Rewriting the Past through Cinema: Manifestations of Artificial Intelligence in Historical Filmmaking

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Received date: 10/05/2025 **Accepted date: 15/06/2025** **Publication date: 01/07/2025**

Abstract:

The evolution of cinematic production, particularly in historical films aiming to artistically reconstruct collective memory. This paper addresses the main research question: **How does AI influence historical filmmaking in terms of narrative structure, artistic composition, and aesthetic representation?** It hypothesizes that integrating AI into this field enables new creative possibilities to retrieve and reimagine historical events with greater realism and innovation.

The study employs a descriptive-analytical approach and is structured around four axes: the artistic impacts of AI on historical films, the cinematic construction within the AI context, the intelligent dimension in historical representation, and the cultural and creative consequences of AI application. Findings suggest that AI could revolutionize historical cinema, provided creators are aware of its ethical and artistic challenges.

Keywords: Artificial Intelligence; Artistic Creativity; Historical Films; Generative Technologies.

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Introduction:

Smart technological contexts represent an unprecedented transformation in the field of film production, particularly historical films. Artificial intelligence is increasingly integrated into various stages of filmmaking through its advanced capabilities in data processing, character and environment design, and the reconstruction of historical scenes with high artistic precision. These tools contribute to the creation of intelligent content that combines augmented reality, virtual reality, and generative techniques, offering a modern visual and aesthetic dimension to historical storytelling.

AI opens new horizons for filmmakers to explore creative approaches to narrating historical events and conveying associated human values by reimagining characters and events through realistic and artistic lenses. Accordingly, this study raises the following main questions: **How can artificial intelligence meet the requirements of artistic creativity in historical films?** And **how can it be employed to produce authentic artworks that reflect historical values and human experiences?**

This paper adopts a descriptive-analytical methodology, examining AI applications in the construction of historical films, analysing their artistic impact, exploring their aesthetic and technical dimensions, and discussing the potential implications of these technologies on historical and creative values.

1. Context of Artificial Intelligence and Cinematic Film Construction.

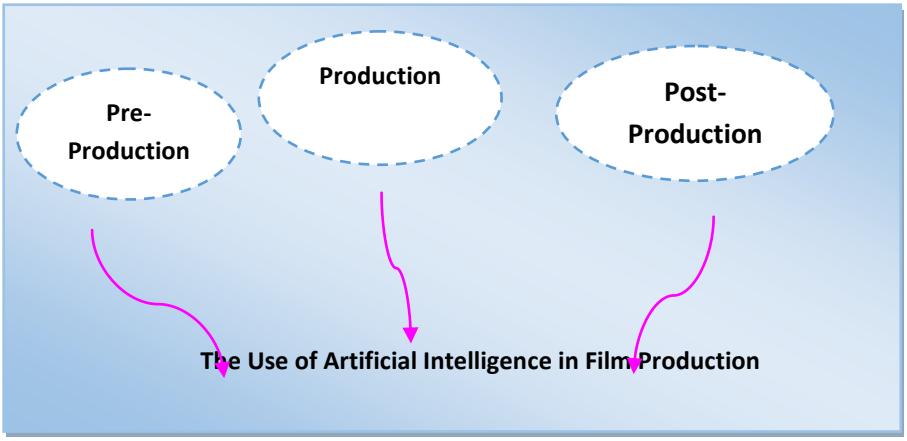
The application of artificial intelligence in the film production process has become an essential necessity in the world of cinema. As Burrus affirms, artificial intelligence, which impacts any industry, is an "inevitable future reality." Artificial intelligence is part of the "hard technology trends," and he explains that "these trends will happen, regardless of who you are... none of us can prevent them from happening" (Burrus D. , 2017). The use of artificial intelligence by filmmakers has already led to a continuously growing number of known and future applications.

Researcher Cappello, who asserts that the utilization of artificial intelligence in the film industry is connected to achieving several goals, which are, further clarifies this point: (Cappello, 2020)

- **Serving as an operational tool**: to complete routine tasks and improve cost efficiency.
- **Creating a "data-driven culture"**: through a strategic approach based on measurable and achievable goals.
- **Assisting in creative processes**: by supporting the production of unique content.

Thus, all sub-processes at each stage of filmmaking already have the opportunity to benefit from AI solutions to assist them.

