

Course Title: Research Methodology in Computer Science Course

Code: AI800

Lecturer: Dr. Mohammed Anbar

Assignment Report: Ethical Implications of Image Generation in Journalism

Table of contents:

- **Summary research paper's**
- **Critical Analysis:**
- **Connections**
- **Conflicts between the findings**
- **Synthesis Matrix for Literature Review**
- **Reference**

Paper 1: Exploring the Multifaceted Nature of Generative AI in Journalism Studies: A Typology of Scholarly Definitions

This paper aims to get to the bottom of how generative AI is being defined and used in journalism. The research looks at existing articles to see the different perspectives and approaches to defining generative AI in journalism. The study identifies four key findings of generative AI in journalism: 1) Content creation: AI algorithms that write news articles, reports and summaries. 2) Data analysis and insights: AI algorithms that analyze data to find patterns and insights. 3) Newsroom automation: Automating tasks like transcription, translation and fact-checking. 4) Audience engagement: Using AI to personalize content delivery and recommend content.(Gondwe, 2023)

Critical Analysis

The article uses literature review and qualitative research methodologies and explains clearly the different ways generative AI is being defined and applied in journalism and its implications. It effectively categorizes the AI functions used with journalism to four types, which are content generation, data analysis, newsroom automation, and audience engagement. It shows how AI tools can be both beneficial and transformative. It also shows ethical concerns when AI is used such as wrong information, biases, and copyright violation. The paper mentions that since this field is evolving continually, issues might arise and new research should be conducted.

However, the article didn't compare the use of AI in other fields which might give some insight into handling challenges in journalism. Also, it didn't offer much real word dates on how AI actually performs in journalism, like how efficient it is, the audience interest, or the accuracy of generated stuff. And even though the article talks about ethical issues, it doesn't offer detailed steps to manage these problems.

Paper 2: Image synthesis from an ethical perspective

This paper starts by introducing generative AI and how popular it is becoming, especially text and image generation. Then, it highlights the lack of scientific literature on its ethical aspects, despite its popularity. The paper identifies some ethical areas including: information ethics, technology ethics, media ethics, business ethics, and machine ethics. After that the paper dive into discussing various ethical issues related to image synthesis covering a wide range of topics. Then the paper mentions the need for ethical guidelines and legal regulations to overcome these challenges. (Bendel, 2023)

Critical Analysis

The paper relies on existing literature, the author's personal experience with image generators, and general ethical principles. The author provides a clear introduction to AI generation and thoroughly discusses various ethical concerns and challenges such as copyright issues, privacy, biases. It also mentions both benefits and risks of using generative AI. Also, it's mentioned that since this field is evolving continually, issues might arise and new research should be conducted.

However, it is lacking in two areas. First, is that it does not offer ethical guidelines for the use of these tools for both developers and users. Second, it did not provide real-world examples to better illustrate the ethical issues discussed. Adding a section explaining best practices for ethical image generation would improve the paper.

Paper 3: The Ethics of Photojournalism: Capturing Truth in a Digital World

This paper discusses the ethical challenges that come with photojournalism, focusing on the importance of trust and integrity. It also discusses ethical keys such as the manipulation of images, and privacy. It discusses how digital tools could possibly distort reality so there is a need for verification. It concluded with the reminder of the core principles of respect and integrity of the digital age. (Arzyb, 2024)

Critical Analysis

The paper discusses the ethical issues that are faced in today's digital age. It does a great job offering a clear overview of the key ethical challenges and considerations in digital photojournalism, especially as these tools make it easy to manipulate and possibly falsify images. It highlights the importance to avoiding image distortion, respecting privacy, and representing people fairly.

However, it does not offer specific case studies or real-life examples of how these ethical issues have impacted the trust in the past to illustrate these challenges. Also, some references cited in this paper do not seem related to photojournalism ethics. Methods used are not clearly mentioned.

Paper 4: Ethical Implications of AI-Generated Images in Journalism: A Systematic Literature Review

This paper covers the implications of using AI image generation in journalism. Covering some of the challenges that are faced by using these tools. Such as, false information, bias, privacy breach, and transparency. The findings for this article are: 1) how AI image generation can easily falsify information. 2) it can also be in violation of privacy. 3) AI generated images can have some long-term impact on public perception, and trust in the media.(Ramle & Sabri, 2024)

Critical Analysis

In this paper, the methodologies used are clearly mentioned like using a comprehensive search and clearly defined inclusion criteria. The paper relies mostly on academic literature, which increases its credibility and reliability.

However, including other perspectives from other sources like journalism organizations and interviews could provide insight on understanding the challenges and potential solutions. Also, it provides limited solutions to the ethical challenges. Adding clear steps to check the accuracy of AI-generated images would be valuable.

Paper 5: How Generative AI Is Transforming Journalism: Development, Application and Ethics

This paper talks about generative artificial intelligence and how it is applied to journalism, the advantage of it, and its ethical implications. It categorizes its use into three main categories: information gathering, content production, and customization and dissemination. It also points out how these tools can significantly enhance productivity. However, it also mentions the potential ethical challenges that come with it. The key findings are: 1) Privacy . 2) Biases. 3) credibility.(Shi & Sun, 2024)

Critical Analysis

Overall, the paper gives a clear view of how Generative AI is affecting journalism. literature review methodology is used and It mentions how these AI tools are utilized in newsrooms to help with content creation, fact-checking and other reasons which makes the production faster and more efficient. The paper also addressed some potential ethical risks that come with using these tools such as the spread of false information or bias and it asked for careful guidelines to ensure AI is used responsibly.

However, it failed to deliver how these ethical challenges are being managed. It suggested the need for ethical standards but did not include specific actions in newsrooms. Also, adding some guidelines and suggestions will make it better.

