Art and Performance Letters (2025)
Clausius Scientific Press, Canada

DOI: 10.23977/artpl.2025.060318
ISSN 2523-5877 Vol. 6 Num. 3

The Subversion of Traditional Acting Values by AI Synthesis Technology

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Keywords: AI; Actor; Performance Value System; Reconstruction

Abstract: In traditional systems, the artistic merit, market value, and industry recognition of performers serve as core pillars. The emergence of AI synthesis technology has shattered the conventional notion that "performance must rely on real humans." This paper explores the reconstruction of performers' subjectivity within the AIGC context, examining how AI synthesis technology disrupts traditional value systems, and how performers navigate the surging tide of technological transformation to find new positioning and development pathways.

1. Introduction

The cinematic revolution is in full swing, as seen when AI-powered reconstructions of deceased actors appeared on the big screen in "The Wandering Earth 2", and when Japanese tea brand Itohan utilized AI-generated avatars to replace live-action stars in commercials. These developments demonstrate how generative AI models leverage deep learning of visual data, motion capture technology, and speech synthesis to replicate human actors' facial features, body movements, and emotional expressions with remarkable accuracy. The integration of AI into film production and advertising not only transforms content creation but also challenges the century-old value system of traditional acting artistry.

2. Analysis of traditional actor performance value system

2.1 Artistic performance

The essence of traditional performing arts lies in the creative expression of "humanity". Actors transform their emotional experiences into tangible physical movements, facial expressions, and vocal tones through profound understanding of their characters, endowing fictional roles with authentic vitality. Take Leslie Cheung in "Farewell My Concubine" as an example: Through precise control of his movements, he vividly portrayed both the delicate grace of Peking Opera dan roles on stage and their resilient demeanor in daily life, along with their unwavering dedication to theatrical performance. This unique blend of personal life experiences, emotional resonance, and artistic insight creates irreplicable performances that embody the core charm of traditional performing arts [1].

2.2 Market value embodiment

An actor's market value directly shapes the commercial viability of film and television projects. Top-tier performers leverage their immense box office appeal to secure initial investments and attract audiences. Take Wu Jing's films as an example: his movies repeatedly break box office ceilings, becoming a "box office guarantee" for production companies. This stems from audience confidence in both the actors 'script selection and performance quality. Actors also monetize their commercial value through the fan economy, where viewers' movie-watching habits, fan support, and consumption behaviors form crucial components of their market worth [2].

2.3 Industry status and recognition

Industry recognition serves as both validation of an actor's performance skills and a crucial factor in elevating their status. International accolades like the Oscars and Cannes Film Festival, along with domestic honors such as the Golden Rooster Awards and Hundred Flowers Awards, provide professional endorsement that solidifies their standing within the industry. The combined impact of directors' endorsements, screenwriting collaborations, and audience acclaim collectively builds an actor's influence. This influence not only unlocks premium career opportunities but also establishes professional benchmarks for emerging talents [3].

3. The impact of AI synthesis technology on the traditional system

3.1 The Rise of Synthetic Actors

AI-generated actors have evolved from conceptual prototypes to practical applications, challenging traditional performers 'career prospects across multiple industries. In film and television production, AI can scan actors' facial data to create virtual avatars capable of executing high-risk stunts like explosions and aerial falls, reducing physical risks while lowering production costs. In advertising, AI-generated actors have become a preferred choice for brands, eliminating concerns about negative publicity from celebrity scandals. These developments collectively create shrinking opportunities for traditional performers in the entertainment sector [4].

3.2 Cost and efficiency advantages

Since the emergence of AI-generated actors, multiple production companies have highlighted their cost advantages through media channels. For instance, Hong Kong's TVB launched the full AI short drama "You Are Unique in My Heart," with producers claiming AI actors could significantly reduce production costs by 90%. In "Under the Supernatural," the virtual actor Erzhuang could directly perform various high-difficulty martial arts moves, cutting costs by 70% to 80% compared to traditional motion capture methods. In September 2025, Dutch producer Irene van der Welden boldly announced at the Zurich International Film Festival that the virtual actor Nuo Wood could "reduce production costs by 90%." Table 1 compares core metrics between these two approaches in film and television projects.

