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Research and Application of Film and Television Sound Dynamic Effect Design System Based on Artificial Intelligence

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ABSTRACT

In the process of film from visual art to audio-visual art, sound design technology provides unlimited possibilities for its development. Before the emergence of audio film, we can only understand the connotation of the film through the actor's actions and some subtitles. Until the emergence of audio film, we can not only deeply understand the author's ideas through the actor's lines, the rendering and contrast of sound and music, but also let it better shape its own artistic works. The same is true of television, which appeared later than movies. The design of music, sound and language plays a very important role from the early sound design to the later sound image shaping and the second creation of the sound of the whole film. Therefore, this paper studies the film and television sound dynamic effect design system based on artificial intelligence.

Keywords: artificial intelligence; Film and television sound; Dynamic design

1   INTRODUCTION

Film and television art is audio-visual art, and film and television works achieve the function of transmitting information and expressing ideas through pictures and sounds. As the smallest unit of audio-visual language, lens includes two aspects of "sound painting". The picture can intuitively show the aesthetics of film and television. While assisting the picture, sound gradually has a deeper meaning. Sometimes it even exceeds the picture and becomes the most important element of film and television works. "The structure of sound is also generated from the level of lens. In addition to deducting the plot, the sound itself also has the problem of modeling structure." therefore, the modeling of film and television art is more and more inseparable from the element of film and television sound. The sound elements of film and television art include human voice, sound and music.

After sound becomes an organic part of the film, that is, after the real sound film is produced, we say that sound is not only a constituent element of the film language, because sound tends to be "infinite continuity" in commu

nication "And the in-depth depiction of time, space, psychology, emotion and artistic conception style, which greatly expands the ability of the film to depict time and space. As the construction element of the film, the role of sound is specific and different. The film is finally based on the perceptual" audio-visual combination " "Image presentation, its artistic purpose and artistic effect are expressed by specific and perceptible audio-visual expression means.

Sound and picture have a great impact on the viewing effect of film and television works, which needs to be paid attention to in the post production. The situational language, sound effect and music are professionally processed in the post production, so that the music, sound and language in the film sound should reach the ideal standard. Therefore, this paper studies the film and television sound dynamic effect design system based on artificial intelligence. This paper consists of the following parts. The first part introduces the relevant background and significance of this paper, the second part is the related work of this paper, and the third part is the importance and artistic charm of sound in film and television. The fourth part is research on film and television

sound dynamic effect design system based on artificial intelligence. The fifth part is conclusion.

2   RELATED WORK

In this paper, we aim to research and application of film and television sound dynamic effect design system based on artificial intelligence.

Mak-mensah e et al. proposed influence of plastic film mulch with biochar application on crop yield, evapotranspiration, and water use efficiency in northern china: a meta- analysis[1]. Wang y et al. proposed gelatin-based nanocomposite film with bacterial cellulose–mgo nanoparticles and its application in packaging of preserved eggs[2]. Thanh n t et al. proposed some preliminary results of the synthesis and investigation of the glass/fto/si/au/ embedded thin film for application in the modified plasmonic solar cell[3]. Research article et al. proposed examination of wonder film in the context of social stigma and internal stigma towards individual differences[4]. Monton c et al. proposed preparation and evaluation of film forming polymeric dispersion containing centella asiatica extract for skin application[5]. Kopalakrishanan d p proposed cognitive neurofilm : narrative logic of film and mirror neuron research proposal[6]. Bereka v o et al. proposed research of energy efficiency of processing by pulse barrier discharge of water in a drop-film state[7]. Shu mincao research on the application of mkr model in movie recommendation system[8]. Jasmin m et al. proposed cationic cholesterol derivative efficiently delivers the genes: in silico and in vitro studies[9]. Yi z proposed application of computer vision in 3d film[10]. J farahbakhsh et al. proposed recent advancements in the application of new monomers and membrane modification techniques for the fabrication of thin film composite membranes: a review[11]. Liu j et al. proposed research on fatigue phenomenon and internal mechanism of hfzro2 ferroelectric thin film memory[12]. Abdalla s et al. proposed journal of thin films, coating science technology and application thin film gum arabic doping by potassium bromide solar cells[13]. Taweechat c et al. proposed properties of banana (cavendish spp.) Starch film incorporated with banana peel extract and its application[14].

