

# On the Application of Artificial Intelligence Technology in the Field of Film and Television Media

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**Abstract:** Under the background of the gradual maturity of artificial intelligence technology, the field of film and television media is also affected by artificial intelligence technology. Artificial intelligence is widely used in many links such as pre-planning, script writing, on-site shooting, and post-editing of film and television media, and artificial intelligence may have a great impact on the entire value chain of the film and television media field. This paper studies the application of artificial intelligence technology in the field of film and television media, and analyzes the application status of artificial intelligence by taking the application of ChatGPT as an example. It is hoped that this paper can provide reference for relevant personnel on the application of artificial intelligence technology in the field of film and television media.

**Keywords:** Artificial Intelligence; Film and Television Media; Application

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## Introduction

Artificial intelligence has an important role in promoting the development of the field of film and television media, artificial intelligence technology can be reflected in the whole process of film and television production, such as film and television creativity, film and television screenwriting, film and television editing, etc., and the integration of artificial intelligence and film and television media has also brought a new audio-visual feast to the audience.

## 1. Conceptual discussion

Artificial intelligence means that computers can realize the cognitive ability, practical ability and thinking ability that human beings have in life, and imitate the human brain for thinking, execution and decision-making. China's artificial intelligence technology research started late, but now artificial intelligence has also reached deep integration with many fields. Film and television media refers to a kind of communication behavior or activity carried out through films, TV series, animation and other media.

## 2. The application of artificial intelligence technology in the field of film and television media

### 2.1 Artificial intelligence technology affects the elements of creation

#### 2.1.1 The impact of artificial intelligence technology on subject and object

The development of artificial intelligence has changed workers, working methods and labor content to a certain extent. Actors are the decisive factor in the development of the film and television media field. Artificial intelligence has used deep learning neural networks to analyze and judge the connection between actor traits and ratings and box office, and artificial intelligence big data prediction provides reference data for film and television media's theme orientation, actor selection, broadcast operation, etc. through powerful background measurement. Under the influence of artificial intelligence, virtual actors in film and television media have also been born with technologies such as "AI face changing", which provides a better solution for the crew and producers when actors cannot perform normally in unexpected situations. Artificial intelligence accurately locates the audience, extracts consumers' viewing needs through the analysis of audience attributes, and provides them with more matching media works and marketing plans.

Avatars enrich the narrative expression of film and television works. The virtual characters and virtual spaces created by artificial intelligence technology are more flexible in narrative and easier to create distinctive characteristics for the public to remember. The

avatar has a separate copyright, which greatly saves the high appearance fee that needs to be paid for the use of well-known actors. Avatars are often more imaginary, approaching the audience's aesthetics and imagination to the greatest extent. Virtual character design, virtual scene design, etc., can show the unreal scenes that are difficult to present in reality and the super difficult actions of characters, opening the door to the bizarre virtual world for the audience.

## **2.1.2 The application of artificial intelligence technology in screenwriting**

When creating film and television works, screenwriters need to portray the storyline through multiple relationships such as the structure, background, and characters of the story, and show the audience a more substitutionary and shared destiny film and television works. Screenwriters need to have the ability to think visually, observe and understand in order to write unique script stories. With the help of artificial intelligence, the form of script writing has also changed. Artificial intelligence can quickly summarize and sort out scripts, and more professional screenwriting intelligent software has also emerged, which plays an auxiliary role in script screenwriting. Artificial intelligence can pre-evaluate the writing of the script, screen and arrange a series of real-life materials through the algorithm in the background of the software, complete the preset of the script, help film and television creators filter information, and improve creative efficiency.

## **2.2 Artificial intelligence technology changes the content of creation**

### **2.2.1 Humanoid and non-humanoid in the image of artificial intelligence**

Artificial intelligence that is quite different from human appearance characteristics often appears in film and television works, such as characters in film and television dramas such as "2001: A Space Odyssey" and "Transformers". The artificial intelligence in film and television works such as the "Robot Men" series and the "Terminator" series has a similar appearance to humans, and the artificial intelligence characters in the play can think like humans.

### **2.2.2 Exoskeleton artificial intelligence and operating system artificial intelligence**

The protagonist in the "Iron Man" series of movies is a human, wearing an exoskeleton artificial intelligence, so it has a stronger body and superhuman energy. This type of work proposes that humans can get rid of the limitations of the body and use artificial intelligence exoskeletons to enhance physical strength.

