The Transformation of Micro-Drama Creation Models Driven by AI Video Generation Technology

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Abstract: *With the development of AI video generation technology, continuous progress in this field has brought about a revolution in the production of micro-dramas. The three directions of evolution studied here are the logic of technology, content creation and creative subjects. Generative models have changed the form of creation in line with the logic of technology, reconstructed narrative grammar to produce new kinds of human-machine collaboration, and have become generative subjects themselves rather than mere tools. Algorithmic regulation of plot tension, infinite generation of spatio-temporal scenes and algorithmic synthesis of character images have been used to make production models more intelligent, and the features of the text are trending towards modularity, programmability and surreal splicing. At the level of creative subjects, the role of creators has shifted from being the main producers of art to aesthetic critics, technical literacy has been redefined, and generative technologies have introduced new aesthetic features such as "algorithmic smoothness", creating an interaction effect between technological iteration and the creative ecosystem. Based on the above research, AI video generation technology has become an essential part of the production process, and now the close integration of algorithmic logic and creative logic is changing the form and development path of micro-dramas.*

Keywords: *AI video creation, micro-dramas, production models, narrative grammar, human-machine collaboration, technological progress, intelligent content production*

Introduction

Micro-dramas are a new kind of digital audio-visual work that has gained wide and rapid dissemination in recent years and offers frequent narration and rich emotions for people to enjoy. With the development of the market, problems have arisen in the production capacity and quality of content for micro-dramas, and the traditional linear production model is no longer both efficient and innovative. Recently, a new AI video generation technology has been introduced to address this problem; based on diffusion models, Transformer networks and multimodal alignment algorithms, systems have been developed that can directly generate coherent narrative segments from text, and now this technology is being used to help create all stages of videos rather than just as a tool. Therefore, we will improve the efficiency of production by revising the logic of narration, reorganising visual presentation and redefining the roles of creators. Systematically study the development path of micro-drama creation models based on AI video generation, discover the coupling mechanism of technological logic and creative logic, and advance the study of technological change in digital content production. According to the intervention mechanism of technological logic, this paper will sequentially examine the intelligent shift in content production models and the generative patterns of textual features, then explore the transformation of creative subjectivity and the evolution of industrial forms to build a comprehensive analytical system of the three dimensions of technology, content and subjects.

1. Technological Logic and Coupling Mechanism of AI Video Generation in Micro-drama Creation

1.1 Reconstruction of Micro-drama Narrative Grammar by Generative Models

Deep learning of a large number of narrative data is being used to modify the narrative grammar of micro-dramas at the coding level. Transformers and diffusion models will be employed in the new generation of video generation to automatically find and extract very communicative narrative units,

and the traditional linear structure of drama will be turned into quantifiable and calculable plot modules. An algorithm-based narrative generation mechanism can reduce the need for subjective ideas in the plot construction of micro-dramas by creators, and instead, it will automatically create a path of "hotspot identification-plot synthesis" based on data training to increase the density of dramatic conflict and the location of reversal points[1].

Reconstruction of narrative grammar can also be seen in the reduction of the time dimension and the increase of the emotion dimension. Algorithms can be used to model the attention of the audience, and then generative models can spread the high-frequency points of emotional stimulation in a very short time; thus, the traditional structure of introduction, development, climax and denouement has been replaced by a modular superimposition mechanism for pleasure points. Therefore, the narrative structure of micro-dramas has taken an algorithm-optimised form; that is to say, instead of logical consistency in plot development, it is now subject to real-time adjustment based on data feedback, and the combination of narrative units is no longer linear but can be rearranged in parallel.

1.2 The Human-Machine Collaboration Mechanism in the Dimension of Visual Presentation

The creator gives the first idea for an AI-generated video, and then an algorithm will automatically create related pictures. Prompt engineering can be employed to direct the creation of all kinds of styles, scenes and lights in images; generative models map features in the latent space and then generate pixels to create new pictures according to these descriptions. Therefore, there is a cycle of prompt optimisation and image iteration; the creator's sense of aesthetics is turned into technical parameters for the algorithm, and the stochastic generation results of the algorithm are used to inspire further expansion and modification of visual imagination.

