

AI Film Creation Oriented Transformation in the Era of Artificial Intelligence

Yilun Zhu¹, Bo Zhang^{1,2*}

¹Shanghai Publishing and Printing College, Shanghai, China

²Academy for Engineering & Technology, Fudan University, Shanghai, China

Email: *2879209357@qq.com

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Abstract

AI film is a commercial film genre with distinctive technical nature and profound thought, which includes two branches: AI film on the level of technical practicality and AI film on the level of subject creation. With the rapid development of science and technology, creation orientations of AI films have also changed. The reason is that the art world is a reflection of the real world, and is also viewed and reconstructed by the real world. Perceptions and concepts of the real world will have an indirect impact on the foundation of the art world, and artistic ideas can in turn become the trigger and starting point for real world developments. Nowadays, against the backdrop of deep impacts brought by artificial intelligence in everyday life, clarifying AI film creation-oriented transformation and its underlying logic shed light on current artistic creations of films and TV productions.

Keywords

AI Film, AI Characters, Artistic Concept, Technological Development

1. Background

Artificial Intelligence (AI for short) is a set of hardware and software systems capable of providing computing units with capabilities that seem to imitate humans' cognitive abilities. It is an important branch of computer science and a frontier area of technology that is highly supported nationally. AI films can be defined in two aspects: AI films created on the level of technical practicality and on the level of subject creation. AI films at the technologically practical level refer to the application of artificial intelligence technology in the film production process where AI is applied in script creation, post-edition and box office forecast to improve content production efficiency and master the film market pre-

cisely. It is a result of the diversification of AI technology applications. However, its technology and degree of maturity have yet to be enhanced and it is now neither a mainstream way of creation. As a “new thing” in the realm of technological tools, although AI film’s capacity and effectiveness still need to be further examined, its participation and assistance in creation are in line with the long-standing tradition of film industry’s trans-usage and compatibility of technology elements. As subjects and materials for creation, it can be traced back to the 1927 production of *Metropolis*. As AI technology develops in the real world, creator’s position, value and reflection towards AI films will also change with AI as creation materials enters the artistic world constructed in films.

2. From Technology to Emotion

AI is a common narrative element in science fiction works. In AI films, AI characters can be broadly divided into system characters and humanoid characters.

System characters usually appear as machines, or as scenes for stories to take place in, which are invisible in the narrative, such as MOSS in *The Wandering Earth*, the Matrix in *The Matrix*, the robot Mother in *I Am Mother* and so on. These characters are not in a tangible form, but exist to build a worldview for the film, so that AI technology pervades in the story as a force against human beings or humanity.

Humanoid characters are characters that look exactly like or resemble humans, such as Rachael in *Blade Runner*, the Oracle in *The Matrix*, Android in *Bicentennial Man*, Ava in *Ex Machina*, and Zoe in *Zoe*, etc. These characters have the same or similar appearance to humans and are therefore more widely accepted.

In comparison, system characters have more distinct technical attributes, such as the Matrix system in *The Matrix*, which entirely follows technical logic, and even MOSS, which assists humans in escaping the post-apocalyptic world in *The Wandering Earth*, does not have a distinct emotional preset. In contrast, human-like characters in AI films are placed with more emphasis on their own emotional expressions. For instance, Zoe, an intelligent robot that evolves true human feelings in the movie *Zoe*, receives an emotional response from humans.

Technology and emotion are two implied characterization orientations of AI films, which are related to the film’s positioning of AI and respond to a main issue of “what makes a human being human”. At the beginning of AI technology development, the so-called intelligence was demonstrated by its powerful computing and memory storage capacity. But with the boost of machine learning and deep learning technology, AI is used in human creative activities. AI poetry composition, AI screenplay, AI painting and other applications are becoming more and more mature, making human’s bewilderment of “who I am” reappear. The creators of such AI films as *Zoe*, *Bicentennial Man*, and *Ex Machina* have provided a clear answer to the question of what constitutes a human being—beyond a sum of body, mind and emotions, it also includes the recognition and reflection

of oneself. When AI has its own self-consciousness, it already has an individual identity, regardless of its form.

3. From Threat to Companionship

The personification of a character transforms makes AI from threat into companion. If AI characters are mythical archetypes of an “objectified man”, how should humans, who live in the real world and benefit from technology dividends, understand their relationship with AI in the midst of rapid developments of AI technology? The answer to this question ultimately leads to a profound reflection on the fate of humanity.

AI in science fiction films is also creators’ responses and imagination towards technology development in the real world, and films are creators’ artistic answers to current environmental crisis, ethical dilemma and psychological anxiety faced by human beings.

Human ethical imagination of AI in AI films undergoes a shift from regarding it as a threat to as a companion. This change in creation orientation is closely linked to the computer technology development in the real world. In contrast to real life, the artistic world portrayed in the film, *i.e.* the “unimaginable world”, exists in parallel to the real world, but “the world into which the ‘unimaginable world’ intrudes is the everyday world that is alive and well in the time where the author lives” (Klingberg, 2017). Therefore, guided by creation concepts, recognition and perceptions of the real world are presented in films through narratives.