Figure 1: Stages of AI Integration in Film Production



Source: Prepared by the researcher

Through the following figure, we illustrate the stages of employing artificial intelligence in film production as follows:

a. Pre-production stage of the film:

Current AI algorithms are advanced enough to assist film production crews in research and organizational tasks during the pre-production phase. Using natural language processing techniques to analyze scripts, AI can extract key informational elements, including characters and their interactions in scenes, sound effects, necessary props, location descriptions, and further explorations. Through machine learning algorithms, complex nonlinear schedules can also be created, taking into account numerous variables such as the availability of key participants, location access, budget constraints, and weather conditions.

By adopting a comprehensive approach, AI assistance in preparatory tasks can significantly contribute to the film production value chain by optimizing time, reducing overlap, and enhancing organizational control and transparency in decision-making. (Ray, 2017).

Upon examining the pre-production stage of filmmaking, it becomes evident that artificial intelligence is no longer a mere auxiliary tool but has evolved into a structural component reshaping traditional workflows. With its advanced capabilities in data and text analysis, AI provides an unprecedented level of precision and organization, leading to a more coherent and comprehensive planning process. This stage also highlights AI's ability to overcome temporal and

logistical constraints, as it processes complex variables related to budget, timing, and resource availability, ensuring a smoother production launch. This transformation marks a qualitative shift from traditional human intelligence to a collaborative intelligence where human expertise intersects with algorithmic efficiency.

b. The Film Analysis Phase:

Artificial intelligence offers advanced capabilities in analysing films, actors, and potential commercial profitability. It enables the prediction of a film's success by estimating performance and adjusting production budgets. According to "**Irina Momot**" (Momot, 2022), this phase encompasses the following key components:

- **Script and Text Analysis:** AI systems analyse the language used in dialogues to identify linguistic or emotional patterns and explore how the narrative develops. Utilizing Natural Language Processing (NLP), intelligent systems can examine the structure of the script, identify key terms, and interpret the dramatic plotline.

- **Character and Performance Analysis:** AI can evaluate actors' performances by analysing facial expressions, body language, and vocal tone. This aids in assessing how well an actor's portrayal aligns with the intended character based on predefined criteria.

- **Visuals and Visual Effects Analysis:** Through computer vision, AI is capable of analysing the artistic patterns employed in cinematography, such as color schemes, lighting, camera angles, and motion. These elements are examined in relation to their contribution to the overall atmosphere and aesthetic of the film.

- **Audience Reaction Prediction:** AI leverages data from social media platforms and box office figures to forecast audience reception, offering insights into how the film may be received or criticized by specific demographic groups, and how this impacts its overall success.

- **Soundtrack Analysis:** AI can process and interpret the musical elements used in a film to assess their emotional impact on viewers and their contribution to the cinematic experience.

- **Film Success Prediction:** By evaluating variables such as the production team, budget, and genre, AI assists in forecasting the likelihood of success and supports decision-making concerning investment in specific cinematic projects.

- **Distribution Strategy Analysis:** AI enhances distribution strategies by analysing data related to screening platforms and target audiences, thereby optimizing the reach and impact of the film across suitable demographic segments.

The stage of film analysis plays a significant role in enhancing the evaluation process, where artificial intelligence contributes its ability to interpret complex components such as dialogue, performance, and visual elements. By leveraging

natural language processing, AI systems can discern patterns within scripts, understanding the emotional tone and narrative structure. Similarly, AI tools can assess actors' performances by analysing facial expressions, body language, and voice tone, offering an objective measure of their alignment with the characters they portray. Furthermore, AI's application extends to analysing cinematic techniques, including color grading, lighting, and camera angles, allowing for a deeper understanding of their impact on the overall atmosphere of the film. Additionally, AI aids in predicting audience reactions by analysing social media and box office data, thus providing valuable insights into the potential success or failure of a film. In terms of distribution, AI supports the optimization of strategies by analysing data related to target audiences and viewing platforms, ensuring that the film reaches the right demographic.

c. Post-Production Phase:

This phase in filmmaking involves numerous complex and time-consuming tasks, including editing, sound design, color grading, and visual effects. Artificial intelligence technologies have revolutionized these processes by introducing creative enhancements, thereby enabling filmmakers to deliver high-quality content more efficiently. The post-production phase relies on AI through a range of techniques, which include:

- Automated Video Editing: Leveraging machine learning algorithms to analyse footage, select the best shots and scenes based on specific criteria such as lighting quality, camera angles, and acting performance. AI-powered programs like “Adobe Premiere Pro” and “Magisto” are used to expedite the video editing process based on the video content itself.

