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MAPPING THE FRONTIERS OF ARTIFICIAL INTELLIGENCE AND HUMAN CREATIVITY NEXUS IN THE DIGITAL AGE

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ABSTRACT

The present chapter examines the innovative capabilities of Artificial intelligence (AI) systems in contrast to human writing creativity. With the fast improvements in AI generation, there's an ongoing debate regarding whether or not AI can shape or maybe surpass human creativity in numerous domain names, consisting of writing. This look explores the present-day country of AI-generated writing and its capability impact on human creativity, highlighting the strengths and limitations of both AI and human writers. Through a comparative evaluation of AI-generated texts and human-authored works, we propose to shed light on the precise traits, innovative strategies, and implications of AI in the realm of writing creativity.

Keywords: *Artificial Intelligence (AI), Human Writing Creativity*

I. INTRODUCTION

The dawning of the digital age has thrust society into an era where the intersection of artificial intelligence (AI) and human creativity stands as a pivotal arena for exploration and innovation. In this rapidly evolving landscape, the amalgamation of machine intelligence and human ingenuity is reshaping the dynamics of creative pursuits across diverse domains. This research embarks on a comprehensive exploration of the AI-human creativity nexus, aiming to map the frontiers where these two realms converge and interact. By doing so, the chapter seeks to illuminate the implications, challenges, and potential breakthroughs inherent in this transformative juncture, contributing to a nuanced understanding of the evolving relationship between AI and human creativity.

The creation of Artificial Intelligence (AI) has revolutionized numerous industries, which include the world of innovative endeavors (Cooper, 2023). Writing, a fundamental shape of human expression, has also witnessed AI technologies mixing. AI systems fueled using



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advancements in natural language processing and gadget-gaining knowledge of algorithms, have established surprising abilities in producing coherent and contextually relevant texts (Leach, 2022). This has sparked a sizeable debate concerning the innovative capacity of AI systems in the evaluation of human writers. We frequently planned approximately intelligence with a theory of our intelligence in thoughts. The number one objective of this chapter's paper is to discover and analyze the creative capabilities of AI structures in the assessment of human writing creativity (Mammen & Richey, 2020). By critically inspecting the existing literature, we propose to shed light on the present-day country of AI-generated writing and its implications for human creativity. This observation additionally seeks to perceive the unique characteristics, strengths, and boundaries of both AI and human writers, supplying insights into the creative techniques employed by way of each.

Theoretical Framework

Creativity is a multifaceted and complex process that involves the generation of new and valuable ideas, products, or solutions (Gobet & Sala, 2019). Creativity in writing refers to the ability to be original, imaginative, and engaging that evokes emotion, creates intellectual interest, and engages readers beyond mere technical skills, and touches on new uses of language, unique perspectives, and novelty-seeking concepts.

Elements of writing creativity include various elements such as originality, imagination, exposition, and novelty. Creating content that is new, innovative, and distinct from existing businesses. This includes thinking beyond traditional boundaries, challenging established norms, and offering a unique perspective. Ability to design and create imaginative worlds, characters, and narratives (Hitsuwari et al., 2023). It uses vivid imagery, symbolism, and metaphors to address complex concepts and evoke emotions in readers. Ability to effectively communicate thoughts, feelings, and experiences through words. It uses various literary techniques such as figurative language, tone, and voice to convey meaning and engage the reader emotionally. Ability to introduce new ideas, techniques, or styles of writing (Rezwana & Maher, 2022a). It is about experimenting with different approaches, techniques, and formats to push the boundaries of traditional texts and create new literary works.