In a 1997 chess tournament, IBM-developed supercomputer Deep Blue defeated world chess champion Garry Kasparov for the first time, whose victory generated a great amount of discussions at the time. The statement that “artificial intelligence is better than humans” had previously only existed in the imagination of computer scientists, but Deep Blue’s victory for the first time made people realize this was not a fantasy. Deep Blue showed a level of intelligence and potential beyond those of humans, and people were surprised about and even terrified of this. Two years later, *The Matrix* was released, and the artistic imagination of technology ruling humanity led human fears to discussions on a level of collective consciousness. As the antithesis of humanity, AI is always in an advantaged position, and humans are reduced to a disadvantaged group without autonomy. Interestingly, in AI films, the high-concept heroic narrative model of Hollywood is not fully adopted, and the formulaic anthropocentric composition pattern, “human awakens—fights against AI—human wins”, gives way more to a dual subject position of humans and AI. In conflicts and interactions between the two, humans never give up searching for truth and the meaning of life.

But on the side of goodness, AI is guardians, helpers and companions of humans. They are not weak AIs with instrumental properties, but strong AIs with independent consciousness and a free mind, and still treat life with equality and friendliness. Although strong AIs have the power and mean to master the world, kindness, sincerity, compassion and love have become personality tags of strong

AIs under the influence of human civilization. Take Ava in *The Machine* for example, she is originally Vincent's assistant. But after an accident, she is transformed into an intelligent robot by Vincent at the end of her life. Ava doesn't mind making sacrifices in order to help Vincent preserve life traits and consciousness backup of his sick daughter, and even agrees to empty part of her brain to store the girl's information. Ava kills Thomson, the villainous superior, in order to rescue Vincent and foil the plot of Thomson, in violation of the Three Laws of Robotics that a robot may not injure a human being or, through inaction, allow a human being to come to harm, however, from a moral and ethical point of view, what she does is a commitment to goodness. The creator's optimistic technological imagination about AI is self-evident. This type of creation orientation of AI film introduces audiences to a greater philosophical context. In a world where humans are no longer at the center, and where we are confronted with intelligent entities apart from ourselves, human beings should maintain a rational and sober understanding of our own destiny—that the divine aura of humanity will eventually fade in the course of eternity. The issue that should be pursued is how to identify and retain oneself, rather than dominate and control the world.

4. The Reality Basis for Human-Machine Harmony

“One of the influences of science fiction films is to show different possibilities of technological civilization development and to remind mankind to be prepared” (Huang, 2021). In the early days of science fiction films, artificial intelligence existed as a form of robot in fantasy-like stories, but in the 21st century, when the Internet sweeps the world, human society enters the information age for the first time. Digitization and cyber-punk permeate from virtual space of art to a real-life scenario, and the game between human intelligence and artificial intelligence is presented on the screen through spectacular audio-visual effects, bringing physical and mental pleasure to the audience while inspiring them to think.

“Our imagination is conditioned by our way of production (and possibly by the legacy of all the past generations it has preserved)” (Fredric, 2014). The concepts and perceptions presented in artistic works cannot be isolated from social development and technology levels at the time of creation. At the infancy of artificial intelligence, its strong computing power and development potential provoke humans' anxieties for loss of control, which is a lack of security in the face of unknown power. Danger agnosticism is reflected in the creation of films so that a series of movies that magnify the threat and impact of computers on human existence arise. They “mirror people's concern and fear that artificial intelligence developments may get out of hand, and stimulate people to face up to and think about the existential and ethical crisis that it may cause” (Li, 2020).

In the 21st century, when technological development has become a global

topic, human research into artificial intelligence technology has once again made a qualitative leap forward through persistent investment and exploration. 2016 saw the AlphaGo artificial intelligence robot developed by Google's DeepMind beat human Go masters from all over the world and repeatedly dominated the world's professional Go rankings. This historic event has once again aroused concerns and debates about artificial intelligence technology, and which of human brain intelligence and artificial intelligence is superior has become a central issue. However, the public soon sobered up from the shock of rapid advances in AI, and the fleeting fear of machine ruling and dictating human destiny gave way to a question more of human subjectivity that "how AI could be better applied to human production and life". In contrast to the fatalistic fears and apprehensions in the early 21st century, the focus now is on how to make the best use of the potential value of artificial intelligence. How is this change in perception and attitude possible? The underlying logic is threefold.

Firstly, online communication has accelerated the spread of technological concepts. Computer technology is no longer obscure to the general public, and the Internet, informatization and digital technology are no longer a mysterious black box only known to a small number of people. The rise of the internet has theoretically bridged the knowledge gap between individuals, and new technologies and innovative ideas are available to the public from the day they are born. With the rapid development and wide spread of e-commerce websites and social media, Social stratification has helped to deliver information. The viral model of Internet information spread has sped up and widened information reach, and the general public has gradually become familiar with the concept of computer technology, which is in stark contrast to the early days when people felt rusty and uneasy about digital and internet technology. In the course of technological development, artificial intelligence is merely an iterative upgrade of Internet technology and it is not an unknown, uncontrollable weapon of destruction. Such a perception has taken hold and the public's fear of new technologies has naturally subsided.

