Exploration of New Media Art Creation Methods Based on CAD and Multi-Modal Data

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Abstract. With the continuous progress of information technology and science and technology, great changes have also taken place in the field of new media art creation. With the help of CAD technology and multi-modal data, this paper explores and researches the creative methods of new media art. Firstly, the paper discusses the application of CAD 3D software in new media art creation, extracts the characteristics of CAD models, and relies on a powerful modeling platform to transform two-dimensional artistic creation images into three-dimensional spatial, artistic products. The dynamic extraction of new media art creation elements completes the creation scheme in the virtual platform. Finally, with the help of multi-modal data fusion, the relevant information on new media art creation is classified. Establish a multi-modal analysis platform to add more fusion elements into the finished product of new media art creation. Mining the mapping relationship between different modal data to improve the quality of new media art creation. The research results show that with the help of CAD and multi-modal fusion data, the creation method of new media art is more novel, and the elements contained in it also meet the diversified needs of the audience.

1 INTRODUCTION

According to the development history of artistic creation, the combination of art and science has formed a unique application of artistic innovation and technology. This is also a distinctive feature of the development of artistic creation since the 21st century. Against this background, new media art supported by digital and information technology constantly breaks through its own creative restrictions and has rapid development. With the help of intelligent technology, virtual reality technology, and interactive multimedia integration tools, new media art presents artists' unique

creativity in a new form [1]. It also provides the audience with real-time interaction and a new process of experiencing the finished art. Traditional new media art can be traced back to the avant-garde art movement of the last century, in which electronic works of art combined with mechanical skills emerged. Since then, new media art has developed a trinity of communication, reception and creation in the digital environment. The use of modern science and technology makes information tools show the advantage of super-tool in the field of art creation, and improve the interaction of artworks. The creation method of new media art can lead the audience to enter the art space of virtual-real exchange and strong authenticity. Therefore, new media art can also be defined as a media form that combines digital media and information dissemination, and its own characteristics can be interactive and displayed through digital and multimedia platforms [2].

Some scholars have explored the important topic of integrating Tibetan thangka with other ethnic painting styles in Chinese ethnic art. Faced with the challenge of a single traditional thangka style and a complex creative process, we have innovatively proposed the Tibetan Painting Style Fusion (TPSF) model based on neural networks [3]. New media art, with its characteristics of cross-border integration, technological drive, and interactive experience, provides a broad stage for the combination of Tibetan thangka, an ancient art form, with modern aesthetics and technology. Not only exploring the complementarity and continuation of traditional art forms but also injecting new vitality and possibilities into traditional culture in the context of new media art creation. In the context of new media art, the application of the TPSF model is not limited to the generation of static images, but can also be extended to diverse media such as dynamic images, virtual reality (VR), augmented reality (AR), etc. By combining motion capture technology, digital dance or interactive installation art that incorporates Tibetan thangka elements can be created, allowing the audience to experience the charm of traditional culture and the collision of modern technology in an immersive experience [4]. This model not only aims to automatically and efficiently integrate the unique style of Tibetan Thangka and Han or other ethnic paintings but also is a model of deep integration of technology and art in new media art creation. By building a rich dataset of thangka and Chinese painting, and using this data to train generators and discriminators in advanced Generative Adversarial Networks (GANs), the TPSF model can intelligently capture and transform image styles, achieving cross-cultural artistic fusion. This comprehensive evaluation method not only ensures scientific rigour but also takes into account the subjective feelings of the audience, which is an important manifestation of the emphasis on user experience and feedback in new media art creation [5]. When evaluating the quality and visual appeal of generated images, quantitative indicators including Frechet Inception Distance (FID) were used, as well as a survey method aimed at the public. In summary, the integration of Tibetan thangka and other ethnic painting styles is driven by the creation of new media art. Not only has it achieved innovation and development in traditional art forms, but it has also injected rich cultural connotations and unique artistic styles into the field of new media art, opening a new chapter of traditional culture and modern technology complementing each other.

