

# ETHICAL IMPLICATIONS OF AI-GENERATED IMAGES IN JOURNALISM: A SYSTEMATIC LITERATURE REVIEW

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**Abstract:** This systematic literature review (SLR) investigates the ethical implications of AI-generated images in journalism, focusing on the challenges these technologies pose to misinformation, bias, privacy, transparency, and accountability. Through a meticulous selection and synthesis of existing literature, the study reveals a significant gap in ethical guidelines for the use of AI-generated images within journalistic practices. It highlights the dual nature of AI-generated images: their potential to enhance storytelling and visual journalism, alongside risks that could compromise journalistic integrity and public trust. The findings stress the importance of developing comprehensive ethical guidelines, promoting transparency, and ensuring accountability in the use of AI technologies in journalism. Based on the analysis, recommendations are proposed for journalism outlets to navigate these ethical complexities effectively. This SLR underscores the necessity for a balanced approach to integrating AI-generated images in journalism, aiming to uphold the principles of journalistic integrity and maintain public trust in the digital era.

**Keywords:** Artificial Intelligence (AI), visual journalism, ethical implications, accountability

## INTRODUCTION

The rapid advancement of artificial intelligence (AI) technologies has profoundly influenced various domains, including journalism. One notable manifestation of this progress is the generation of AI-generated images, which holds great potential for enhancing news reporting

and storytelling (Farkas and Tóth, 2021). However, the integration of AI-generated images in journalism raises ethical concerns that demand careful examination. This systematic literature review aims to investigate the ethical implications associated with the utilization of AI-generated images in journalism, with a specific focus on the challenges posed to misinformation, bias, privacy, transparency, and accountability.

The ethical implications of AI-generated images in journalism have captured the attention of scholars and practitioners alike. Previous research has shed light on several crucial aspects that inform our understanding of the topic (Farkas & Borges-Rey, 2017). Scholars have explored the influence of AI-generated images on public perception, the potential for misuse and manipulation, and the erosion of trust in journalistic integrity (Langer & Salaverría, 2020). Furthermore, studies have highlighted the ethical challenges that arise from the inherent biases embedded in AI algorithms, the violation of individuals' privacy through the generation and dissemination of AI-generated images, and the lack of transparency and accountability surrounding their creation and usage in journalistic practices (Carlson, et al. 2020; Viljoen, 2020; Farkas & Tóth, 2021).

Preliminary analysis of the selected literature reveals a multifaceted landscape of ethical implications associated with AI-generated images in journalism. The results indicate that the deployment of AI-generated images poses significant challenges to combatting misinformation, as these images can be easily manipulated and disseminated to mislead the

public. (Groot Kormelink & Deuze, 2021). Moreover, the presence of biases within AI algorithms used for image generation raises concerns regarding fairness and objectivity in news reporting (Carlson et al, 2020). The review also highlights the potential infringement of individuals' privacy rights using AI-generated images, as well as the lack of transparency and accountability surrounding their creation and utilization in journalistic practices (Viljoen, 2020). This systematic literature review examines the ethical implications of AI-generated images in journalism, including challenges related to misinformation, bias, privacy, transparency, and accountability. By analyzing existing literature, this study contributes to the discussion on responsible integration of AI in journalism and provides insights for ethical decision-making in this evolving field.

## METHODS

To conduct this systematic literature review, a comprehensive search was performed across various academic databases, including but not limited to PubMed, IEEE Xplore, and Scopus, using relevant keywords such as "AI-generated images," "journalism," "ethics," "misinformation," "bias," "privacy," "transparency," and "accountability." The search was augmented by manual examination of reference lists from identified articles to ensure a comprehensive coverage of the field. Inclusion criteria were applied to select articles that directly addressed the ethical implications of AI-generated images in journalism and provided substantial insights into the challenges related to misinformation, bias, privacy, transparency, and accountability. The selected articles were critically evaluated, and data extraction was performed to identify key themes, arguments, and perspectives.