As the table data demonstrates, AI compositing technology offers significant advantages in cost control and efficiency enhancement. For small and medium-sized film companies, using AI-generated actors can substantially lower production barriers. For large-scale projects, AI technology accelerates production cycles and speeds up content release, enabling timely market entry. These benefits have led some production teams to increasingly adopt AI compositing, putting pressure on traditional actors' survival in the industry.

Table 1: Comparison of Core Indicators between Real People and AI Actors

Type of indicator	Traditional actor model	AI Synthetic Actor Mode	Differential margin
Single film remuneration	Top actors 50 million to 100 million yuan	The initial research and development + data cost is about 5 million yuan	Reduce by 90% to 95%
Shooting period	A regular feature film takes 3-6 months	Virtual character production takes 1-2 months	Shorten by 50% ~ 67%
Late-stage modification costs	The cost of reshooting a single scene is 1 million to 5 million	Algorithm adjustment cost 100,000 to 500,000	Reduce by 80% ~ 90%
risk cost	The project was put on hold by negative news about the actors	Zero negative risk	The risk is close to zero

3.3 Changes in performance standards

Traditional performances are evaluated based on "authentic emotional expression" and "humanistic portrayal," while AI-generated acting reshapes performance standards through precision and replicability. By leveraging algorithms, AI can precisely control virtual characters 'facial movements, vocal timbre, and speech patterns to deliver flawless performances. In film and television production, AI-generated characters achieve 60 frames per second in facial detail accuracy—far surpassing human actors' physiological limits. However, AI performances lack the emotional resonance and improvisational skills of human actors, often struggling to differentiate subtle variations between similar expressions. This results in mechanically rigid and emotionally detached "perfect" acting, sparking ongoing debates within the industry and among audiences about the essence of authentic performance [5].

4. Changes in actor's performance subjectivity under the context of AI synthesis technology enabling the film and television industry

4.1 From Dominance to Collaboration

In traditional acting paradigms, performers serve as the central architects of creative expression. With AI-powered technology, actors now collaborate with AI in co-creation. During on-set recording and voice-over sessions, actors can experiment with varied vocal delivery techniques—adjusting pitch, breath control, and tone to match character traits—while using AI-generated voice samples to refine performances for mature or youthful roles, ensuring authentic character portrayal. For special effects-driven scenes, actors can adapt their delivery based on AI-generated virtual environments and composite characters, eliminating the need for traditional green-screen improvisation. In productions featuring AI-generated protagonists, actors contribute to performance optimization by providing expert feedback on facial expressions, movement patterns, and dialogue delivery to align with character specifications. While this collaborative model partially delegates creative autonomy, actors' professional judgment and deep understanding of their characters remain crucial for achieving authentic performances [6].

4.2 Influence of data and algorithms

Actors 'performance data has become a core resource for AI technology development, while algorithms also inversely influence actors' performance styles. On one hand, film and television companies collect performance data to build and train specialized AI models. This data can not only generate virtual characters but also analyze actors 'performance styles, providing references for role assignments. On the other hand, algorithms' definition of "high-quality performance" gradually shapes actors' creative directions. Some performers may deliberately adjust their styles to align with AI requirements, such as exaggerating facial expressions or simplifying complex physical movements, to enhance data accuracy. Such adjustments risk diminishing the individuality and artistry of performances, leading to homogenization in film and television acting [7].