With the rapid development and progress of computer and its information science, the emerging research field of artificial intelligence has attracted many young scholars to work hard one after another. So far, it has made many remarkable achievements: such as computer defeating human beings and becoming the world champion of international elephant chess; toy robot with emotional performance; intelligent man with simple detection and judgment operation Electrical appliances; various intelligent aircraft with complex functions, etc.

Artificial intelligence, together with aerospace space technology and atomic energy technology, is regarded as the most far-reaching frontier scientific and technological achievement in the 20th century, which is different from the previous three industrial revolutions (Power Industrial Revolution, energy industrial revolution and electronic industrial revolution) Different goals, the declared goal of artificial intelligence is not only to realize the substitution and extension of human limb function and physical tools, but also to realize the substitution and extension of human brain function and intellectual ability.

2.1   Concept of artificial intelligence

Artificial intelligence, translated into English as artificial intelligence, referred to as AI, is to study the law of human intelligent activities, construct an artificial system with a certain intelligence, and let the computer complete the work that needed human intelligence in the past, that is, to study the basic theories, methods and technologies of how to use computer software and hardware to simulate some human intelligent behaviors.

From the perspective of discipline status and development level, artificial intelligence is not only a frontier discipline of contemporary science and technology, but also an emerging discipline with new ideas, new theories, new technologies and new achievements. The research of human engineering intelligence is in computer science, information theory, cybernetics, psychology, physiology, mathematics, physics, chemistry, biology, medicine, philosophy, linguistics and society It is developed on the basis of many disciplines such as learning, so it is also a highly comprehensive marginal discipline.

2.2   AI content

Artificial intelligence is not only a highly comprehensive frontier discipline, but also an inclusive basic science. The theoretical system is constantly enriched and improved, and frontier research and experimental topics

emerge one after another. Early scholars believe that the basic theories and basic systems of artificial intelligence should include at least the following four basic technologies:

(1) Machine learning and knowledge acquisition technology: mainly information transformation technology, knowledge and information understanding technology, knowledge organization and regularization technology, machine perception and growth technology, etc.

(2) Knowledge representation and processing technology: including the establishment and description technology of knowledge model, representation technology and various knowledge model processing technologies and methods.

(3) Knowledge reasoning and search technology: especially deductive reasoning calculation and intelligent search technology.

(4) AI system composition technology: including AI language, hardware system and intelligent application system.

Based on the above basic technologies of artificial intelligence, it can be considered that the current basic research content of artificial intelligence should include the following aspects:

(1) Machine perception

The so-called machine perception is to make the machine (computer) It has perceptual abilities similar to human beings, including vision, hearing, touch, force sense, taste, smell, perception, etc. machine vision and machine hearing are the main ones. Machine vision enables machines to recognize and understand words, images, scenery, etc.; machine hearing enables machines to recognize and understand human language expression, voice, sound, etc. thus, it forms the two main functions of artificial intelligence Special research field, namely pattern recognition and natural language understanding technology branch.

(2) Machine thinking

As shown in Figure 1, the so-called machine thinking refers to the purposeful processing of perceived external information and various working information inside the machine. Just as human intelligence is a thinking activity from the brain, machine intelligence is mainly realized through machine thinking. Therefore, machine thinking is the most important and key part of artificial intelligence research. In order to enable machines to simulate human intelligence Thinking activities, in particular, need to carry out the following research work:

① The representation of knowledge, especially the representation of all kinds of imprecise and incomplete knowledge.