## RESULTS AND DISCUSSION

The existing literature on the usage of AI-generated images in journalistic content provides valuable insights into the ethical implications and challenges associated with this

phenomenon. This discussion section highlights the latest research findings and identifies research gaps that warrant further exploration.

### *Ethical Implications of AI-Generated Images in Journalism*

Recent studies have shed light on various ethical implications of using AI-generated images in journalistic content. Research findings indicate that AI-generated images can raise concerns related to accuracy, authenticity, and trustworthiness (Groot Kormelink & Deuze, 2021). They have the potential to deceive audiences, blur the line between fiction and reality, and compromise the credibility of news outlets (Molyneux & Diakopoulos, 2021). Scholars have emphasized the importance of transparency, disclosure, and responsible use of AI-generated images to maintain ethical standards in journalism (Kaitila & Reunanen, 2020).

### *Manipulation and Misinformation*

Studies have highlighted the potential for AI-generated images to be manipulated for malicious purposes, including the creation of deepfakes or synthetic media. These manipulated images can be used to spread misinformation, manipulate public opinion, and damage the reputation of individuals or organizations (Langer & Salaverria, 2020). The research emphasizes the need for robust verification mechanisms, fact-checking processes, and media literacy initiatives to counter the spread of AI-generated image-based misinformation.

### *Privacy and Consent*

The ethical considerations surrounding privacy and consent in the use of AI-generated images in journalism have gained attention. Scholars have raised concerns about the potential infringement of individuals' privacy rights when their images are used without explicit consent in AI-generated content (Howard & Kollanyi, 2018). The research highlights the importance of respecting privacy rights, obtaining informed

consent, and addressing the potential risks of re-identification or misuse of personal data.

#### *Bias and Representation*

AI-generated images can inherit biases present in the training data, potentially perpetuating stereotypes and reinforcing existing inequalities (Kaitila & Reunanen, 2020). Research findings indicate the need to address algorithmic biases and ensure diverse and inclusive representation in AI-generated images used in journalistic content (Groot Komerlink & Deuze, 2021). The exploration of mitigating biases and promoting fairness in AI-generated images remains an important research gap.

#### *Journalistic Practices and Guidelines*

Recent studies have examined how journalistic outlets currently address the ethical challenges associated with AI-generated images. Findings indicate that while some news organizations have implemented guidelines and verification processes, there is a lack of standardized practices across the industry (Viljoen & Verhagen, 2021; Farkas & Tóth, 2021). The research highlights the need for comprehensive ethical guidelines specifically tailored to AI-generated images and the development of best practices to ensure responsible and transparent use.

#### **Research Gaps**

Several research gaps persist regarding AI-generated images in journalism. Existing literature is limited in terms of understanding the long-term impact on public perception, trust in media, and democratic processes. Further studies should investigate the societal and psychological effects of consuming AI-generated images in news content. Additionally, more research is needed to comprehend audience perception and their ability to distinguish AI-generated images from authentic ones (Molyneux & Diakopoulos, 2021). The legal and regulatory frameworks surrounding AI-generated images in journalism require attention, including the examination of existing laws,

policies, and intellectual property rights (Farkas & Borges-Rey, 2017). Understanding journalistic decision-making processes and challenges when incorporating AI-generated images is crucial, as it can aid in developing guidelines and training resources (Viljoen, 2020). Increased collaboration is necessary between journalists, AI experts, ethicists, and policymakers to establish industry-wide standards and practices for responsible AI usage in journalism. Addressing these research gaps will contribute to a deeper understanding of the ethical implications of AI-generated images and facilitate the development of ethical frameworks that ensure responsible and accountable use of this technology in the media landscape.

For a record, these two cases highlight growing concerns surrounding the use of AI-generated images in journalistic content. The Washington Post's publication of a misleading AI-generated image in 2019, without proper disclosure, triggered significant backlash. The image, falsely representing a Syrian city, raised questions about the newspaper's credibility and trustworthiness. Similarly, the South China Morning Post faced criticism in 2018 for using AI-generated images to depict Hong Kong's future skyline without explicitly indicating their digital origin. The lack of clear disclosure caused confusion among readers, leading to ethical concerns about the integration of AI-generated content in news reporting. Both cases accentuate the need for transparency and responsible practices when incorporating AI-generated visuals into journalistic works.