A new path for the creation of visual works has been established by means of human-machine collaboration. ControlNet is a kind of conditional control that can be used to maintain the spatial logic of character movement and background creation in Scene Construction; at the same time, real-time virtual scene rendering and flexible invocation of digital assets can be employed to overcome the time and space constraints of physical filming. The presentation of micro-dramas is no longer just a record of real life; now it is a joint work created by algorithms and people. The Visual Texture will be more quantifiable and manageable, so the negative correlation between the degree of spectacle in a scene and production costs will be reduced.

1.3 The Change of Technology from Auxiliary Tool to Generative Subject

AI video generation technology is now being used to some extent in the production of micro-dramas, and it is gradually taking over more of the creation work. At the beginning of the era of technology integration, generative models were primarily employed as aids to improve the quality of images, restore old films and edit videos, etc., and had not yet been widely used in production at that time. In recent years, some problems have been solved by the development of video generation models, such as temporal consistency, multimodal alignment and simulation of physical laws; AI has also gained the ability to generate complete narrative sections independently, and both the coordinated motion of characters and the automatic creation of shot sequences can now be achieved at the algorithmic level[2].

As a result of this technological development, the form of the creative work has also changed. The old model of division of labour, such as screenwriters, directors, post-production editors, etc., is gradually being replaced by a parallel collaborative relationship between creators and algorithmic systems, and at the same time, AI is evolving from a tool for people to use into a form of content creation collaboration that can produce content independently. The creation of micro-dramas is no longer solely the result of physical filming and manual production; it has also entered an algorithm-driven stage based on model training, parameter tuning and generated content selection, and now the two main support pillars of the new creative workflow are the generative capability of the technological system and the aesthetic control of creators.

2. The Intelligent Shift in Content Production Models and Textual Features

2.1 Algorithmic Optimisation of Script Generation and Plot Tension

Algos have been used to optimise some of the micro-drama scripts by means of AI video generation.

Generation systems based on large language models and reinforcement learning can learn features and patterns from a large amount of script data, automatically create a system for narrative parameters, and set such as conflict density, frequency of reversals, emotional curves, etc. Script generation is no longer the result of a writer's imagination but has taken an automated path; now, based on data training, it can be quantitatively controlled, and the introduction, development, climax and denouement of the plot are now structural units that algorithms can recognise and calculate. The new technology will provide us with a certain number of tools to help us create suspense in the drama and present the peak of emotion in an enjoyable way for the audience.

Algorithmic Optimisation of the above is also used to vary the Plot Tension dynamically. Based on the actual feedback from the audience, generative models can dynamically decide when to add suspense in a certain part of the script and how often to include emotionally moving scenes, and also use data-driven self-correction for the content of the script. The structure of the plot for micro-dramas is no longer fixed; instead, at the level of algorithms, it can be adjusted according to the acceptance thresholds of different groups of viewers. The Generation Logic for dramatic tension is now modular and programmable, and it can also be modified in code to extend the technical functions of playwriting[3].

2.2 Virtual Production and the Infinite Generation of Spatiotemporal Scenes

With the development of virtual production technology, new ways have been found to create the space-time of micro-dramas. Algorithms for generating scenes based on neural radiance fields and diffusion models can automatically create high-quality three-dimensional spatial environments according to text descriptions, and by means of algorithmic generation, the physical constraints of shooting locations and the costs of set construction can be avoided. Modular Storage of scene elements and real-time rendering technology can be used to reuse and combine the same digital assets in different episodes to improve the efficiency and flexibility of spatiotemporal construction. The background of a micro-drama no longer needs to be real life; now, there is also an era of virtual creation by algorithm.

Endless creation of spatio-temporal scenes has also changed the visual-textual characteristics of micro-dramas. Algos can create all sorts of historical scenes, fantasy worlds, miniature worlds, etc., according to the demands of a story, and thus greatly increase the range and freedom of visual expression. We no longer need to have sudden scene cuts; an algorithm can be used to achieve a relatively smooth transition or gradation in style and thus keep up with the flow of space and time. Therefore, the visual space of micro-dramas is often surreal, and there is a close connection between the degree of spectacle in the scenes and the intensity of narrative emotion; thus, programmability of spatiotemporal construction has begun to serve as an internal motive for changing the visual style of the text.

