10-13.

[3] Chen Xuguang. Paradigm Transformation and Path Exploration of Chinese Film Research from the Perspective of New Liberal Arts [J]. Contemporary Cinema, 2022 (3):10-16.

[4] Huang Mingfen. Artificial Intelligence and New Trends in Art Development [J]. Literary and Art Studies, 2020 (6):11-21.

[5] Li Yizhong. Research on the Interactive Relationship between Film Creativity and Technology [J]. Film Art, 2021 (2):5-12.

[6] Deepseek AI Research Team. (2023). Technical Report on Deepseek-R1: A Multi-Modal Generative Model for Creative Industries.

Author Bio

Yuxiang Liu, Male, December 1989, Ethnic Han, Taian, Shandong Province, PhD in Art, Lecturer, Film Intelligent Creation and Documentary Creation.