Creative Writing Process

The creative writing process is a dynamic and iterative journey that includes inspiration, idea generation, planning and organizing, drafting, editing and editing, and revising. The original spark that starts the creative process (Wingström et al., 2022). It can come from personal experiences, observations, research, or other sources of inspiration. The generation of ideas and concepts that form the basis of a text. This stage involves brainstorming, mental mapping, and exploration of different possibilities. Developing a coherent structure and structure for a text. This includes identifying the central theme, plot points, human development, and overall story arc ("How to Optimize Marketing Strategy Development: A Powerful Blend of Human and Artificial Intelligence," 2020) The process of defining ideas in writing. This stage involves writing toward freedom, expressing ideas, and taking creative risks without being overly self-critical. The process of revising and editing the original text for clarity, accuracy, and overall quality. This includes revisiting and reworking the material, addressing grammar and style, and ensuring consistency. Repeat the process of adapting the changes, continuously refining the writing with each iteration to achieve the desired creative vision.

Artificial Intelligence and Writing Creativity

Artificial intelligence has greatly enhanced a variety of creative industries, including writing. AI systems are designed to process and analyze large amounts of data, recognize patterns, and provide feedback like works written by humans (Wingström et al., 2022). A.I. and he wrote. AI-powered coding tools use natural language processing (NLP), machine learning algorithms, and big data to create coding. Key AI techniques include models used in writing such as Natural Language Generation (NLG), Language models: Language models, such as OpenAI's GPT (Generative Pre-trained Transformer) These models are trained on large amounts of text data, and a smooth distribution of it is also capable of convergence (Wu et al., 2021). A descriptive analysis method was used for the present chapter. Thirty respondents answered the interview questions.



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Artificial intelligence, characterized by sophisticated machine learning algorithms and computational prowess, has transcended its conventional role as a tool for automation and problem-solving. In the contemporary digital milieu, AI has emerged as a creative force in its own right, capable of generating art, composing music, and crafting narratives. Concurrently, human creativity remains an unparalleled force, fueled by intuition, emotion, and the ability to navigate complex and ambiguous situations. The fusion of these forces holds the promise of redefining the boundaries of achievement in various fields, from challenging traditional notions of artistic expression to blending the mathematical precision of algorithms with the emotional depth of human experience in music composition.

Significance of the Chapter

Understanding the impact of AI on writing creativity is of paramount significance in a generation in which AI is increasingly applied in content material advent and era tasks (Mazzone & Elgammal, 2019). By delving into this subject, we will benefit from precious insights into the potentially transformative outcomes of AI on the writing landscape (Rohrmeier, 2022). This chapter also goals to tell and interact with expert writers, educators, policymakers, and era developers in discussions surrounding AI's role in innovative endeavors. By figuring out the strengths and boundaries of AI-generated writing, we will foster greater nuanced information about its packages, ethical concerns, and ability collaborative possibilities with human writers. As AI systems end up more state-of-the-art and able to produce texts that resemble human-authored works, it becomes important to assess the exceptional, originality, and inventive merit of AI-generated content (Xu & Wang, 2021). This chapter's paper will make contributions to the existing body of know-how by conducting a comparative analysis of AI-generated texts and human-authored works across diverse dimensions of writing creativity. By examining the emotional and expressive elements, narrative and storytelling competencies, in addition to adaptability and innovation, we can benefit from comprehensive expertise on the similarities and differences between AI and human writing creativity (Karimi et al., 2020). The findings of various studies look at can have implications for professional writers, authors, and content creators, who can also face new demanding situations and opportunities in an AI-driven panorama. Additionally, the ethical considerations and capacity implications of AI-generated content material, inclusive



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of plagiarism concerns and the protection of intellectual belonging rights, can be explored (Anantrasirichai & Bull, 2022). By considering potential collaborative processes among AI and human writers, this research ambitions to check a future in which AI and human creativity can coexist and supplement each other, main to new possibilities within the realm of writing and inventive expression.

This chapter pursuits to contribute to the continuing communication surrounding AI's impact on writing creativity by carrying out a thorough comparative evaluation of AI-generated writing and human-authored works (Rezwana & Maher, 2022b). By examining their respective strengths, limitations, and implications, we can benefit from insights into the transformative potential of AI and its relationship with human creativity (“How to Optimize Marketing Strategy Development: A Potent Blend of Human and Artificial Intelligence,” 2020). Ultimately, this looks at seeks to foster nuanced expertise of the intersection between AI and human writing creativity and discover avenues for collaboration and ethical considerations in the evolving landscape of content material creation.