Deep Extraction Generative Adversarial Networks (DE-GAN) have shown great potential in the field of new media art creation, especially in pushing the boundaries of artistic style transformation and innovation. On the vast stage of new media art creation, DE-GAN cleverly integrates the fine recovery ability of U-net, the flexibility of a multi-factor extractor, and the frequency domain analysis ability of a fast Fourier transform. Through its innovative multi-feature extractor design, DE-GAN deeply integrates the multidimensional needs of new media art creation, ushering in a new era of artistic style transformation [6]. This comprehensive feature extraction strategy not only preserves the essence of traditional art styles but also endows new media artworks with an unprecedented sense of three-dimensionality and depth, allowing audiences to experience the charm of art in the intertwined dimensions of virtual and reality. Although traditional style conversion models can integrate texture and colour features, they are often limited to two-dimensional operations and ignore the more complex spatial and depth information in artistic works. The spatial perception ability of the MiDas depth estimation network can comprehensively extract multi-dimensional features such as colour, texture, depth, and shape masks from style images. As the core of the content extraction network, the autoencoder structure works closely with the feature extraction network, sharing style

parameters and achieving precise mapping from content images to stylized images. This process not only accelerates the creative process but also ensures consistency and naturalness in style transformation, providing unprecedented creative freedom and expression space for new media artists [7]. Compared with traditional and advanced methods, the images generated by DE-GAN not only receive high evaluations in subjective image quality. Its style expression is closer to the aesthetic characteristics of real artworks, showcasing profound artistic connotations and unique aesthetic perspectives. The experimental analysis further verified the superiority of DE-GAN in new media art creation. Quantitative data analysis further reveals the outstanding performance of DE-GAN in maintaining structure, controlling image distortion, improving clarity, and enriching texture details, providing solid technical support and unlimited creative possibilities for new media art creation.

Creation and practice activities in related fields such as society, politics, culture, philosophy and art are closely related to new media. With the technology change, the combination of new media and many forms has developed diversified characteristics and forms. Different from traditional artistic creation techniques, new media art uses different senses such as vision, hearing, touch and smell to bring unprecedented impact to the audience. In particular, in recent years, new media art has played an important role in the development of digital industries such as movies, animation, performances and games, demonstrating a distinct artistic economic bias. Thus, in the context of digitalization in The Times, new media art is not only a platform for information dissemination but also a backbone for shaping and promoting the development of relevant information [8]. Through this innovative form of artistic expression and interactive experience of science and technology, they mutually promote and jointly promote the progress of the media age and art culture. At present, most of the new media artworks show three aspects of virtuality, interactivity and multimedia with the help of intelligent media. Interactivity refers to the real-time and dynamic communication between the audience and the works of art. By participating in the interactive links, the audience has a direct perception of the products of artistic creation and can become collaborators of artistic creation rather than passive receivers. In interactive mode, the artist can also use a virtual space-time structure to give the masses an active role in the experience. In addition, new media art creation methods have also undergone new changes [9]. Traditional art forms only form design and work presentation on a two-dimensional plane, while the virtuality of new media art creation can rely on multidimensional digital space to show three-dimensional visual effects. With the help of CAD technology and multi-modal data technology, this paper also studies the creation methods of new media art and further explores the diversified development trend of new media art creation.

2 RELATED WORKS

With the advancement of science and technology, the connotation and creative methods of new media art are constantly updated, and the content is becoming increasingly rich and diverse. The way audiences appreciate art is gradually shifting from one-way communication in traditional art to two-way communication in new media art. New media art originated in Europe and the United States in the 1960s, when artists began to create art using new media. This new method of artistic creation gradually integrates the fields of art and scientific skills. Liu and Huang [10] continuously explore new creative modes, attempting to explore new thinking and experiences, and have achieved great success in spatial light and shadow installation art. The creation of early new media art was reflected in the opening credits or video art of movies. In the field of film production, traditional graphic design is combined with visual dynamics, and dynamic graphic designers have gradually become the main creators of movie opening sequences. These early dynamic images have driven the development of the new media art creation film industry, giving rise to different creative concepts and artistic techniques, and have always influenced the future path of contemporary new media art creation. This graphic design and visual dynamic requirement make CAD technology a key tool for adjusting traditional graphic design drawings. Unlike other software, CAD technology mainly focuses on computer-aided functions and can generate various three-dimensional forms of graphic images. Designers can use CAD tools to dynamically adjust relevant parameters in the workflow, which is

more intelligent and advanced than other drawing software in terms of comfort, fluency, rationality, and ease of use.