② Knowledge reasoning, especially all kinds of imprecise reasoning, inductive reasoning, non monotonic reasoning and qualitative reasoning, as well as all kinds of heuristic search reasoning and control strategy research.

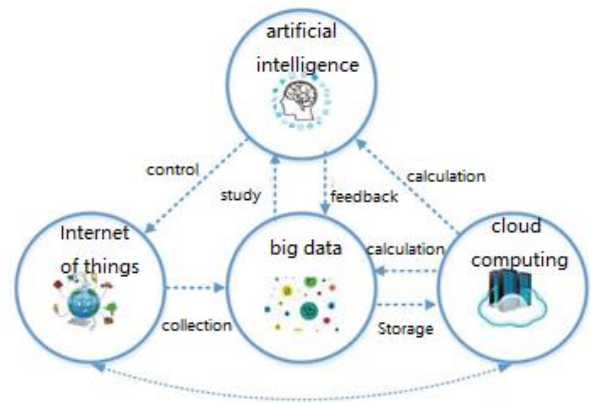③ Neural network, the structure and working principle of human brain.

Figure 1 artificial intelligence technology

(3) Machine learning

Human beings have the ability to acquire new knowledge, learn new skills, and constantly improve and improve in practice. Machine learning is to make computers have this ability, so that they can automatically acquire knowledge, learn directly from books, learn by talking with people, learn by observing the environment, and achieve self-improvement in practice, Overcome people's limitations in learning, such as easy to forget, low efficiency and distraction.

3 THE IMPORTANCE AND ARTISTIC CHARM OF SOUND IN FILM AND TELEVISION

3.1 *The importance of sound in film and television*

In the earliest films, there was no sound, only pictures. In the film, the content of the film was expressed through the subtitles displayed on the screen and the actions of the actors. The 16 frame frame is the running speed of this kind of film when playing and shooting. During the

silent broadcasting period, the film developed into a pure visual art. Its representative works include the first god-fathero Coppola Gang classic godfather, one of the most successful films of paramount company. It should be popular to sit firmly at the top of IMDB. Although the critics unanimously praised the second episode of the godfather series, most fans still seem to have a special liking for the godfather, which may be related to Marlon Brando's charismatic performance. Until today, his vague and hoarse voice and mysterious expression are still fascinating. With the development of the times and the progress of science and technology, people no longer only require the picture in the evaluation of films, but also pay attention to the sense of sound. Because we watch movies, one is to watch and the other is to listen. Both are indispensable.

3.2 Artistic charm of sound in film and television

Sound is a very key part of film and television. The emergence of sound in film and television makes its broadcasting forms more diversified, from a single visual broadcasting to audio-visual broadcasting, and from only picture to audio-visual broadcasting. The emergence of sound in film and television is a great revolution in the history of film. It has greatly changed the nature of film, opened up a new leading city for film art, provided a broad creative space for the subsequent development of TV art, and laid a foundation for the development of contemporary film and television sound art. As shown in Figure 2 below, the process of image data transmission form is shown.
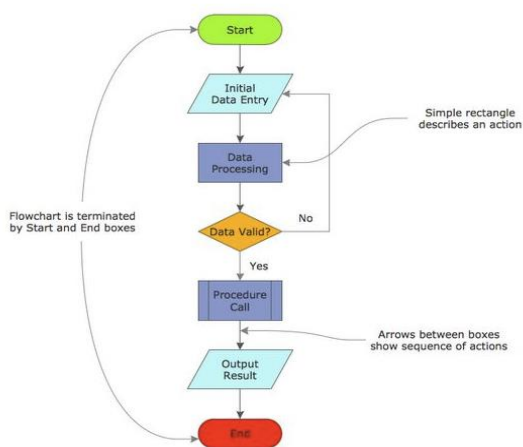

Figure 2 Form and process of image data transmission

The content of sound in film and television can be summarized into three points: sound, language and music. Language is the most understandable and acceptable means of expression. I won't repeat it here. I will feel the infinite mystery of film and television sound art with the application of sound and music in film and television.