Research Question

- What are the limitations and challenges of AI-generated writing compared to human writing creativity?
- How would you define or describe human writing creativity?
- What aspects of human writing do you believe set it apart from AI-generated writing?
- What are the unique strengths of human writing creativity that cannot be replicated by AI?
- How would you compare the creative potential of AI-generated writing and human writing?
- What are the key factors that contribute to the quality and originality of human-authored works?
- Does AI have the potential to match or surpass human writing creativity in the future?

Thematic Analysis:

RQ1: How would you define or describe human writing creativity?



Fig 1. Thematic Analysis to define human writing creativity

Interpretation: Human literary creativity is characterized by the intellectual and practical expression of ideas and experiences through written language to evoke emotion, convey a unique message, and transcend conventional ideas and paradigms. Human writers can generate ideas, solve problems, and write knowledge to solve real-world issues. The raw honesty of human emotions and the meaning of human experiences make the writing that humans produce valuable and relatable. While AI has the potential to improve and develop language abilities, it currently lacks deep emotional understanding and the ability to create truly original and meaningful information AI may be able to create information based on patterns and data old-fashioned, yet unable to fully replicate the creative essence and emotional depths that humans have written and have the potential to evolve and improve over time. While human writing creativity is currently considered superior due to emotional relevance and originality, it is possible that in the future AI could have the potential to produce content that more closely resembles human creativity

RQ2: What aspects of human writing do you believe set it apart from AI-generated writing?

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improve itself based totally on user feedback and practices. While AI-generated writing has its advantages, human-generated writing is currently perceived as higher, however, the destiny capacity of AI cannot be disregarded.

RQ4: What are the unique strengths of human writing creativity that cannot be replicated by AI?



Fig 4. Unique strengths of human writing creativity

Interpretation: Emotions play a critical role in human writing creativity. Human writers can infuse their paintings with emotions and draw on their reviews to create greater profound and nuanced content. This emotional depth is a unique energy that AI-generated replica regularly struggles to duplicate as per the data collected. Unlike AI, human writers can suppose abstractly and metaphorically, allowing them to move beyond concrete records factors and produce a more innovative and creative touch to their writing. They can draw suggestions from diverse assets and include their private studies, memories, and emotions to add intensity and richness to their paintings. While AI may also excel at supplying authentic records and preventing human errors, it cannot outlet into the emotional realm and conveys content that certainly resonates with readers. Human writing contains a sure authenticity and personal contact that connects with readers on a deeper level. Additionally, human writing creativity involves the technology of unique thoughts. Human writers can suppose outdoors the container, explore new concepts, and offer clear views. AI, on the other hand, is predicated on present statistics and algorithms, limiting its ability to generate without a doubt novel



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ideas. While AI may additionally maintain to strengthen and broaden, the unique strengths of human writing creativity, specifically the infusion of feelings, stay a distinguishing thing. Emotions upload a layer of relatability and depth that AI-generated content material currently struggles to acquire.

Comparative Analysis: AI vs. Human Writing Creativity

To gain insights into the creative capabilities of AI systems in comparison to human writing creativity, a comparative analysis can be conducted across various dimensions. The following areas can be explored:

Quality and Originality of Content:

RQ5: In your opinion, what are the key factors that contribute to the quality and originality of human-authored works?