Art and design practices play a crucial role in the inheritance and innovation of the vast field of intangible cultural heritage (ICH). Digital technology, especially computer-aided design (CAD) tools and neural network technology has become an indispensable force in new media art creation. From the perspective of new media art creation, Ng et al. [11] draw inspiration from intangible cultural heritage, extract its unique artistic elements and cultural essence, and use these elements for entertainment, perfectly integrating tradition and modernity, technology and art. The rise of new media art creation has injected unprecedented vitality and depth into this process of integrating ancient and modern elements. Neural network technology, especially deep neural networks (DNNs), with their powerful learning and simulation capabilities, has opened a new chapter in the rendering of intangible cultural heritage art styles. By training DNN models, we can capture and reproduce various artistic styles in intangible cultural heritage, adding unique cultural charm and historical depth to new media artworks. This algorithm not only achieves digital simulation of intangible cultural heritage art styles but also showcases these valuable cultural heritages to the world in a new form through new media art creation. CAD tools, with their efficient and precise functions, help designers transform the artistic concepts of intangible cultural heritage into reality and achieve precise expression of design concepts. The DNN-based rendering algorithm for intangible cultural heritage art styles proposed by Pei and Wang [12] is an innovative attempt at this fusion trend. On the vast stage of new media art creation, the combination of CAD and neural network technology provides artists with unprecedented creative freedom and expressiveness. This creative approach not only enriches the expressive techniques of new media art but also opens up new avenues for the protection and inheritance of intangible cultural heritage.

With the flourishing development of new media art creation, computer-aided art design (CAD) has become a trendsetting and infinitely possible means of artistic creation. The rise of new media art and the deep integration of CAD technology have jointly promoted the arrival of a new era where art and technology complement each other. With the help of artificial intelligence, CAD technology can more accurately capture the creative inspiration of designers, and transform abstract thinking into concrete works of art, while preserving and enhancing the unique charm and personality in the works. It not only opens up an unprecedented path of artistic expression for designers but also profoundly reshapes the boundaries of art and design aesthetics and thinking. To further explore the potential of CAD in new media art creation, Peng and Sirisuk [13] proposed an art image enhancement algorithm based on a deep trust network (DBN). It not only greatly improves the quality and efficiency of CAD in art and design, making it an indispensable tool and important development direction in modern art and design, but also endows new media art creation with unprecedented wisdom and creativity. This innovation not only enhances the interactive experience in the art design process, allowing designers to more intuitively feel the changes and adjustments in the work but also significantly improves the visual effect of artistic images. Tang [14] innovatively integrates algorithms for specific tasks into design optimization-driven deep learning (DL) frameworks. The experimental results show that the algorithm effectively enhances the contrast and stereoscopic effect of the image, while preserving the local structural information of the image, exhibiting excellent image enhancement ability.

Subsequently, CAD intelligent software became increasingly popular and used by more and more types of users. Chinese designers apply CAD graphics to create complex visual effects, primarily in the fields of architecture and game animation. Compared with other modelling tools, CAD computer-aided modelling can fully leverage its advantages in timeline control and basic rendering functions. The constructed architectural scenes and game graphics are more realistic and have been favoured by countless designers. Multimodal data refers to the process of generating or transmitting information that includes multimodal data. The integrated information sources include vision, hearing, touch, smell, etc. In order to promote intelligent machines to handle social problems more realistically, it is urgent to establish multimodal data models in various fields. Wang and Wu [15] stated that multimodal data learning will be a new breakthrough in the field of artificial intelligence in the future and one of the directions for sustainable development. In fact, as he predicted, in recent years, multimodal learning and the application of multimodal data have gradually become research