- Image Quality Enhancement: Using techniques to improve video resolution, remove noise, and correct colors. Algorithms work on enhancing the details of the image. (Anne Schulz, 2021)

- Character Animation and Visual Effects: Creating realistic character movements, facial expressions, and relying on digital effects to apply animation to elements in the scenes.

- Captioning and Automatic Translation: AI is employed for speech recognition and the production of automatic captions and precise translations in multiple languages. (impact-of-ai-on-film-post-production-processes, n.d.)

2. **The Artistic Effects of Artificial Intelligence on Historical Films.**

The development of smart technology enhances the visual immersion, the formation of virtual spaces, and the recreation of historical characters through facial recognition, as well as the construction of historical spaces and scenes in historical film production. The application of smart technology can effectively enhance the viewing experience for the audience by presenting historical events

and documents with greater accuracy, making the film content more vivid and engaging. Therefore, artificial intelligence plays a significant role in improving the efficiency of creation and the quality of content. (Jianwang, 2024)

Artificial intelligence has contributed to enriching cinematic and historical artistic content by focusing on achieving the following elements:

- **Data Analysis**: AI is used to analyse historical data to develop more accurate scenarios by reconstructing environments using virtual reality (VR) and augmented reality (AR). AI is employed to produce 3D models of historical environments based on archaeological and historical data. Augmented reality provides users with an experience that allows them to interact with these environments in a highly realistic manner, enhancing learning and understanding of history in a way that enables users to immerse themselves in an environment that simulates ancient eras using interactive VR/AR technology.

- **Analysis of Historical Images and Monuments**: Using algorithms trained on archaeological data to fill gaps or even predict the original form of historical landmarks.

- **Analysis of Historical Documents**: This enables a more accurate understanding of events and trends, thus enhancing the accuracy of historical content presented in cinematic films. (Cole, 2023).

a. Reconstructing Historical Characters:

Artificial intelligence has enabled the virtual development of historical characters in films and has demonstrated its ability to detect character patterns through image recognition technologies. By employing algorithms to analyse facial features using old photographs and engravings, it becomes possible to construct accurate data-driven models that reflect the physical details of these figures.

Moreover, AI facilitates *"research into the history of cinema and historical figures,"* allowing filmmakers to digitally recreate them through modern technologies. This enables the creation of virtual characters that audiences can interact with, thereby deepening the cinematic experience. These digitally embodied virtual characters are represented through digital appearances, which can be visually perceived by humans, though they do not include any form of actual facial or bodily representations. (Huang, 2023)

3. The Artificial Intelligence Dimension in Historical Films.

Cinema—one of the most respected artistic mediums—has captivated audiences for over a century. However, the allure of the silver screen comes with substantial expenses, as the production of exceptional films demands top-tier equipment and a large production team. For example, the cinematic masterpiece *Avatar: The Way of Water* required a 12-year production process and a budget

estimated at around $400 million. Despite the industry's ongoing ambition to streamline the filmmaking process, current technologies offer only basic support in integrating video and audio for editing purposes. (Jinhong Shen, 2002) Accordingly, the intelligent and artistic dimension of historical films is anchored in the following elements:

a. Content Generation

The use of algorithms to generate scripts, scenes, or even music aligned with the historical context of a film has led to innovative, multi-scene and multimedia (including audio) cinematic experiences, offering users a novel and immersive engagement.

First, to enable the automated generation of multiple scenes, the capabilities of ChatGPT are employed to expand users' brief descriptions into detailed scripts that collectively form the entire film, with each script corresponding to a distinct scene.

Second, given the inherent limitations of generating audio content from scratch, an alternative approach is adopted by retrieving appropriate sounds from a comprehensive database.

Third, artificial intelligence is utilized to enhance the visual quality of generated video clips. (junchen Zhu, 2024)

Accordingly, artificial intelligence enhances the innovation of narrative and visual storytelling in films by providing a nuanced portrayal of characters and their dynamics—including conflict, cooperation, and intrigue—which in turn contributes to the development of plot structure and character arcs. Furthermore, AI-driven technologies such as advanced robotics and virtual reality generate immersive cinematic worlds that captivate audiences and expand the boundaries of storytelling capabilities. This is achieved through the creative use of computer-generated animation, special effects, and cinematography. (Joomuck, 2024)

In addition to the capabilities of artificial intelligence in music production, advanced neural networks and deep learning applications are employed to generate music that aligns with the historical context. These applications go beyond traditional automation to incorporate elements of creativity in selecting melodies and rhythms that harmonize with the film's content. This enables filmmakers to innovate while simultaneously reducing operational costs. (Eric Zhou a D. L., 2024)

facilitating production, but in its emergence as a creative agent that redefines the boundaries of cinematic expression. In the context of historical films specifically, AI reveals potentials that go beyond visual technologies to reach the very core of narrative construction, where conflicts and tensions are restructured within a more complex and interactive dramatic framework. This does not only

involve representing history as it is known, but also extends to generating "calculated imaginative" versions of the past, reinterpreting historical events through new perspectives that engage the present and anticipate the future.