<ul style="list-style-type: none">• Life experiences, ability to feel, and emotions
<ul style="list-style-type: none">• Human-authored works include ideas and experiences related to the real world. I feel it is more connectable. And when compared to AI, we can surely trust human ideas than AI-generated facts.
<ul style="list-style-type: none">• Natural environment
<ul style="list-style-type: none">• Author contributions. Use this form to specify the contribution of each author of your manuscript. A distinction is made between five types of contributions: Conceived and designed the analysis; Collected the data; Contributed data or analysis tools; Performed the analysis; Wrote the paper.
<ul style="list-style-type: none">• Conceived and designed the analysis; Collected the data; Contributed data or analysis tools; Performed the analysis; Wrote the paper
<ul style="list-style-type: none">• A distinction is made between five types of contributions: Conceived and designed the analysis; Collected the data; Contributed data or analysis tools; Performed the analysis; Wrote the paper
<ul style="list-style-type: none">• Builds quality into the product



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<ul style="list-style-type: none">• Human-authored work is connected to experiences whereas ai generated work is full of facts.
<ul style="list-style-type: none">• human work includes human knowledge related to real life whereas AI work involves just machine-generated facts
<ul style="list-style-type: none">• The simple language without a huge words and simple understanding between the author and the reader shows the originality of human-authored works
<ul style="list-style-type: none">• Humans are eligible to write through emotions and originally
<ul style="list-style-type: none">• Imagination and Creativity, Personal Experiences and Perspectives, Emotional Depth and Empathy, Skills and Adaptability Contextual Understanding Critical Thinking, and Original Research

Conclusion: Human-authored works maintain a special vicinity because of their connection with actual-life reports, feelings, and the personalized touch they provide. They incorporate elements of the herbal environment and possess qualities along with originality, empathy, and important wondering. These elements distinguish human-authored works from AI-generated content, which focuses more on actual statistics derived from facts analysis.

Emotional and Expressive Elements:

RQ6: Based on your understanding and experience, how would you compare the creative potential of AI-generated writing and human writing?

<ul style="list-style-type: none">• If one gives right prompts to AI it will be able to generate good reports
<ul style="list-style-type: none">• It is better than human writing but it cannot beat it because it lacks experiences and emotions
<ul style="list-style-type: none">• I believe working with AI is effective but at the same time, we can't trust AI fully because, in the end, it is a technologically generated tool to make life easy.
<ul style="list-style-type: none">• AI's creative potential is in limit and humans are limited less
<ul style="list-style-type: none">• While AI-generated content may be able to produce content quickly, it often lacks



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<p>the creativity and innovation that human writers can bring to the table. Human writers can think outside the box and bring fresh perspectives to your content, making it more engaging and interesting for your readers.</p>
<ul style="list-style-type: none">• Can artificial intelligence be more creative than humans in content writing skills?
<ul style="list-style-type: none">• AI-generated content might be able to produce content quickly, it lacks the creativity and storytelling ability of human writers. Human writers can craft narratives that connect with readers on an emotional level, drawing them in and keeping them hooked until the very end.
<ul style="list-style-type: none">• It can be difficult to find a reliable that understands your needs.
<ul style="list-style-type: none">• AI-generated writing might take less time compared to human writing but we cannot fully trust it cause again it is a human-generated tool.
<ul style="list-style-type: none">• working with AI is more effective and fast but it is not trustworthy
<ul style="list-style-type: none">• We can accept that human writing can generally have mistakes as well as a generated usually not occur mistake it saves time where human writing takes much time
<ul style="list-style-type: none">• By looking at the growth of AI it can be possible in the future that AI can do better
<ul style="list-style-type: none">• AI-generated writing has made significant progress and can produce coherent and readable content, it currently falls short in terms of the depth, originality, emotional resonance, and subjective interpretation that human writing offers. The creative potential of human writing remains unparalleled due to the rich complexity of human consciousness, imagination, and experiences.
<ul style="list-style-type: none">• By comparing the creative potential of AI-generated writing and human writing, humans can do better but in the future by looking at the increasing growth of AI, AI can do better

Conclusion: AI can generate proper reviews when given suitable activities. Although AI is higher than human writing in some elements, it cannot surpass human writing because it lacks stories and feelings. While working with AI is effective, entire trust in AI isn't possible as it's far in the long run a device created to simplify existence. The creative capacity of AI is