hotspots in the fields of deep learning, artificial intelligence, and digitization. In the new media industry, a large amount of interactive data is generated every day, which requires fast and accurate filtering and extraction. Therefore, the analysis and processing of multimodal data have become an important source of reliable data in the new media industry. Meanwhile, in the development of multimodal data, the fusion of different modal features is also a core issue, and the explicit and fuzzy relationships between different data can affect prediction or classification tasks. In summary, CAD and multimodal data play an indispensable role in the innovation and development of new media art creation methods. On this basis, this article also explores the application effects of both in it.

3 METHOD

3.1 CAD Technology Changes in the Expression Form of New Media Art Creation

In addition to powerful interactivity, new media art creation should also reflect its own virtuality, which is the most obvious difference from traditional art forms. This virtual form relies on the development of digital technology and three-dimensional space and adds diversified data to the application software to describe the process of imaging artworks, which is to transform the artistic creation path into a digital coding calculation application. As the core of technology, CAD modelling software can provide more elements and symbols for artistic creation. At the same time, new media art creation is a comprehensive industry; The essence is to use the current popular cutting-edge novel technology to spread, so with the help of CAD, computer-aided tools can also use their own dynamic graphics adjustment and independent data processing means to complete the creation needs. The application of CAD technology in artistic creation can not only provide the public with a different vision from the traditional design but also enhance the aesthetic level of the masses and expand the thinking of artistic creation. According to the three-dimensional dynamic art environment, the designer observes the design details and aesthetic effects from multiple angles, which allows the creative concept to complete spatial changes. In this study, firstly, the advantages of CAD technology in the application of artistic creation are analyzed, and the development trend of CAD technology in various industries is analyzed.

In addition, there are important research topics in the construction industry, industrial manufacturing industry, and graphic design industry. In exploring the influence of CAD technology on the expression form of new media art creation, we found that CAD modelling software can be used to count the symbols of different artistic elements and build an element database to store relevant information. According to the theme needs of new media, select artistic elements that meet the theme content to reflect the overall characteristics. At the same time, taking film and television works in the creation of new media art as an example, the effects of film and television animation before and after modelling with CAD technology will be compared.

Figure 1: Comparison of film and television animation effects before and after modelling with CAD technology.

From Figure 1, it can be seen that the animation formed by traditional new media film and television art creation only stays in two-dimensional graphic design, composed of different two-dimensional images. The film and animation effects modelled through CAD technology exhibit unique three-dimensional features in media art creation. We can also discover from the works that we can not only perceive the designer's creative thinking from spatial effects but also dynamically adjust the details of artistic creation from the dimension of time and space. In recent years, the new media art creations completed by CAD technology are all about artificial intelligence and virtual reality. In addition, we also learned in our research that adding CAD technology to new media art creation greatly improves the expression form and efficiency of the finished product.

3.2 Multi-Modal Data Fusion of New Media Art Creation Method Innovation

In the creation of new media art, multimedia is manifested in the use of a large number of images, sound, video, text and other media in the creation process. Through the interaction and mutual influence of these media, the works present more diversified communication creativity. According to the platform provided by multimedia art creation, the masses deeply participate in it and deepen their understanding and experience of the works. In the relevant research and exploration, we learned that some artists have taken the bar as the theme of their artworks, added various physical props such as lights, seats, and plants, and combined screen projection and sound to enhance the multiple senses of the artworks. This cross-media approach shows a comprehensive artistic style and better illustrates the connotations of the works of art. To this end, this paper deeply analyzes how to integrate various elements such as natural language, image, text and sound to form a multi-modal data analysis platform, which can be used in the creation of new media art.