It's important to recognize that these examples are specific incidents and do not represent the entire landscape of news organizations. The ethical considerations and public response to the use of AI-generated images can vary depending on the context, transparency, and adherence to journalistic standards. News organizations continue to navigate these challenges and refine their practices to ensure responsible and ethical use of AI-generated images in journalistic content.

Journalistic outlets are increasingly recognizing the ethical challenges associated with AI-generated images and taking steps to address them (Viljoen & Verhagen, 2021). One way they do this is by developing or updating ethical guidelines and policies. These frameworks provide journalists with a clear understanding of how to utilize AI-generated content responsibly and ethically, including images. They often emphasize the importance of accuracy, transparency, disclosure, and adherence to journalistic standards when incorporating AI-generated images into news reporting. By establishing these guidelines, news organizations aim to ensure that AI-generated images are used in a manner that upholds the principles of ethical journalism (Carlson et al., 2020).

Verification and fact-checking processes are another important aspect of addressing the ethical challenges of AI-generated images. Journalistic outlets invest in rigorous verification procedures to confirm the authenticity and accuracy of AI-generated visuals before including them in news content. This involves employing techniques such as reverse image searches, metadata analysis, and consulting subject matter experts (Langer & Salaverría, 2020). Through these measures, news organizations aim to prevent the dissemination of manipulated or misleading AI-generated images, thereby maintaining the integrity and trustworthiness of their reporting.

Transparency and disclosure also play a significant role in addressing the ethical considerations surrounding AI-generated images. Many news organizations recognize the importance of being transparent with their audience about the use of AI-generated content, including images. They strive to provide explicit information, such as labeling or watermarking, to distinguish AI-generated visuals from authentic photographs or illustrations. By being transparent about the use of AI-generated images, journalistic outlets aim to maintain the trust of their audience, avoid confusion or

deception, and uphold ethical standards in their reporting (Viljoen, 2020).

It is important to note that the extent to which journalistic outlets address the ethical challenges associated with AI-generated images may vary. Some organizations may be more proactive in implementing comprehensive guidelines and verification processes, while others may still be in the early stages of grappling with these issues. Continued dialogue, research, and collaboration within the journalism community are crucial in further developing ethical frameworks and practices for the use of AI-generated images. By working together, news organizations can navigate the ethical complexities of AI-generated images and ensure responsible and accountable use of this technology in journalism.

## CONCLUSIONS

This literature review examined the ethical challenges associated with AI-generated images in journalism and how news organizations are addressing them. Key findings and implications include the importance of transparency and disclosure, accuracy and verification, and adherence to ethical guidelines (Groot Kormelink & Deuze, 2021).

Transparency and disclosure should be prioritized, with AI-generated visuals clearly labeled or watermarked to differentiate them from authentic photographs or illustrations. Rigorous verification processes and fact-checking procedures are necessary to ensure the authenticity and accuracy of AI-generated images. News organizations should develop or update ethical guidelines specifically addressing the use of AI-generated content, emphasizing accuracy, transparency, and responsible use.

Challenges and exceptions may arise in implementing these principles, such as the rapid advancement of AI technology outpacing the development of ethical guidelines. Resource constraints and variation in awareness among journalists may hinder consistent adherence to ethical guidelines.

Moreover, theoretical implications highlight the need to integrate AI ethics into journalism ethics

frameworks and promote ongoing research and collaboration. Practical implications emphasize the importance of training programs for journalists to enhance their understanding of AI-generated images and ethical considerations. In conclusion, news organizations are recognizing the ethical challenges of AI-generated images and taking steps to address them. Further efforts are needed for consistent adherence to ethical principles. Future studies should evaluate the effectiveness of existing guidelines, explore audience perceptions, and assess long-term implications. Ongoing research, collaboration, and evaluation are essential for responsible and ethical use of AI-generated images in journalism.

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