2.3 Algorithmic Synthesis of Character Images and Emotional Projection

Algorithmic synthesis of character images is a typical case of the application of AI video generation technology in the creation of micro-dramas. Digital human synthesis systems based on generative adversarial networks and three-dimensional reconstruction technology can automatically realize all the stages of generation, such as facial features and micro-expression dynamics, as well as sequences of limb movement. Character images do not need to be created through live performances by human actors anymore; instead, at the algorithmic level, all attributes of these pictures, such as age, mood and emotion, can be parametrically adjusted according to the demands of the script. Now, the technology can create more controlled and consistent character images; thus, the same digital picture will look the same in all the episodes.

Given the new environment of algorithmic synthesis, people are re-evaluating how emotional projection in character images affects the audience now. Micro-expressions and eye movements of synthetic characters are the results of feature extraction and model training on a large number of real performance data, and their modes of emotional expression have been approximated to some extent from human performance through technology. Now, the audience cannot feel the same sense of identification with the artificial characters as they would in a live performance; instead, they are aware intellectually that these emotions have been generated by algorithms. Therefore, the character images in micro-dramas are composite products of data training, and the authenticity of their emotional expressions is based on an accurate model of performance patterns in the algorithm; thus, the logic of

characterisation has moved from performance recording to algorithmic synthesis[4].

3. The Transformation of Creative Subjectivity and the Evolution of Industrial Forms

3.1 The Transformation of Creators' Functions and the Reconstruction of Technical Literacy

With the development of AI video generation, many creators have started to use it in their work. With the advent of algorithmic generation, the traditional division of labour in the creative process, such as screenwriters, directors and post-production editors, is gradually disappearing; thus, the main responsibility of creators has shifted from execution-level work (e.g., camera operation, scene construction and editing assembly) to selecting, refining and directing the aesthetics of AI-generated materials. Generative models can be used to generate the first draft of a script, create visual storyboards automatically, produce narration, etc., and thus change the role of creators. They will no longer have to do all the work frame by frame and film manually; instead, they will become "prompt engineers" and "aesthetic arbiters" and adjust the parameters of generative models, write specific prompt syntax, etc., to ensure the visual consistency of the generated results. That is to say, the technical implementation part of the creation process will be carried out by algorithms, and the creators can focus on more abstract tasks, such as generating ideas and setting an aesthetic direction.

Rebuilding the technical literacy of creators is now an urgent problem and the foundation for this round of functional reform. The old narrative skills and aesthetic sense of visuals should be combined with algorithmic literacy to form a new combined structure; creators need to have a basic understanding of the operating logic of generative models, learn technical means to control visual style, character shape and scene composition through prompt engineering, and be able to make professional judgments and fine-tune the performance of algorithmically generated content in terms of narrative coherence, accuracy of emotional expression and consistency of visual style. Technical literacy is no longer an additional quality or an option in the post-production period; rather, it has become an indispensable attribute that needs to be constantly applied at all times in creation and optimisation, and the success of collaboration with artificial intelligence and the quality of the final work are directly linked to how well this new type of literacy is developed and used. With the development of technology, creators need to keep learning new things, and they should be able to adjust their sense of the system dynamically according to changes in algorithms[5].

3.2 Aesthetic Characteristics of Micro-dramas Based on Generative Technology

With the development of AI video generation technology, a new type of beauty has appeared in micro-dramas that is different from that in traditional films and television. Algorithmically generated works often have a "surreal splicing" style, and various scenes and styles from different times or places can be smoothly combined and abruptly switched within the same story world; thus, the logical connection of scene transitions is no longer based on physical realism but rather on visual fluidity and emotional resonance, and with the development of technology, the degree of spectacle in images continues to rise. This visual feature is the result of the generative model's ability to organise intrinsic features and transfer styles learned from a large number of images; it is not a passive record of reality obtained by taking pictures, so the logic of scene construction has moved from representation to generation and from imitation to creation. Therefore, the visual space of micro-dramas has a high degree of plasticity and programmability, and the combination of visual elements is not bound by the laws of physics to create a new visual language based on algorithmic logic[6].