Despite the mature development of machine learning and big data technology, it is still unable to analyze multimodal data such as text, images, and videos. In addition to collecting and storing large data sets, it is also a big challenge to complete data calculations on the platform. We added a neural crawling network to our research to quickly extract text, images, video and other types of data, and use multimodal data models to encode this information and create interactive analysis reports. Finally, multiple themes are aggregated to meet the needs of new media art creation and process different modal information at the same time. The research process of multi-modal data new media art creation is shown in Figure 2.
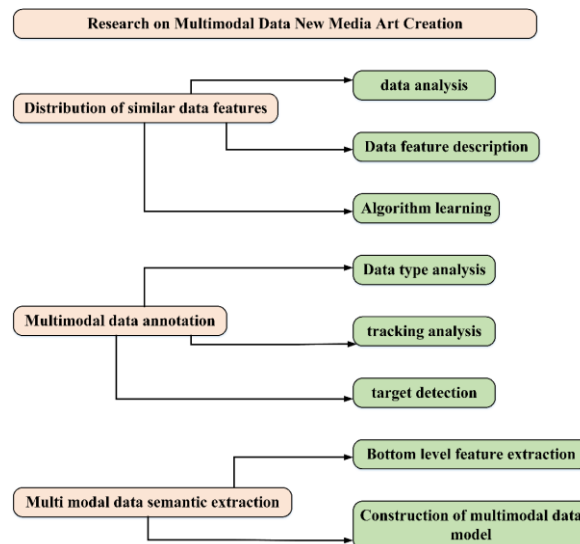
Figure 2: The research process of multimodal data new media art creation.

As can be seen from Figure 2, the feature distribution of similar data is first divided into problem analysis, and different data types are extracted according to the content annotation of multi-modal data. Then, semantic extraction of multi-modal data should be completed to provide help for data analysis and underlying feature calculation. In the algorithm model design, the multi-modal data art creation model is constructed according to the characteristic description of different information data. In the model, different information detection and semantic analysis are completed, which lays a foundation for different new media art creation themes. In the exploration of new media art creation methods, the multi-modal data analysis model is used to complete the extraction of different information. Firstly, the formula for calculating the weight of feature text is defined as follows:

$$tf_{i,k} = \frac{n_{i,k}}{\sum_k n_{k,j}} \tag{1}$$

Among them, $n_{i,k}$ Represents the number of times the text appears in the finished product of new media art creation. The feature weight value can also indicate the frequency of the relevant text appearing in the finished art. If the number of occurrences is less, it means that the distinguishing ability of artworks is stronger, and the weight coefficient will be larger. When processing image information, the activation function is used to map the image into three-dimensional space:

$$L(\sigma^2, \tau^2) = g(\sigma^2, \tau^2) \bullet f(*) \tag{2}$$

The formula, σ^2 Represents the three-dimensional spatial variance of the image. Gaussian function is used to calculate the fluctuation process of pixels in each image:

$$g(x,y,t;\sigma^2,\tau^2) = \frac{\exp(-(x^2+y^2)/2\sigma^2 - t^2/2\tau^2)}{\sqrt{(2\pi)^3 \sigma^4}} \tag{3}$$

Unlike spatial detection, the resolution of different images needs to be taken into account, and the above formula optimized:

$$u = g(\sigma^2, \tau^2) * \begin{Bmatrix} L^2, L_X L_Y, L_X L_T \\ L_X L_Y, L^2, L_X L_T \\ L_X L_T, L_X L_Y, L^2 \end{Bmatrix} \tag{4}$$

Since the different presentation angles of the finished products of new media art creation will also affect the visual effects of element information, we also need to improve the formula for coordinates:

$$L(\sigma^2, \tau^2) = \partial_X i(g * f) \tag{5}$$

$$H = \det(u) - k^3 \tag{6}$$

$$H = \lambda_1 \lambda_2 \lambda_3 - l(\lambda^1 + \lambda^2 + \lambda^3)^2 \tag{7}$$