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constrained, at the same time as people have countless capabilities in this regard. Although AI-generated content may be produced speedy, it frequently lacks the creativity and innovation that human writers convey. Human writers can assume outdoor the field, offer sparkling perspectives and make content extra attractive and interesting. AI-generated content may also lack the storytelling potential and emotional connection that human writers possess. Finding a reliable AI that understands unique needs may be difficult. Although AI-generated writing may be faster, it can't be completely trusted considering it is in the long run a human-created tool. Working with AI is extra efficient and quicker, however, it could now not be completely sincere. While human writing can contain errors, AI-generated writing is generally blunders-loose, saving time. Considering the increase in AI, it is possible that AI can also perform higher in the future. Currently, AI-generated writing has made huge progress in producing coherent and readable content. However, it falls short in phrases of intensity, originality, emotional resonance, and subjective interpretation as compared to human writing. The innovative ability of human writing remains exceptional because of the complexity of human consciousness, imagination, and stories. While humans presently outperform AI in phrases of innovative potential, the destiny growth of AI suggests that it can sooner or later capture up or maybe surpass human competencies.

Adaptability and Innovation:

RQ6: Do you believe AI has the potential to match or surpass human writing creativity in the future? Why or why not?

<ul style="list-style-type: none">• I think it can match human writing. it is getting better each day and may surpass human intelligence and writing.
<ul style="list-style-type: none">• It can surpass if it develops emotions like humans
<ul style="list-style-type: none">• What I believe is that AI has the power to go beyond human writing. The growth of technology in every single factor is reaching its peak. So AI not only has the power to match with humans, It can go beyond what humans think.
<ul style="list-style-type: none">• No, because we know that AI is made by human
<ul style="list-style-type: none">• However, it's important to remember that AI is still a tool, and it's unlikely to ever



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fully replace the creativity and insight that humans bring to the writing process. While AI may one day play a larger role in writing articles, it's unlikely to completely take over the job of human writers.
<ul style="list-style-type: none">• it's unlikely to ever fully replace the creativity
<ul style="list-style-type: none">• However, it's important to remember that AI is still a tool, and it's unlikely to ever fully replace the creativity and insight that humans bring to the writing process. While AI may one day play a larger role in writing articles, it's unlikely to completely take over the job of human writers.
<ul style="list-style-type: none">• No, it is unlikely to ever fully replace the creativity
<ul style="list-style-type: none">• Yes, cause AI is increasing day by day so it surely surpasses human writing
<ul style="list-style-type: none">• yes I do believe AI is more powerful than human
<ul style="list-style-type: none">• Yes it can be as robotics can have a capability of it in the future ai can surpass human writing capability Albert Einstein says that if ai surpass human writing capability all of the work that is done by human is done by ai till it is controlled by humans and if not so as Albert's intestine say it is the biggest curse for a human
<ul style="list-style-type: none">• Maybe, yes by looking at the growth of AI it can be possible
<ul style="list-style-type: none">• Maybe but I am not sure because Given the increasing growth of AI may gain the potential like human writing creativity in the future
<ul style="list-style-type: none">• Maybe, I think AI has the potential to match or surpass human writing creativity in the future

Conclusion: As per the responses above there are varying ideas about whether AI can surpass human writing. Some agree that AI is continuously improving and has the potential to surpass human intelligence and writing talents. The development of feelings in AI is seen as a possible pathway for surpassing human writing. The growth of technology and AI's potential to move past human questioning are considered factors that can contribute to its capacity to match or exceed human writing. On the alternative hand, some argue that AI, being created through humans, cannot fully update the creativity and perception that human beings deliver



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to writing. It is acknowledged from the data that AI is a device and is not likely to update human creativity in the writing method. While AI may also play a larger function in writing, it's far not going to completely take over from human writers. The growing competencies of AI lead some to agree with that it could surpass human writing, even as others are unsure or skeptical. The ability of AI to surpass human writing is considered both possible and uncertain, with some thinking about it as an extensive development and others expressing warning approximately the consequences.

