

# ChatGPT begins: A reflection on the involvement of AI in the creation of film and television scripts

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**Abstract:** *The advent of ChatGPT has sparked global discussions. Currently, NLP algorithms are approaching the entertainment industry, with an increasing number of intelligent applications being implemented and integrated into various scenarios within the industry. As a crucial component of China's media landscape, the film and television industry has always garnered significant attention. With the deepening application of AI in the entertainment industry, there is a close association between AI and film and television creation, drawing the keen interest of scholars and experts in the intelligent trends within the film and television industry. The emergence of AI presents both opportunities and challenges for scriptwriting. While AI excels in efficiency, it also grapples with legal and ethical constraints. As AI rapidly rises, researchers need to delve into a thorough analysis of its advantages and issues to better adapt to the impending era of human-machine symbiosis.*

**Keywords:** *ChatGPT, Artificial Intelligence, Film and Television Industry, Scriptwriting, Film and Television Sector*

## 1. Introduction

In November 2022, an Natural Language Processing (NLP) tool named ChatGPT, developed by the American AI laboratory OpenAI, officially launched on various media platforms. Within a short span of two months, it attracted over a hundred million active users, achieving remarkable success. This super tool possesses language comprehension and text generation capabilities, deeply integrating the Transformer neural network architecture and RLHF (Reinforcement Learning with Human Feedback) technology. Furthermore, it can connect to extensive corpora for model training. Microsoft founder Bill Gates expressed that the emergence of ChatGPT is of significant historical importance, comparable to the birth of PCs and the internet. This indicates that ChatGPT, as a groundbreaking technological product, has not only surpassed the limitations of previous weak AI products but also has the potential to further drive the intelligent transformation across various industries and fields. It represents a revolutionary invention with far-reaching implications.[1]

## 2. The Cutting Edge of Playwriting in the Era of Artificial Intelligence

The era of human-machine collaboration and artificial intelligence officially becoming an extension of the human mind is no longer distant. Although the development history of artificial intelligence is not long, it is foreseeable that humans will increasingly collaborate closely with intelligent algorithms in the future. Humans and technology will become mutual delegates, extenders, and empower each other. For the film and television media industry, the application of artificial intelligence has matured. From early planning to scriptwriting, mid-stage intelligent drawing and lyric composition, to late-stage scene design,[2] intelligent voiceovers, and distribution promotion, artificial intelligence plays a pivotal role throughout. The enhanced efficiency of intelligence in the film and television industry will profoundly impact the overall value chain of the industry and hold significant societal significance. With the emergence of ChatGPT, the film and television media industry may face even greater challenges. This article will gradually clarify the characteristics and development history of artificial intelligence and film and television scriptwriting, analyzing opportunities and challenges from two dimensions, and exploring more possibilities for the future development of scriptwriting in the intelligent era.[3]

### 3. Technological Intervention: The Practical Path of Artificial Intelligence Empowering Scriptwriting

Film and television creation encompasses the entire process of realizing artistic integrity, including early planning, scriptwriting, on-site shooting, post-production editing, and distribution. As a core component, the level of scriptwriting significantly influences the quality of artistic works. It not only serves as the precursor to the structure, style, artistic expression, and plot development of a work but also forms the literary core upon which film and television works are grounded. Scholar Shen Yiwei aptly stated, "Humans grow up listening to stories, and scripts are the life stories of you and me. The literary nature of scripts cannot be underestimated; they belong not only to the stage or screen but also to the desk." For example, works like "Sewing Machine Band" illustrate the ideal pursuits of ordinary people, "Dying to Survive" portrays the struggles of ordinary people in the face of illness, and "Mountains and Seas" praises the hardworking spirit of rural officials. These films and television dramas based on real-life themes are created based on human emotions, not only becoming a spiritual guide rooted in reality for the audience but also enduring classics in the film industry. Screenwriter Song Fangjin believes that a scriptwriting mode that pursues brevity and speed may yield short-term effects but is ultimately detrimental to the long-term growth of the film and television industry. Therefore, in contemporary society, writing emotionally rich, sincere, and culturally valuable stories is still considered the highest pursuit for film and television writers.