4.3 New creative models

Human-AI collaboration is emerging as a groundbreaking paradigm for performance in the AI era, catalyzing diverse innovative approaches. First, the "AI-assisted performance" model. During filming, AI captures actors 'facial expressions and body movements through cameras, analyzes emotional delivery in real-time, and provides adjustment suggestions. This effectively addresses common complaints about "dead-eyed" performances, "stiff-faced" acting, and "disjointed facial expressions" in domestic productions, thereby enhancing production quality. Second, the "virtual-real hybrid performance" model. In fantasy and immortal-themed productions requiring special effects, actors can collaborate directly with AI-generated characters on set, overcoming limitations of green-screen improvisation while saving post-production time and costs. Third, the "AI-generated + actor refinement" model. AI first creates initial performance frameworks based on scripts, which actors then artistically enhance with personal interpretation and creative vision to produce final works. These innovative approaches leverage AI's efficiency while preserving performers' artistic autonomy. The reconstructed path of actor subjectivity is illustrated in Figure 1.

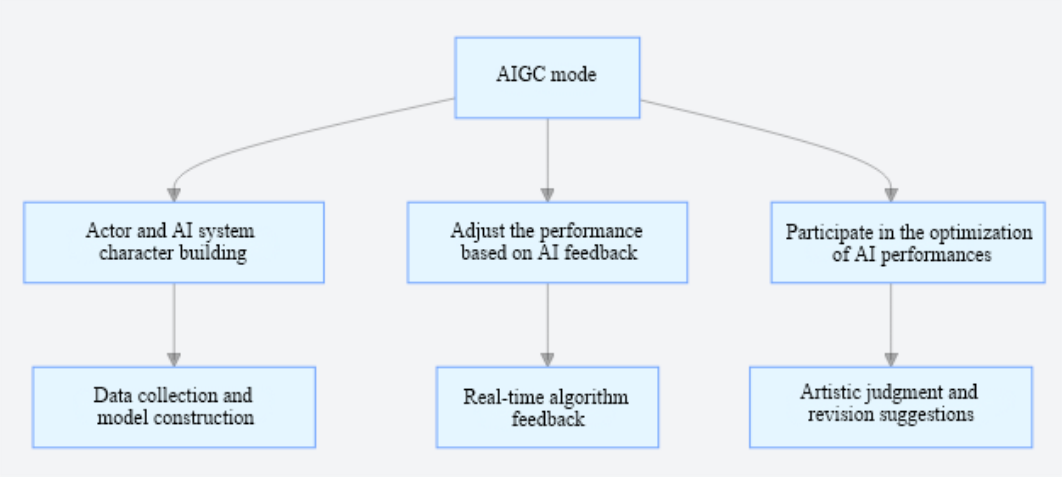

Figure 1: Changes in actor subjectivity enabled by AI

5. Case study: The clash and integration of AI and actors

Through the analysis of specific cases, we can more intuitively understand the interaction between AI synthesis technology and actor performance, as well as the value, ethical and legal issues involved.

5.1 Successful integration case: The motion capture technology of Avatar 2

Avatar 2: The Way of Water stands as a prime example of successful integration between AI technology and human acting. In this film, actors wore advanced motion-capture gear that transmitted real-time facial expressions and body movements to an AI system, which then generated virtual performances of Na 'vi characters based on these inputs. The AI not only captured every subtle movement—such as facial muscle tremors and reactions to water/wind resistance—but also adjusted the virtual characters' appearance and movement range according to plot needs. Rather than replacing human performances, the AI expanded actors 'creative boundaries, enabling them to portray characters with authentic depth and intricate details unattainable through traditional motion-capture methods. Meanwhile, the actors' professional performances provided high-quality creative foundations for AI technology. This symbiotic relationship ultimately delivered both breathtaking visual effects and profound emotional resonance [8].