Implications and Future Directions

The integration of AI in the writing landscape has implications for professional writers and authors. AI-generated writing tools can automate certain tasks, such as proofreading and content generation, potentially increasing efficiency and productivity (Lee, 2022). However, there is a concern that the widespread use of AI-generated content could devalue the work of human writers. Writers must adapt to the evolving landscape by leveraging AI tools to enhance their creative process, focusing on the aspects of writing that require human intuition, originality, and emotional depth (Lee, 2022). The use of AI in writing raises ethical considerations and plagiarism concerns. AI-generated content may inadvertently resemble or replicate existing works, leading to issues of copyright infringement and plagiarism. It is essential to develop guidelines, regulations, and ethical frameworks to address these concerns (Casazza & Gioppo, 2020), ensuring that AI-generated content respects intellectual property rights and maintains originality. AI systems can be trained on diverse and unbiased datasets to minimize the risk of reproducing existing works (Marrone et al., 2022). The future of writing creativity lies in collaborative approaches between AI and human writers. AI can serve as a valuable tool for assisting and augmenting human creativity rather than replacing it. For example, AI-generated content can be used as a starting point or source of inspiration, which human writers can then refine, enhance, and infuse with their unique voice and creativity. Collaborative partnerships between AI and human writers can lead to innovative and unexpected outcomes, combining the efficiency of AI with the depth and originality of human expression (Casazza & Gioppo, 2020). The integration of AI in writing creativity has potential applications and benefits. AI-generated writing can be valuable in content creation for various domains, such as news reporting, technical writing, and data analysis, where



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accuracy, efficiency, and consistency are crucial. AI can also be used to personalize content for individual readers, tailoring the writing style, tone, and content to specific preferences. Furthermore, AI-generated content can be utilized in interactive storytelling experiences, video games, and virtual reality applications, enhancing the immersive and interactive nature of these mediums (Miroshnichenko, 2018). As the field of AI continues to advance, future directions in writing creativity may involve the development of AI systems that can learn and adapt in real time, integrating feedback from readers and evolving their writing style and approach (Miroshnichenko, 2018). AI can also be leveraged to create interactive writing tools that facilitate collaboration, idea generation, and collective creativity among writers. Exploring the intersection of AI, natural language processing, and creativity will continue to shape the future of writing and open new possibilities for artistic expression and communication (Ghajargar et al., 2022). In conclusion, the integration of AI in writing creativity presents both opportunities and challenges. While AI systems demonstrate impressive capabilities in generating content, they currently fall short in capturing the depth of emotional expression, originality, and artistic judgment exhibited by human writers. Embracing a collaborative approach, where AI assists and complements human creativity, holds promise for the future. It is essential to address ethical considerations, foster innovation, and leverage AI as a tool to enhance the writing process, ultimately expanding the boundaries of creative expression in the digital age (Ghajargar et al., 2022).

The integration of AI inside the writing landscape has implications for expert writers and authors. AI-generated writing tools can automate certain responsibilities, including proofreading and content generation, doubtlessly increasing performance and productivity (Sundararajan, 2014). However, there's a subject that big use of AI-generated content may want to devalue the work of human writers. Writers must evolve to the evolving panorama using leveraging AI tools to beautify their innovative system, focusing on the factors of writing that require human instinct, originality, and emotional intensity (Lee, 2022). The use of AI in writing increases moral issues and plagiarism concerns. AI-generated content material might also inadvertently resemble or replicate present works, main to troubles of copyright infringement and plagiarism(Main et al., 2022). It is crucial to increase recommendations, rules, and moral frameworks to address those worries, ensuring that AI-



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generated content material respects highbrow assets' rights and keeps originality. AI systems can be educated on various and impartial datasets to limit the threat of reproducing present works (Marrone et al., 2022). The future of writing creativity lies in collaborative processes among AI and human writers. AI can function as a valuable device for supporting and augmenting human creativity instead of replacing it. For example, AI-generated content material may be used as a starting point or source of suggestion, which human writers can then refine, decorate, and infuse with their particular voice and creativity (Kantosalo & Riihiaho, 2019). Collaborative partnerships between AI and human writers can lead to modern and surprising consequences, combining the performance of AI with the intensity and originality of human expression (Salami, 2019)