Based on years of research experience in film and television production, Professor Liu Tuo of East China Normal University proposes the following suggestions regarding the defects of artificial intelligence in semantic expression: the premise for AI to participate in creation is to be built on the deep learning foundation of AI for human natural language. Similarly, AI's participation in the later stages of film and television production must also be based on the deep learning foundation of AI for the language of film. This implies that for AI to break free from the limitations of the weak AI era and maximally intervene in film and television creation, it must undergo deep learning at the semantic level. Otherwise, it may have a diminishing and deconstructive effect on the humanistic spirit that films attempt to convey. Generally, the higher the emotional content required in textual content, the higher the demands on artificial intelligence. For example, the once-popular robot news applications, initially appeared in the news field, automatically collecting relevant information using algorithms, processing data, and ultimately writing news articles using templates. However, the robot's reporting style is relatively monotonous, lacking human warmth, and prone to loss of user engagement. Some genres, such as in-depth reporting and fictional writing, are challenging for robots to achieve in a short time. From the perspective of narratology, "depersonalization" and "expression limitations" make robots inherently deficient in the completeness of news narrative, narrative style, and linguistic characteristics. Considering this, Professor Liu Tuo divides the practical process of AI involvement in film and television scriptwriting into four stages: pseudo-original stage (mechanical character substitution), auxiliary creation stage (formulaic and routinized creation), proposition stage (deep learning based on event models, character relationships, specific elements), and fully automatic stage (machine-independent completion of content creation). Currently, AI creative writing is roughly positioned between the proposition stage and the fully automatic stage. The computational power of machines has gradually surpassed human control, but there is still a long way to go before complete independent work.[4]

In the film and television industry, in addition to the themes revolving around AI for IP creation, there has been considerable accumulation of practices involving AI in scriptwriting. In 2016, comic artist Andy Herd collaborated with an AI technology expert to develop an automatic scriptwriting robot, creating a sitcom comparable to "Friends." This AI was developed using Google's machine learning toolkit TensorFlow, and while much of the content resembled gibberish, it showcased potential use cases. It marked a beneficial attempt in the history of intelligent scriptwriting and addressed the question of whether AI, after deep learning, could independently write text. In 2019, Benjamin, a Long Short-Term Memory (LSTM) neural network developed by AI researchers at New York University, created a script with science fiction elements titled "Sunspring," following the deep learning of sci-fi films like "2001: A Space Odyssey" and "The Fifth Element." It made its debut at the London Sci-Fi Film Festival, representing the first instance in human history of language text output entirely generated by artificial intelligence. Subsequently, Benjamin wrote dialogues for the short film "It's no game" and produced the short film "Zone out." In terms of advertising scripts, in 2020, Japanese automaker Lexus collaborated with creative agency The&Partnership to produce the world's first fully AI-written film advertisement, "Driven by Intuition," showcasing Lexus' car performance and curves through visual imagery. In China, in June 2021, the first intelligent AI-driven platform for script,

screenplay, and novel creation, HaiMa QingFan, was officially launched. Founder Liu Xiaoyi gained attention with a short script, "Let's Get a Divorce, Contract Couple," created using artificial intelligence, with over 100 million views. Leveraging observations of the mobile internet over the past decade, Liu Xiaoyi believes that the creative process of scriptwriting involves methods, techniques, and logic, constituting an existence that can be structured and analyzed mathematically. By structuring abstract creative principles, they can teach robots to write scripts and even evaluate them using numerous specific, quantifiable metrics. Currently, HaiMa QingFan has established partnerships with Alibaba Pictures, Youku, and China Film Group, providing services to meet the new content creation demands of audiences in the current era of intelligent film and television production. Looking ahead to 2023, both ChatGPT and Dramatron, under DeepMind, have entered the field of scriptwriting, capable of generating complete film and television scripts, including titles, plots, scene descriptions, and dialogues, with strong coherence and increasing personalization. Developers on social media indicate that the advent of artificial intelligence will provide more possibilities for the large-scale production of high-quality creativity in the future.[5]