Paper 6: Ethics Concerns in the Use of Computer-Generated Images for Human Communication

This paper discusses the ethical challenges that come with using AI generated synthetic images for communication. The key findings are: 1) Ethical challenges when using AI generated things. 2) The spread of AI in the media and the public's perception of it. 3) The advantages and disadvantages of using it. 4) Ethical guidelines 5) How it can impact trust and credibility.(Simões & Caldeira, 2024)

Critical Analysis

This paper uses literature review methodology and the findings are supported from various books and academic articles. To a great degree, this paper gives valuable information regarding the ethics of AI. It highlights the potential of this technology and at the same time highlights the risk that comes with it.

The paper provides an overview of ethical concerns and discusses the ethical issues and challenges, however, it does not provide ethical guidelines or recommendations.

Connections:

- **Ethical challenges:** all sources share the same ethical concerns especially when using image or text generating. (false information, bias, privacy)
- **The advantage when using generative AI in Journalism:** It could enhance production, automating tasks and generate new articles.
- **Falsely Information and manipulation:** sources discuss the importance of verification of information and not take any misused information without first verifying it.
- **Copyright and Privacy:** these concerns were raised in the papers and need to have a legal entity to address these issues.

Conflicts:

- **Its Impact on Journalism :** some sources raise their concern about using these tools, jeopardizing the principles of journalism, while others are mentioning how beneficial it is and how it will asset and enhance Journalism.

Synthesis Matrix for Literature Review

Study	Authors	Year	Key Findings/Results	Methodology	Limitations
Exploring the Multifaceted Nature of Generative AI in Journalism Studies: A Typology of Scholarly Definitions	Gregory Gondwe	2023	key findings of generative AI in journalism: 1) Content creation: AI algorithms that write news articles. 2) Data analysis and insights: AI algorithms that find patterns and provide insights. 3) Newsroom automation: Automating tasks like transcription, translation and fact-checking. 4) Audience engagement: Using AI to personalize content delivery and recommend content.	qualitative research - literature review - to learn its perspectives, definitions, and applications	Since this field is evolving continually, issues might arise and new research should be conducted. The article didn't compare the use of AI in other fields which might give some insight into handling challenges in journalism. Also, it didn't offer much real word dates on how AI actually performs in journalism, like how efficient it is, the audience interest, or the accuracy of generated stuff. And even though the article talks about ethical issues, it doesn't offer detailed steps to manage these problems.

Image Synthesis From an Ethical Perspective	Oliver Bendel	2023	Ethical areas including: information ethics, technology ethics, media ethics, business ethics, and machine ethics. After that the paper dive into discussing various ethical issues related to image synthesis covering a wide range of topics. Bias copyright Privacy concerns	qualitative research - literature review	Since this field is evolving continually, issues might arise and new research should be conducted. However, it is lacking in two areas. First, is that it does not offer ethical guidelines for the use of these tools for both developers and users. Second, it did not provide real-world examples to better illustrate the ethical issues discussed. Adding a section explaining best practices for ethical image generation would improve the paper.
The Ethics of Photojournalism: Capturing Truth in a Digital World	Malshym Arzyb	2024	new ethical challenges image manipulation and privacy Digital tools can distort reality the need for information verification.	literature review methodology. existing discussions and literatures	Short paper - No specific case studies or real-life examples of how these ethical issues have impacted

Ethical Implications of AI-Generated Images in Journalism: A Systematic Literature Review	Noor Adzrah Ramle Safiyah Ahmad Sabri	NA	Covers the implications of using AI image generation. Covering some of the challenges that are faced by using these tools. Such as, false information, bias, privacy breach, and transparency. The findings for this article are: 1) how AI image generation can easily falsify information. 2) it can also be in violation of privacy. 3) AI generated images can have some long-term impact on public perception, and trust in the media.	literature review methodology. articles from multiple academic databases.	The study is limited by the available resources. Since this field is evolving continually, issues might arise and new research should be conducted.
How Generative AI Is Transforming Journalism: Development, Application and Ethics	Yi Shi and Lin Sun	2024	Generative artificial intelligence and how it is applied to journalism, the advantage of it, and its ethical implications. It categorizes its use into three main categories: information gathering, content production, and customization and dissemination. It also points out how these tools can significantly enhance productivity.	literature review methodology real-world examples	Since this field is evolving continually, issues might arise and new research should be conducted. It suggested the need for ethical standards but did not include specific actions in newsrooms.

References:

- Gondwe, G. (2023). Exploring the Multifaceted Nature of Generative AI in Journalism Studies: A Typology of Scholarly Definitions. *Journalism and Media*, 5(2), 39. <https://doi.org/10.3390/journalmedia5020039>
- Bendel, O. (2023). Image synthesis from an ethical perspective. *AI & Society*. <https://doi.org/10.1007/s00146-023-01780-4>
- Arzyb, M. (2024). The Ethics of Photojournalism: Capturing Truth in a Digital World. *J Mass Communicat Journalism*, 14, 549.
- Ramle, N. A., & Sabri, S. A. (2024). Ethical Implications of AI-Generated Images in Journalism: A Systematic Literature Review. *Journal of Ethics in Higher Education*, 4(2024), 169–192.
- Shi, Y., & Sun, L. (2024). How Generative AI Is Transforming Journalism: Development, Application and Ethics. *Journalism and Media*, 5, 582–594. <https://doi.org/10.3390/journalmedia5020039>
- Simões, J. M., & Caldeira, W. (2024). Ethics Concerns in the Use of Computer-Generated Images for Human Communication. *Journal of Ethics in Higher Education*, 4(2024), 169–192. <https://doi.org/10.26034/fr.jehe.2024.5962>