Among them $\lambda_1 \lambda_2 \lambda_3$ are characteristic values representing different images. Finally, the center point of the image is extracted by the intensity of characteristic values and pixel changes. In this way, the expression theme of the finished product of artistic creation is determined. In video data, we need to cut out different segments and add them to the multimodal data model. The calculation process for extracting video data is as follows:

$$L(X, Y, \sigma^2) = G * f(x, y) \tag{8}$$

After complex calculation, noise filtering is completed for each column of animation Windows along the timeline:

$$G(x, y, \sigma) = \frac{1}{2\pi\sigma^2} e \tag{9}$$

$$r = (I * G * h_{ev})_2 + (I * gh_o)^2 \tag{10}$$

The above formula can improve the pixel effect of the video picture, that is, improve the quality of the creative product. Video feature point detection can also be obtained using gradient calculation. Different from image, video element calculation needs to be extended to the time domain:

$$iv_{\partial a}(x, y, t) = \sum_{x < y} va\partial \tag{11}$$

$$p = (p_1, p_2, ..., p_n)^T \tag{12}$$

Next, the gradient calculation results are vectorized to compress the obtained multi-modal data and then uniformly add it to the artistic creation database:

$$q_b = \frac{P \bullet g_b}{\| g_b \|_2} \tag{13}$$

$$h_c = \sum_{i=1}^{s} q_{bi} \tag{14}$$

After getting the vector result for multiple dimensions, We can see that all formulas start from the finished artistic creation, and marking different information data features is convenient for subsequent differentiation:

$$E_n = \sum_{m} [x(n)w(n - w)]^2 \tag{15}$$

A multimodal data model fuses multiple pieces of information together and completes the adjustment and application of different data information through classification prediction and regression calculation. In a data model feature representation, the same number of elements are added by ordering position. All these data have been studied and trained by parameters before use, and the process of parameter training will affect the defects in the creation method of new media art in the generation of works. There is a certain error between the finished product designed by different artistic creation methods and the initial design model, and the larger the error coefficient is, the greater the gap between the finished product and the initial design model. To this end, we compare the changes in the error coefficient of the new media art creation mode before and after applying the multimodal data model in Figure 3.
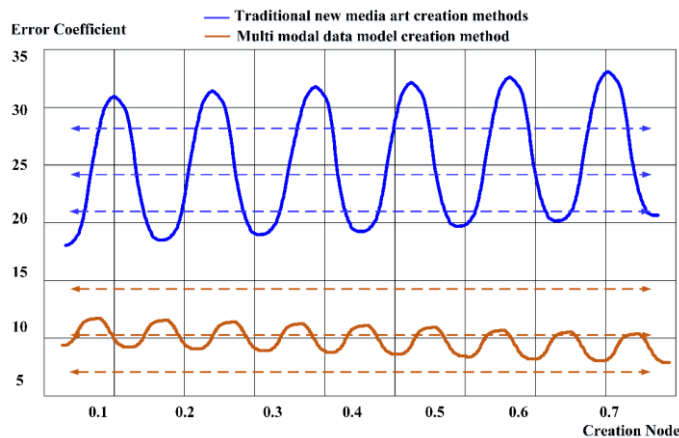

Figure 3: Changes in error coefficients generated by new media art creation methods before and after applying multimodal data models.

As can be seen from Figure 3, traditional new media art creation often has quality defects due to information errors, so the information error coefficient is large. After the application of the

multi-modal data model, the error coefficient in the application process of new media artistic creation is small, which is conducive to the quality assurance of artistic creation products.