Conclusion

The evaluation between AI-generated writing and human writing creativity highlights the strengths and obstacles of every technique. While AI structures excel in producing coherent and contextually applicable content material, they warfare to capture the intensity of emotional expression, originality, and artistic judgment exhibited through human writers (Yu, 2023). Human writers own precise views, creativeness, and the potential to awaken feelings and create compelling narratives that AI structures presently can not reflect (Sundararajan, 2014). However, the mixing of AI in writing creativity opens up new possibilities and possibilities. AI-generated writing tools can enhance sure components of the writing manner, growing efficiency and productiveness for writers (Micchi et al., 2021). Collaborative strategies, where AI assists and augments human creativity, maintain promise for future improvements. By leveraging AI as a tool and combining it with human intuition, originality, and emotional intensity, writers can discover new paperwork, experiment with specific patterns, and push the boundaries of traditional writing (Main et al., 2022). Ethical considerations and plagiarism concerns have to be addressed to make sure that AI-generated content respects intellectual property rights and maintains originality. Guidelines, rules, and ethical frameworks must be advanced to manipulate the usage of AI in writing and guard the rights of human authors (Kantosalo & Riihiaho, 2019)

REFERENCES



DOI: <https://doi.org/10.51767/jc1502>

- [1] Anantrasirichai, N., & Bull, D. (2022). Artificial intelligence in the creative industries: a review. *Artificial Intelligence Review*, 55(1). <https://doi.org/10.1007/s10462-021-10039-7>
- [2] Casazza, M., & Gioppo, L. (2020). A playwriting technique to engage in a shared reflective enquiry about the social sustainability of robotization and artificial intelligence. *Journal of Cleaner Production*, 248. <https://doi.org/10.1016/j.jclepro.2019.119201>
- [3] Cooper, G. (2023). Examining Science Education in ChatGPT: An Exploratory Chapter of Generative Artificial Intelligence. *Journal of Science Education and Technology*. <https://doi.org/10.1007/s10956-023-10039-y>
- [4] Ghajargar, M., Bardzell, J., & Lagerkvist, L. (2022). A Redhead Walks into a Bar: Experiences of Writing Fiction with Artificial Intelligence. *ACM International Conference Proceeding Series*. <https://doi.org/10.1145/3569219.3569418>
- [5] Gobet, F., & Sala, G. (2019). How artificial intelligence can help us understand human creativity. *Frontiers in Psychology*, 10(JUN). <https://doi.org/10.3389/fpsyg.2019.01401>
- [6] Hitsuwari, J., Ueda, Y., Yun, W., & Nomura, M. (2023). Does human–AI collaboration lead to more creative art? Aesthetic evaluation of human-made and AI-generated haiku poetry. *Computers in Human Behavior*, 139. <https://doi.org/10.1016/j.chb.2022.107502>
- [7] How to optimize marketing strategy development: A potent blend of human and artificial intelligence. (2020). In *Strategic Direction* (Vol. 36, Issue 8). <https://doi.org/10.1108/SD-05-2020-0106>
- [8] Kantosalu, A., & Riihiaho, S. (2019). Quantifying co-creative writing experiences. *Digital Creativity*, 30(1). <https://doi.org/10.1080/14626268.2019.1575243>
- [9] Karimi, P., Rezwana, J., Siddiqui, S., Maher, M. Lou, & Dehbozorgi, N. (2020). Creative sketching partner: An analysis of human-AI co-creativity. *International Conference on Intelligent User Interfaces, Proceedings IUI*. <https://doi.org/10.1145/3377325.3377522>