AI's involvement in generating characters and dynamic interactions raises critical questions about the limits of human authorship, reopens debates on creative ownership, and challenges the role of the author, positioning AI as a potential co-creator or even an independent creative force. Moreover, the adoption of technologies such as virtual reality and computer-generated imagery is not limited to visual attraction—it compels the audience to reposition themselves within the cinematic text as potential participants, thus making the reception process more flexible and multifaceted.

Ultimately, artificial intelligence is not merely a technical advancement serving historical cinema; it represents an epistemological shift in the ways history is represented and presented—from document to experience, from linear narrative to interactive, multi-path structures.

b. Film Directing

There is a growing interest in the use of artificial intelligence (AI) to support directors in making artistic decisions during film production. This shift is seen as an opportunity to accelerate the creative process and enhance informed decision-making. Directors can utilize AI to analyse and evaluate artistic choices more efficiently—from scene design and lighting setup to the selection of camera angles.

AI-powered tools allow for the rapid generation and testing of visual and artistic alternatives, offering directors better opportunities to explore various visions in the early stages of production. This improves the efficiency of creative workflows and reduces the cost associated with traditional trial-and-error methods.

AI can also be beneficial in techniques such as digital previsualization, which enables directors to view virtual outcomes of scenes before actual shooting. This technique has proven effective in simplifying the design of complex scenes and improving coordination between directors and cinematography and lighting departments. It fosters a collaborative dynamic between AI systems and directors during the planning and production phases (Farish, 2020)

In summary, the integration of AI into filmmaking represents a dynamic intersection of art, science, and imagination. It provides filmmakers with a platform to explore complex themes, push the boundaries of creativity, and connect with audiences on a deeper level. As AI cinematography continues to evolve and societal attitudes toward technology shift, it acts both as a mirror and a window into our collective aspirations.

c.Examples of Historical Films Supported by Artificial Intelligence

Artificial intelligence has become an essential component in the production of historical films, contributing unprecedented technical enhancements that bring the work closer to realism and a faithful depiction of historical events. From refining character details and altering the apparent age of actors to generating three-dimensional backgrounds that accurately reflect historical settings, AI demonstrates its capability to elevate the quality of historical cinematography.

In this context, AI functions as a rich thematic reservoir in films, offering filmmakers a canvas for exploring a wide range of ideas and concepts. From existential themes of identity and consciousness to ethical dilemmas concerning autonomy and responsibility, AI-centered narratives provoke thoughtful discussions about the human condition and the consequences of technological advancement—whether portrayed as a tool or a character.

Accordingly, several historical films that have utilized AI technologies can be cited as follows:

- **The Irishman (2019):** Directed by Martin Scorsese, the film employed AI-powered de-aging technology to reduce the visible age of the actors. This allowed them to portray their characters across different time periods, contributing to a visually coherent and realistic storytelling experience.

- **Star Wars: The Rise of Skywalker (2019):** AI was used to recreate the character of Princess Leia by integrating footage of the late actress Carrie Fisher from earlier films.

- **Top Gun: Maverick (2022):** AI technologies were used to regenerate the voice of actor Val Kilmer, enabling his participation in the film despite the deterioration of his real voice. Archived audio clips were utilized to synthesize his voice. (Joomuck, 2024)

4.Consequences of Applying Artificial Intelligence in Historical Films

The application of artificial intelligence (AI) in films can have profound consequences—not only on the cinematic landscape but also on societal perceptions, ethical considerations, and the future of the film industry. The following is an exploration of some of these potential consequences:

- **Impact on Creativity and Art:**

Some argue that AI-generated content may homogenize storytelling and diminish the role of human creativity and artistry in filmmaking.