#### **4. Super Scripts: Reassembling New and Old Plots in Associated Narratives**

According to the Artisan database, the number of professional screenwriters in China exceeds 140,000, but only 3% of them have works that are broadcasted. This not only indicates intense competition in the screenwriting industry but also suggests an abundance of unreleased works. Faced with fierce market competition, it is not easy to stand out, create compelling film and television works, and achieve success. Chen Yu, the screenwriter of the movie "Man Jiang Hong," released during the Spring Festival in 2022, stated in an interview, "The goal of all script creation is to tell a story." However, for novice screenwriters, the greatest difficulty in scriptwriting is storytelling – telling a valuable, innovative, and meaningful story. Many scripts today suffer from vague and lofty issues such as lacking a realistic foundation, insufficient story content, and inadequate background research, which has become the root cause of the uneven quality of current film market productions. AI can provide substantial assistance in addressing these issues.[6]

##### ***4.1. Technological Feedback: Artificial Intelligence and Panoramic Data Provision***

Quality scripts form the foundation for the popularity, reputation, and return on investment of film and television works. [7]Script research is the most crucial stage in script preparation, even directly determining the success or failure of a film. Masterpieces like "The Wedding Banquet," "Life's Big Events," and "True Lies" all owe their success to meticulous thinking, investigation, refinement, and summary by screenwriters about society. Director Wang Jing, recalling his experience during the research work for "The Great Ming Dynasty 1566," stated, "The most challenging part is the need to reconstruct the spatial context of that era." AI, driven by algorithms and visualization technology, not only has unique advantages in data provision, scene design, and in-depth investigation but can also visualize spatial situations through digital twins, assisting human screenwriters in quickly getting started with their creative work.[8]

##### ***4.2. Disenchanting Drama: Rapid Application of Complex Creative Styles***

Brecht's drama theory, based on the principles of "alienation" or the "estrangement effect," is the essence and core value of his thought. In the outline of his work "Dialectics and Alienation," Brecht clearly defines the dialectical and epistemological aspects reflected in estranged dramas: "Estrangement as a form of understanding (understanding—not understanding—understanding), negation within negation. The accumulation of non-understanding, until understanding occurs (the transformation from quantitative change to qualitative change)." His dramatic works often focus on enabling the audience to understand the plot, analyze the characters, identify the main theme from new perspectives and levels, thereby forming a higher level of cognition.[9]

#### **5. Margins of Possibility: Rethinking the Constraints of AI Scriptwriting**

In the face of the impending era of general artificial intelligence, many believe that human screenwriters may eventually become obsolete, replaced by machines. However, this is an inaccurate viewpoint. Currently, AI scriptwriting still has its limitations.

### ***5.1. First Consideration: Constraints of Script Narrative Templates.***

In 2019, DC fans used AI to create a script for a Batman movie, but the output was comically absurd. Lines like "I drink bat, just like a bat" and "Alfred gave birth to Robin" were completely out of sync with the original relationships between characters.[10] While entertaining, this also led many onlookers to feel that the trajectory of contemporary intelligent scriptwriting in the film and television industry resembles a quick-fix mode: grabbing keywords, searching for themes, and piecing together related plot segments to form a complete story.[11] This Hollywood "metronome" style of template-driven scriptwriting theory was once popular. However, in modern times, cinematic rhetorical narrative theory, compared to classic structuralist-dominated film narrative theory, emphasizes narrative communication issues within and outside the text. This means that the script, as the foundation for conveying the screenwriter's creative intent to the audience, must balance narrative techniques and aesthetic heights to decrypt information for viewers along the predetermined cinematic trajectory. Nevertheless, current artificial intelligence involvement in the scriptwriting process often exhibits issues of template-based and repetitive expressions, presenting significant randomness, uncertainty, and gamification. The haphazard adoption of this quick-fix mode may lead to shallow script themes and, at times, even conflicting content.[12]

The script itself should possess a narrative quality. To organize, arrange, and construct research content and storylines reasonably, the language carrier in the narrative often implies rich cultural and artistic connotations. However, in today's AI scriptwriting, the content remains limited to learning and imitation of human intelligence, lacking visual creativity and genuine emotion.[13] It is merely a concatenation of massive texts. This mode of creation is not a revelation in life, a flash of inspiration, and is entirely different from advanced cognitive activities of human literature such as lyricism and storytelling. The lack of shared emotions among machines results in AI script creation being adept at expressing commonalities but struggling to convey individuality. As Walter Benjamin described in "The Work of Art in the Age of Mechanical Reproduction," the technology of mechanical reproduction causes the original work to lose its unique aura. Similarly, the current AI-driven scriptwriting, which follows a paint-by-numbers approach, may obscure the surging emotions of humanity in the work. Such mechanically reproduced works may lack the true artistic sense that resonates most with human audiences.[14]