One is the embodiment of rhythm in music. Music has lyrical characteristics in artistic expression, which can reflect the subtle feelings of characters. It is most suitable to use music to express the psychological feelings of characters in film and television. Due to the length, speed and strength transformation of music, it can be organized into music scores with different rhythms, beats, melodies and modes to express and express the creator's certain feelings and emotions for external objects. They can create all kinds of auditory images and then transform them into colorful artistic beauty.

The second is the picture art of music. Sunset Boulevard. Director Billy Wilder is the most important person in hao-caiwu in the 1950s. His works have been nominated for the best film Oscar for 20 times and won six awards. The Jew from Europe once served as the film department secretary of the US Army psychological war. He always believed that film is entertainment, and he has been engaged in film work for decades. Its theme music seems to flow slowly from the deep blue sky and green jungle, and it also seems to be real from the heart and from the depths of the soul, gradually filling the whole world... When the characters in the picture have gradually blurred, the aesthetic music is still circling the beam, as if the sound is not made for painting, but attached to painting for sound. At that moment, music became the voice in the sky. In my opinion, if the film and television to be broadcast has better artistic beauty, we need to deal with the relationship between picture and sound, so as to give full play to their functions and make them better express the theme of film and television. Generally speaking, there are three main relationships between them: the integration of sound and painting, that is, the combination of picture and music. The display of picture is consistent with the rhythm of music, and the rhythm of the two is consistent.

4 RESEARCH ON FILM AND TELEVISION SOUND DYNAMIC EFFECT DESIGN SYSTEM BASED ON ARTIFICIAL INTELLIGENCE

Film and television sound has strong creativity and subjective expression. It is an art form rich in emotional expression and emotion. This characteristic of sound dynamic effect design leads to the uncertainty of music perception. Emotion fluctuates with people's psychological changes, which can well simulate psychological emotion or emotional rhythm. For example, characters often use clear and lively melody when they are happy and happy. This melody is transformed into lyrical emotion through the audience's resonance experience, further showing the character's inner pure and warm deeper emotional temperament. In the performance of the strong and unyielding character of the characters, they often use the grand symphony performance, use the short phrases and beating intervals to depict the image of the hero, so as to make the personality power of the characters more prominent. In the mood for love, the slightly sad three beat slow melody and Su Lizhen slowly descend along the narrow and dark alley. The light shines on her unhappy face and her slender but lonely figure under the dim street lamp, which make the heroine's loneliness and helplessness unfold, While leaving a deep impression on the audience, it creates a nostalgic and sad mood of the whole film.

Nowadays, the use skills of sound dynamic design are becoming more and more mature. Sound has gradually got rid of its vassal position as a supplement to the picture, opened up a new field for film and television art, and has become an indispensable element of film and television art. Chen Xihe, a famous film theorist, pointed out: "Sound is one of the important means of expression of film, and we should explore it. But since it belongs to means, it can not be regarded as an end. Therefore, when using it, we must first start from the ideological content of the work, see where we need to use sound to express, and what kind of sound is the most appropriate. We must not leave the ideological content and abandon the essence to get to the end." "Although the sound element plays such an important role in the film and television art, it must be better than excessive. When using the sound element, we must organically and skillfully connect the West and sound, so as to more perfectly express the ideological content of the works, create excellent art works with creativity and vitality and loved by the majority of audiences, and show the film and television works The highest artistic charm.

5 CONCLUSION

For film and television works, the realization path of picture shaping function is very rich and important. For character modeling, picture modeling, excellence, and even clothing modeling, we should be meticulous. However, with the increasing importance of sound in film and television works, especially in today's endless stream of type films, the concept of sound dynamic effect design is constantly changing, with more abundant sound The modeling effect of sound design technology on its sound will bring unlimited development space and commercial market to the creation of film and television works.

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