5.2 Dispute Event interpretation: A movie AI restoration of a deceased actor

The use of AI technology in the Chinese film "The Wandering Earth 3" to recreate the image of a deceased veteran actor has sparked widespread controversy within the industry and among audiences, involving multiple aspects such as performance value, ethics, and legal issues. Table 2 outlines the core points of contention and perspectives of various parties:

Table 2: Summary of views

Dimensional controversies	Supporters' perspective	The opposing view	Industry impact
The value of performance	Restoring the image of a character can prolong its artistic life	AI restoration lacks the emotion and soul of the actor	It leads to a discussion about the nature of performance
ethic	With the authorization of the family, the will of the actor is respected	Infringement of actor's portrait right and personal dignity	Promote the development of industry ethics
Legal dimension	The authorization agreement has been signed, which is legal and compliant	There is no clear definition of AI restoration in existing laws	Expose legal regulatory gaps
Audience Emotion	To satisfy the audience's nostalgia for the late actor	Consuming the dead causes emotional discomfort	Affecting the audience's acceptance of AI technology

The incident ultimately concluded with the production team modifying AI usage by only incorporating minimal restoration clips at the film's conclusion, accompanied by a "tribute" label. However, it exposed multiple issues in the application of AI synthesis technology within the film and television industry. While AI technology enables the recreation of classic actors' appearances and the continuation of artistic IPs, its challenges to actors' rights and ethical boundaries cannot be overlooked. This necessitates collaborative efforts from the industry, legal authorities, and society to establish comprehensive regulations [9].

6. The Road to Reconstruction: the construction of a new value system

6.1 New dimensions of value

In the AI era, the value of actors' performance should be based on the traditional dimension, and

three new dimensions should be added: technology integration ability, innovative thinking and cross-field cooperation ability, as shown in Table 3:

Table 3: The value system of "three-dimensional tradition + three-dimensional innovation"

Type of value dimension	Traditional dimensions of value	New dimensions of value	Core competency requirements
Core	Emotional expression, role shaping ability	Technical integration capability	Good command of motion capture equipment and understanding of AI algorithm logic
Market support	Box office appeal, fan economy	Cross-sectoral cooperation capacity	Collaborate with AI engineers and data analysts
Industry recognition	Awards and honors, industry reputation	innovative thinking	Explore new forms of human-machine co-creation

The introduction of new value dimensions does not negate the worth of traditional performing arts, but rather endows actors' value with fresh connotations in the context of technological transformation. This innovative performance value system serves dual purposes: it injects more humanistic warmth into AI performances while helping actors expand their professional boundaries, evolving from "single performers" to "multifaceted creators".

6.2 Actor's transition and development

To adapt to the new value system, actors need to undergo comprehensive transformation and development across multiple dimensions. First, by participating in training programs from industry organizations or engaging in AI collaboration projects, they should internalize the impact of AI synthesis technology on modern film production techniques as professional expertise. Second, they should explore cross-disciplinary creative endeavors to expand performance boundaries—such as voicing virtual characters, providing performance data for AI models, or even leading the design of AI-generated characters. Finally, actors must recognize their unique creative advantages as human performers, actively enhancing personal distinctiveness while emphasizing their strengths in emotional resonance and original expression. They should avoid unnecessary direct competition with AI in areas like "precision" and "efficiency." It is recommended that actors focus on portraying complex emotional roles in realistic themes or infuse characters with unique depth through their own life experiences [10].

6.3 Industry Norms and Outlook

Establishing comprehensive industry standards is crucial for the harmonious development of AI and human performance. On one hand, it's essential to create application standards for AI synthesis technology, clearly defining its usage scope in film and television production and authorization procedures, while expediting national regulatory frameworks. On the other hand, robust mechanisms must be developed to protect performers' rights. Through industry associations and legal measures, we should safeguard actors' performance data rights and prevent data misuse.

7. Conclusion

From the perspective of future development trends, AI synthesis technology and human performances will form a "complementary symbiosis" dynamic. AI systems will handle more repetitive and high-risk performance tasks, while actors will focus on core artistic elements such as deep exploration of character emotions and innovative improvisation. Meanwhile, human-AI

collaboration will give rise to new performance formats. These emerging forms will bring more innovative possibilities to the film and television industry, while also opening up new pathways for realizing the value of human acting.

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