### **2.2.3 Artificial intelligence virtual assistant**

Artificial intelligence virtual assistant is also known as intelligent voice assistant, in the film and television work "Her", the male protagonist fell in love with artificial intelligence Samantha, this artificial intelligence can feel emotions like humans, while undertaking the work of human assistants.

## **2.3 Artificial intelligence technology enriches creative means**

### **2.3.1. Audio and video analysis**

In the field of film and television media, the convolutional neural network in artificial intelligence technology can be used for regional feature extraction, feature calculation, and object classification of characters, scenes and dialogues in film and television, and complete the analysis of film and television works through artificial intelligence technology, and accurately and efficiently locate and detect targets. Film and television media integrates visual and auditory artistic communication, and artificial intelligence can realize multimodal processing such as sound recognition and visual analysis of film and television works, and can complete the analysis of characters and shots in film and television works from multiple angles such as character emotional expression characteristics and lens screens, so as to meet diversified creative needs.

### **2.3.2. Intelligent segmentation of audio and video**

Artificial intelligence can decompose audio and video into different segments according to a certain theme, form a combination of film and television works, and extract the visual features in the clips. Capture the emotions expressed in the scene through a key piece of information about speech, music, and sound in the scene, and use audio analysis to identify the emotions expressed in the scene<sup>[1]</sup>.

### **2.3.3. Smart Clip**

The modern film and television technology used in film and television media is relatively complex, and the editing technology is

constantly improving, which is a great workload challenge for the staff. The editor must repeatedly watch the shooting material and fully communicate with the director before they can clarify the editing idea. However, the editing of the film has a certain logic, and the commonly used skills in editing can be completed by artificial intelligence, for example, artificial intelligence can be used to complete simple lens assembly such as light and dark changes in the picture, fade in and out of the lens, etc., which can help the editing is to effectively analyze the material and complete the basic editing work.

### **3. The practice of artificial intelligence technology in the field of film and television media: taking the application of ChatGPT as an example**

#### **3.1 Introduction to ChatGPT**

ChatGPT's "Human Feedback Reinforcement Learning (RLHF)" training method obtains the ability to deeply learn human language, in the application of this project, the dialogue between humans and artificial intelligence is no longer a simple question and answer, artificial intelligence can think about the questions asked by users, so as to output text that is more in line with human cognition and needs. The tool has strong language understanding and language generation capabilities, and can be applied to the writing of complex texts.

#### **3.2 Application of Chatting in script creation/**

Artificial intelligence created scripts as early as 2016, after completing the deep learning of many sci-fi works such as "Interstellar", artificial intelligence "Benjamin" successfully wrote a 9-minute sci-fi movie script. Artificial intelligence writing scripts is to disassemble and analyze the original script, and finally complete the rapid creation of film and television scripts. Even from the current point of view, the script created by artificial intelligence at that time was slightly blunt, but it also created a precedent for artificial intelligence to create a script. With the continuous development of artificial intelligence technology, artificial intelligence can quickly complete the story creation according to the theme proposed by the creator [2].

Chatting has made a further breakthrough based on the original artificial intelligence to create the script. The script created by ChatGPT is more realistic, the shaping of characters and plots is more flexible and vivid, users can make suggestions and attach conditions to the generated script, and ChatGPT can quickly generate a revised new script. The script generated by ChatGPT not only has a stronger logical narrative structure, but also can take into account additional requirements such as script format. ChatGPT's natural and authentic language expression effectively improves the creative efficiency of creators.

#### **3.3 Reflection on the application of artificial intelligence in film and television production**

Taking the application of ChatGPT as an example, the use of ChatGPT can assist creators to obtain basic information that is more in line with their own requirements, and provide reference for creators' script creation. But artificial intelligence also has its inherent flaws, and the script writing completed by ChatGPT is ultimately a product of data analysis, which is an absolutely rationalized work generated based on big data. But human beings are emotional, and film and television works also need to seek emotional resonance with human beings. ChatGPT is difficult to complete the innovation of works, and the products of logic and rationality need to be injected with creativity and imagination by humans, so as to make film and television media works have stronger vitality.

### **Conclusion**

Artificial intelligence can accurately locate the audience, clarify the age level, cultural level, economic situation, aesthetics, etc. of the audience of different types of film and television works, and provide important reference value for the marketing, text creation, type selection, etc. of film and television media, and artificial intelligence technology itself can also provide a strong auxiliary role for film and television creation and production, helping staff complete intelligent editing, intelligent analysis, shaping virtual images, and plumping the sci-fi color of the story.

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