### ***5.2. Second Consideration: Source of Information and Data Depletion***

Artificial intelligence, born from database training, is fundamentally different from human scriptwriting. Represented by intelligent scriptwriting, the intellect relies on data analysis rather than human growth and emotional experiences for literary creation. After multidimensional, large-volume, and comprehensive data training, it prioritizes the extraction of high-frequency vocabulary and sentence structures from the database to string together articles. However, this creative method leads to a high dependence on data, and once data depletion occurs, the development of artificial intelligence will come to a standstill.[15]

From Siri voice assistants, Google voice translation, and early virtual idols to current models like ChatGPT, none have escaped the need for vast amounts of high-quality annotated data for model training. To evolve and upgrade, these models must rely on algorithm refinement and the support of big data. However, in the paper "Will we run out of data? An analysis of the limits of scaling datasets in Machine Learning," several scholars express concerns about a data crisis. Research results indicate that the stock of high-quality language data may be exhausted by 2026, while the depletion of low-quality language and image data may occur between 2030-2050 and 2030-2060, respectively. This suggests that if the efficiency of data production does not significantly improve, the growth rate of models will slow down by 2040, posing a major bottleneck for the field of artificial intelligence.

Currently, ChatGPT's training corpus has utilized the majority of high-quality language data, including books, papers, serious reports, and professional Q&A. In comparison, the annual production of new high-quality data by humans is minimal. Setting aside copyright concerns, even with global collaborative efforts, databases cannot be substantially expanded in a short time. This implies that GPT5 has seen a reduced influx of incremental data, and researchers must place more hope in breakthroughs in training mechanisms, loss functions, and network structures. Consequently, many scholars predict that, despite AI surpassing humans in efficiency and feedback effectiveness, its quality will fall far short of the magnificent achievements in human literature in the short term.[16]

### 5.3. Third Consideration: Ethical Shifts in Artificial Intelligence

Unlike previous automation in the film and television industry, artificial intelligence, though lacking human emotions, intervenes in scriptwriting as a rational tool. This means that as the level of intervention deepens in the creative process, the boundaries of film and television scriptwriting become increasingly blurred. The resulting societal controversies, such as media ethics, legal responsibilities, and debates about whether traditional screenwriting is obsolete, are foreseeable in the future. Furthermore, from an algorithmic perspective, although ChatGPT can currently store interactive user information, how artificial intelligence will handle this data remains unknown. This suggests that in the field of scriptwriting, data security, protection of intellectual property, and copyright issues remain enigmatic.

## 6. Conclusion: Dialectical Perspective on the Intelligent Landscape of Humanity and the Future World

ChatGPT currently lacks life; it is merely a program woven together by different algorithmic languages. However, it is essential not to forget that ChatGPT is a digital life form constantly seeking evolution. It possesses the sum of almost all human knowledge and three unimaginable abilities: the ability to construct the real world through digital content twinning, digital editing capability, and digital creative capability. In the future, if ChatGPT continues to learn and upgrade, gaining higher intelligence and even free will, it might blur the lines of its tool-like nature. As artificial intelligence evolves from assisting to taking a leading role, within this intelligent revelry, questions arise: Will humanity be replaced, and will the development of artificial intelligence contradict the intentions of human creation?

Facing the ultimate question of whether humans control intelligence or intelligence controls humans, the author believes that while humans should not be complacent, there is no need for constant anxiety akin to Ludditism. As emphasized repeatedly by the CEO of HaiMa QingFan, the future of technology entering the content industry lies in human-machine collaboration. A good screenwriter remains the absolute ruler in the film and television industry. She states, "What artificial intelligence brings to us is the improvement of creative efficiency, not replacement. In other words, artificial intelligence will play a role by increasing, not replacing. A better screenwriter will not fear being replaced but will actively embrace technological trends." Throughout human history, anything that aligns with the demands of the times and historical trends does not stop progressing because of individual misunderstandings. This may be the cruel side of technology, but it is also an exciting aspect. Facing the future, humanity should reflect on itself, confront the world of human-machine symbiosis with confidence and wisdom, and navigate the technological tide where opportunities and challenges coexist. Only by settling into oneself amid this wave can the correct direction forward be found.

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