- **Ethical and Societal Implications:**

The application of artificial intelligence (AI) in films can have profound consequences—not only on the portrayal of AI characters and narratives in films can shape public perceptions and attitudes toward AI technologies. Filmmakers

bear a responsibility to consider the ethical implications of their representations, addressing issues such as algorithmic bias, data privacy, and the broader impact of AI on human society. Misrepresentations or sensationalized depictions of AI could perpetuate misconceptions and fuel public anxiety about emerging technologies.

- **Algorithmic Bias and Representation:**

AI algorithms used in content generation and recommendation systems may inadvertently perpetuate biases and stereotypes present in their training data. This raises concerns about the representation of diverse voices and perspectives in films, as well as the potential for AI-driven narratives to reinforce existing social inequalities.

- **Distortion of Historical Facts:**

Reliance on AI may lead to portrayals of historical figures or events that are not grounded in factual accuracy. When algorithms are used to interpret or reconstruct events, they may produce narratives that are either inaccurate or exaggerated. (Joomuck, 2024)

carries with it complex challenges that go beyond the technical dimension to encompass epistemological, aesthetic, and ethical aspects. On the one hand, AI provides filmmakers with unprecedented tools to reconstruct scenes, faces, and historical periods with remarkable precision, enhancing visual persuasion and elevating production quality. However, this advancement is not without fundamental concerns that touch upon the essence of art as a free, human expression, as it risks replacing the interactive, and creative nature of the artist with algorithmic decisions derived from pre-existing data that may merely reproduce dominant narratives instead of transcending them.

From an ethical standpoint, AI does not operate in a technical vacuum; rather, it is fed by cognitive and value-based systems, which may reinforce existing cultural or political biases embedded within the algorithms, affecting how audiences perceive and internalize historical consciousness. In this context, AI becomes not just a tool for recreating the past, but a *partner in shaping collective memory*, a critical role that requires strict adherence to historical accuracy and critical responsibility.

In terms of narrative content, relying on AI to generate texts or reconstruct historical figures may result in the inclusion of inaccurate events or attributes, thus threatening the integrity of historical storytelling. This brings back the fundamental dilemma between *cinematic truth and historical truth*, placing the filmmaker under a dual responsibility: to honor factual accuracy on the one hand, and to employ artistic imagination on the other—without falling into distortion or sensationalism.

Therefore, the intelligent use of AI should not be viewed merely as a substitute for human creativity or a tool for cost reduction, but rather as an

instrument that demands a critical awareness when applied. Such awareness must consider the artistic, ethical, and interpretive dimensions of a cinematic work that is supposed to serve as a witness to history, not merely a simulation of it.

Conclusion

Through the analysis presented, it can be concluded that artificial intelligence has proven its ability to provide effective solutions for filmmakers and artists in historical films, enhancing the accuracy of depicting historical scenes, reviving characters, and analyzing artistic styles. AI technologies such as **computer-generated imagery**, **3D visuals**, and **visual analysis** allow for the creative reimagining of the past with unprecedented precision, offering unique opportunities to enrich the cinematic experience and expand visual storytelling horizons.

However, despite these significant benefits, the use of AI in historical films also raises several ethical and societal concerns. In some cases, over-reliance on AI may lead to the distortion of historical facts or reinforce existing algorithmic biases. Additionally, there are challenges regarding balancing human creativity with the integration of AI. Therefore, it is essential that AI be used **responsibly and ethically** to ensure maximum benefit without compromising the values of truth and human innovation.

Recommendations:

1. **Enhance Ethical Oversight**: It is crucial to implement mechanisms that ensure the use of AI in historical films respects historical accuracy and promotes diversity and inclusivity in representation.

2. **Develop Precise Data Analysis Tools**: The accuracy of data used to train algorithms must be improved to avoid falling into the trap of algorithmic bias or presenting historically inaccurate narratives.

3. **Blend Human Creativity with AI**: The role of human creativity in the historical filmmaking process should be preserved, with AI acting as a supporting tool rather than a replacement for human imagination. Creative professionals must lead the process.

4. **Engage the Public in Ethical Discussions**: Filmmakers should initiate broader societal dialogues about the impact of AI in portraying historical events, including diverse perspectives on issues such as bias and interaction with emerging technologies.

5. **Invest in Professional Training**: There is a need to invest in training directors and artists on how to use AI in innovative and responsible ways, while maintaining a balance between human creativity and technology.

In conclusion, AI represents a pivotal turning point in the production of historical films. With the continued advancement of this technology, its responsible and ethical integration will significantly impact the future of cinema, preserving historical narratives' credibility while fostering artistic innovation.

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