DOI: <https://doi.org/10.51767/jc1502>

- [10] Leach, N. (2022). AI and the limits of human creativity in urban planning and design. In *Artificial Intelligence in Urban Planning and Design: Technologies, Implementation, and Impacts*. <https://doi.org/10.1016/B978-0-12-823941-4.00013-5>
- [11] Lee, H. K. (2022). Rethinking creativity: creative industries, AI and everyday creativity. *Media, Culture and Society*, 44(3). <https://doi.org/10.1177/01634437221077009>
- [12] Main, A., Grierson, M., Yamada-Rice, D., & Murr, J. (2022). Augmenting Personal Creativity with Artificial Intelligence Workshop proposal for Creativity and Cognition 2022. *ACM International Conference Proceeding Series*. <https://doi.org/10.1145/3527927.3531205>
- [13] Mammen, C. E., & Richey, C. (2020). AI and IP: Are Creativity and Inventorship Inherently Human Activities? *FIU Law Review*, 14(2). <https://doi.org/10.25148/lawrev.14.2.9>
- [14] Mazzone, M., & Elgammal, A. (2019). Art, Creativity, and the Potential of Artificial Intelligence. *Arts*, 8(1). <https://doi.org/10.3390/arts8010026>
- [15] Micchi, G., Bigo, L., Giraud, M., Groult, R., & Levé, F. (2021). I Keep Counting: An Experiment in Human/AI Co-creative Songwriting. *Transactions of the International Society for Music Information Retrieval*, 4(1). <https://doi.org/10.5334/tismir.93>
- [16] Miroshnichenko, A. (2018). AI to bypass creativity. Will robots replace journalists? (The answer is “yes”). In *Information (Switzerland)* (Vol. 9, Issue 7). <https://doi.org/10.3390/info9070183>
- [17] Rezwana, J., & Maher, M. Lou. (2022a). Designing Creative AI Partners with COFI: A Framework for Modeling Interaction in Human-AI Co-Creative Systems. *ACM Transactions on Computer-Human Interaction*. <https://doi.org/10.1145/3519026>
- [18] Rezwana, J., & Maher, M. Lou. (2022b). Understanding User Perceptions, Collaborative Experience and User Engagement in Different Human-AI Interaction Designs for Co-Creative Systems. *ACM International Conference Proceeding Series*. <https://doi.org/10.1145/3527927.3532789>



DOI: <https://doi.org/10.51767/jc1502>

- [19] Rohrmeier, M. (2022). On Creativity, Music's AI Completeness, and Four Challenges for Artificial Musical Creativity. In *Transactions of the International Society for Music Information Retrieval* (Vol. 5, Issue 1). <https://doi.org/10.5334/tismir.104>
- [20] Salami, N. S. (2019). Human Creativity and Artificial Intelligence (AI): Two Distinct Requirements for Sustainable Competitive Advantage. *Westcliff International Journal of Applied Research*, 2(2). <https://doi.org/10.47670/wuwijar201822nss>
- [21] Sundararajan, L. (2014). Mind, machine, and creativity: An artist's perspective. *Journal of Creative Behavior*, 48(2). <https://doi.org/10.1002/jocb.44>
- [22] Wingström, R., Hautala, J., & Lundman, R. (2022). Redefining Creativity in the Era of AI? Perspectives of Computer Scientists and New Media Artists. *Creativity Research Journal*. <https://doi.org/10.1080/10400419.2022.2107850>
- [23] Wu, Z., Ji, D., Yu, K., Zeng, X., Wu, D., & Shidujaman, M. (2021). AI Creativity and the Human-AI Co-creation Model. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 12762 LNCS. https://doi.org/10.1007/978-3-030-78462-1_13
- [24] Xu, S., & Wang, Z. (2021). Diffusion: Emotional visualization based on biofeedback control by eeg: Feeling, listening, and touching the real things through human brainwave activity. *Artnodes*, 2021(28). <https://doi.org/10.7238/a.v0i28.385717>
- [25] Yu, E. (2023). INTELLIGENT ENOUGH? ARTIFICIAL INTELLIGENCE FOR ONLINE LEARNERS. *Journal of Educators Online*, 20(1). <https://doi.org/10.9743/JEO.2023.20.1.16>