4   RESULT ANALYSIS

4.1   CAD Technology in New Media Art Creation Expression Results Analysis

The traditional new media art creation method has the problem of insufficient scientific and technical support in terms of interactivity and diversification, so it cannot achieve innovative technical updates. With the development of new media in the environment of big data and the Internet becoming more and more mature, advanced information technology is also emerging in the application of artistic creation. However, the method of new media art creation will still be affected by external factors such as creative design effect and creation background space. Many of the interactive processes of new media art creation focus too much on the media itself But neglect the reasonable use of creative means. They use attractive and entertaining content to raise the public's attention to new media artistic creation products. But from the actual situation, the creative method under this design concept often lacks innovation. In the process of exploring the change of expression forms of new media art creation, we find that the way of artistic creation is nothing more than using interactive content such as text, colour, graphics and video to deeply interpret the theme. The finished products provided by this method of artistic creation are more impressive to the audience, and at the same time, the audience recognizes the designer's artistic thinking and creative methods. In this study, CAD computer-aided technology is used to improve the flat image in the creation and expression of new media art, and the traditional two-dimensional picture is transformed into three-dimensional space for representation. At the same time, the CAD computer model, but also a dynamic addition of historical culture, artistic elements and other features. Through the real-time adjustment of the model, the output of the new media art creation theme works is targeted. The expression method of new media art creation optimized by CAD technology has obvious changes in the clarity of the work, as shown in Figure 4.
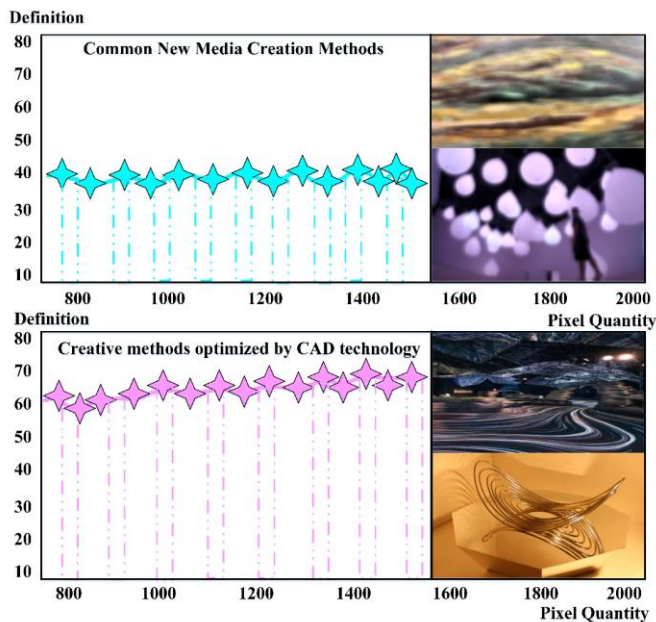

Figure 4: Changes in clarity of new media art creation expression methods optimized by CAD technology.

As can be seen from Figure 4, the clarity coefficient of the finished product provided by the ordinary new media creation method is at a medium level. If the work is enlarged, the pixels will appear blurred. The three-dimensional imaging works generated by CAD modelling show a high degree of clarity no matter from which Angle to zoom in and out. At the same time, the artistic creation works generated by CAD modelling can provide a self-design platform for artists with different cultural backgrounds. With the help of this digital medium, designers combine different artistic materials in the new media art creation platform to provide more diversified and diverse artistic creation products for the audience.

4.2   Research on Creative Methods of New Media Art Based on Multi-Modal Data Fusion

As a comprehensive form of artistic expression that integrates digitalization and networking, new media art creation methods can realize the multi-faceted needs of different audiences. In other words, even if there is a gap in space and time between the audience and the finished art creation, through the digital intervention of new media, the audience can get a multi-sensory experience similar to live viewing. When exploring the innovative path of new media creation methods, this paper uses multi-modal data fusion to integrate different sensory information into artistic creation works and then shares it with the audience through the Internet and digital platforms. And provide a medium for the audience to discuss, discuss and spread together. This new media art creation method expands the dissemination scope of works, enhances the market competitiveness and influence, and enables more people to feel the designer's multi-faceted design ideas. In this paper, according to different data types, The multimodal data sets are divided into text type, image type, combination of text type, and combination of image and video type. In classification models of different modes, multi-modal data only completes basic training and prediction, and the complexity of the model and the number of parameters will affect the fusion information content of works generated by new media art creation methods. Compare the changes in the internal information content of finished products generated by the art creation method before and after the multi-modal data model training.
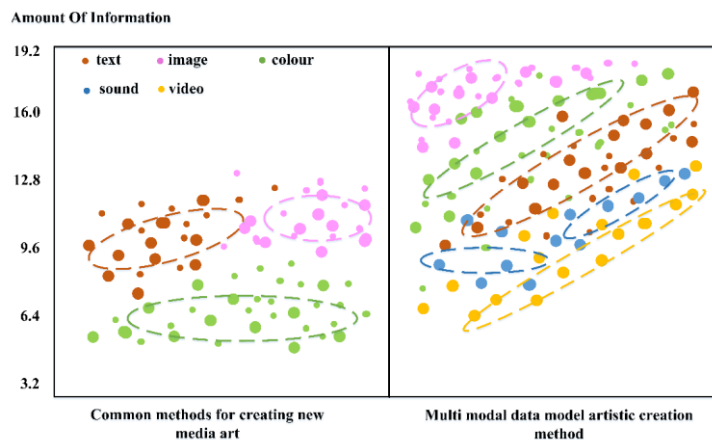