Micro-dramas have developed the aesthetic style of "algorithmic smoothness" in the area of emotional expression. Modulations in the emotions of synthetic characters, various presentations of facial micro-expressions, and changes in emotions due to different developments in the plot are all based on expressive patterns and statistical attributes learned from training data. Algorithmic averaging can be used to reduce the suddenness of emotions and eliminate individual differences in expression; thus, the resulting change in emotion will be gradual and follow quantitative rules. The technical characteristics of emotional expression in micro-dramas are very regular, predictable and repetitive; that is to say, the degree of dramatic conflict and the nodes for evoking emotions can be measured and controlled algorithmically. This technical aesthetic is not an expression of real emotions in traditional film and television, nor is it an external addition of visual effects by means of digital technology; rather, it is a new kind of art produced by the internal operating logic of generative models and the principles of data training, and one of its special features is a deep organisation of emotional expression by the

technological system.

3.3 Symbiotic Evolution of Technological Iteration and the Micro-Drama Creation Ecosystem

With the continuous development of AI video generation technology and changes in the structure of the micro-drama creation ecosystem, the two have begun to affect each other and are also being influenced. With the development of technology systems, many kinds of tools have been added to the creation process at all times, and as a result, new types of works have emerged. Many of the problems that have limited the application of micro-dramas in recent years have been solved; the resolution of generations has increased, the order of time is more logical, multi-modal synchronisation has been improved, and physical laws have been accurately simulated. At the same time, the particular demand for technological output in the creation ecosystem will also guide the direction of algorithm research and the focus of technological optimisation. Micro-dramas have some characteristics, such as being frequently released, having short production cycles, rich and concentrated emotions, etc.; they provide a necessary basis for the training and optimisation of video generation models and set the direction for technological development. Therefore, there will be continuous changes in how technology and art are created together in the future.

The Structure and Function of the creation ecosystem will change with development and cooperation among all parts over time. The form of content supply has changed from independent creation by professional organisations to joint production by all kinds of organisations and algorithms, and the creative cycle has been greatly shortened; thus, content iterability, reusability and modular combination are now required technical attributes for the efficient operation of this ecosystem. With the progress of technology and the high demands of the ecosystem for a large amount of frequently updated content, generative capabilities have been rising, and thus, the characteristics of micro-dramas are constantly changing and being redefined in line with the development of algorithms. There are still some problems with the technology in the creation ecosystem, such as a lack of long-term narrative logic, subtle layering of emotions, and inconsistencies in character depiction across different scenes; however, these technical defects are also directions for research and development of the next generation of algorithmic breakthroughs and intrinsic driving forces of technological progress, so dynamic balance and coordinated development of technology and creation can continue to be maintained and advanced to a higher level.

Conclusion

In short, the change in the creation model of micro-dramas due to AI video generation technology is essentially the addition of algorithmic logic to the basic elements of content production. Generative Models have changed the basic idea of creation by reconstructing narrative grammar, built collaborative systems for visual display, and, at the level of technological logic, have developed from auxiliary instruments into generative subjects. In the field of content creation, algorithmic optimisation of plot tension in scripts, infinite generation of spatio-temporal scenes and algorithmic synthesis of character images have all advanced the organised development of textual features towards modularity and programmability. At the level of creative subjects and industrial forms, with the change in the function of creators to that of aesthetic arbiters, technical literacy has been reformed; micro-dramas have established an aesthetic system based on "surreal splicing" and "algorithmic smoothness", and a bidirectional symbiotic mechanism has been built in the creation ecosystem of technology iteration. In the future, with the continuous development of AI video generation technology, the logic of narration and emotion simulation will be regulated, and the model for creating videos will be further improved by integrating humans and machines. One of the main problems in art creation at present is the conflict between control over the production of content and the randomness of creativity; technology and art need to solve this problem, and new forms of expression will emerge as a result of the joint application of technology and creativity.

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