Second, AI relies on massive amounts of data to gain "intelligence". Data is the foundation of AI development, but also its fatal shortcoming. AI needs human data for deep learning, and humans can in turn influence the judgment and decision of AI through data. In terms of the current state of AI development, the rapid increase in its intelligence is due to a significant increase in computing power, and AI still follows the established rational thinking model of induction, reasoning and deduction to deal with problems. Take face recognition for example, generated results depend on the quantity and quality of underlying data set. Without a relatively complete database of faces, AI will make small mistakes in recognizing human skin color, with a very high error rate. Experience and knowledge of applications have made it clear to the general public that AI is not a fantasy world of uncontrollable intelligent entities, and its evolutionary logic is not inexplicable. It needs human intelligence to move forward.

Thirdly, AI is still in its infancy in nowadays and its development is not at a pace that people expect and imagine. While science fiction literature and films have long outlined for audiences how AI could be integrated into our lives, in the application scenarios where humans expect AI to play an advantageous role as soon as possible, such as autonomous driving, intelligent services and health care, AI has not performed as well as expected, and its maturity does not meet actual needs of humans at this stage. It is more than clear that the essence of AI is to use computing power to find patterns and build models from a vast amount of data available, but to generate human imagination and creativity independently is definitely a fantasy for AI. With existing technology, AI is still weak AI, and there are still loopholes and flaws in its use as a technology tool, so it is still a wish and fantasy in the short term to bring sci-fi ideas into reality. AI is not a threat so far.

5. The Creation Orientation of Coexistence and Symbiosis

Coexistence and symbiosis is the creation orientation in today's film creation. "Technology development is always linked to human destiny as a whole" (Yan et al., 2019). The significance of AI for human beings lies in empowerment, equalization and companionship. Under the development concept of technology for good, the comfort and convenience brought by AI to us are far greater than the alienation and fear caused by technological upgrading. With the change in the public's conception and perception of science and technology development, AI films, which are closely related to it, are also changing with the times and undergoing an adaptive transformation in terms of creation concepts and worldview construction in films.

Looking at AI films in recent years, we can see that audiences and the market have grown aesthetically weary of works that overemphasize dangers of machine technology and artificial intelligence. On the contrary, the recent Netflix hit series, *Love, Death + Robots*, has been welcomed and well received by the public for its new exploration and breakthrough on the theme of human-machine collaboration and co-existence. Comparing these two types of works with different creation orientations, it is easy to see that although both choose to set AI and humans with the same subjectivity, the difference is that AI characters are more frequently portrayed as human partners and begin to work hand in hand with human characters, who are independent and equal to each other, reconstructing the inter-subjectivity in interactions.

In August 2020, Elon Musk presented the company's latest brain-computer interface technology at a launch, where the path to "being digital" became tangible when humans were able to read EEG signals through brain-computer interface devices implanted in pig brains. In real world, humans are wary of technological advances but not afraid of it, and in art world, humans and AI also achieve the same frequency resonance.

In digital media environment, whether actively or passively, after information

shock and baptism, modern people have become accustomed to technological realities and concepts such as virtual spaces, virtual characters and digital identities. Developments of real world and human cognition will have some effect on artistic creation and conception—as important aspects in art communication process. A shift in viewers’ perceptions will influence their preferences for content, and this preference will ultimately lead to a change in the content and form of artworks through cultural market mechanisms. In the light of current technological waves of artificial intelligence and digital technology developed by leaps and bounds, we need to create artworks that are both artistic and profound, reflecting reality and exploring the richness, diversity and possibilities of future human society and destiny from a positive perspective.

6. Conclusion

AI films enjoy long-standing popularity in science fictions. The main theme of AI films is “what makes a human being human” and “what is the ultimate destiny of human beings”. The artistic presentation of these subjects not only lies in the attractiveness of the subject itself, but also in the human being’s ultimate care for our own destiny. In the days when AI was a form of artistic imagination, it was often seen as a plunderer of human environment, energy, and even flesh and life, due to human instinct for fear of unknown technology and negative imagination. This type of film used a well-knit screenplay, stunning audio-visual representation and superb special effects to impart philosophical thoughts to viewers. Circumstances have changed over the years, as people’s understanding of AI becomes clearer and advances, a sense of mystery and fatalism for science and technology continues to diminish, and human-machine cooperation and partnership in everyday life and production become underlying cognitive concepts of film and art creation. The non-threatening artificial intelligence of real world becomes friendly and approachable in the artistic space of film and TV productions.

Nowadays, when creating film and television works related to artificial intelligence, creators should be based on current context of the times and on the basis of the high level of artistic creation and aesthetics, focusing on redeveloping and reinterpreting the relationship between human beings and artificial intelligence, and thus provide the audience with a new reflection on human society and human destiny.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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