Figure 5: Changes in the internal information content of finished products generated by artistic creation methods before and after training with multimodal data models.

As can be seen from Figure 5, through the discrete statistics of information elements, it can be found that the internal information content of artworks provided by the creation method of common new media art is small, and only contains some ordinary text or single-modal images. The artworks provided by the multi-modal data model training fusion method are rich in internal information content. In addition, in order to further verify the performance of the multi-modal data model in the

innovation of new media art creation methods, we take intelligent film and television as the theme, use the general new media art creation model and multi-modal data art creation model to complete the theme work generation, and compare the completion coefficient of the two in the production of finished products.
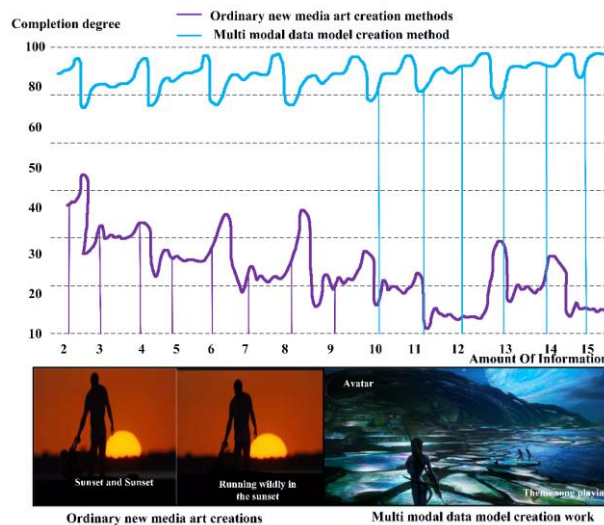

Figure 6: Finished product completion and comparison of renderings.

As can be seen from Figure 6, with the increase of subject information, the degree of completion of common new media art creation decreases significantly, and the finished products created by using multi-modal data models still have a high degree of completion under the demand of high information. We also use the physical drawing of the finished product to explain in detail the change of the completion degree of the two and the comparison effect of the information elements contained inside. It can be seen that the new media art creation method under the multi-modal data model can still efficiently complete the finished product creation in an environment with a large amount of information.

5   CONCLUSIONS

In the digital age, the way of artistic creation dominated by new media forms is faced with unprecedented challenges and opportunities. The popularity of digital technology and the Internet has influenced social media, which has changed the way audiences and audience groups obtain relevant information and the direction of the entire path of artistic creation. This situation has prompted the whole field of new media art to complete the renewal of creative methods in order to pursue higher quality artworks and comply with the law of market development. With the help of CAD technology and a multi-modal data model, this paper explores the creative methods of new media art. Firstly, it is known from the literature survey that the application of CAD technology in the new media art creation method is relatively mature. From the perspective of CAD computer modelling, we explore the effect of its own advantages in the expression form of artistic creation. The CAD model is used to adjust the two-dimensional parameters and complete the three-dimensional space construction, which provides interaction and virtuality for the expression of artistic creation. Finally, multimodal data models are used to train the diversity of information involved in the creation of new media art. Through the semantic analysis and extraction of different modal data, we can realize the targeted generation of new media art creation themes. The results show that CAD computer-aided technology and multi-modal data model have their own good performance in the innovation and

optimization of new media art creation methods. This comprehensive form of artistic creation brings interactive and immersive diversified feelings to the masses.

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