

Algorithmic Creativity: Transforming Authorship and Cultural Production in the Age of AI

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Abstract

The recent progress in developing and integrating generative artificial intelligence (AI) into different aspects of people's lives has created opportunities for expanding creative possibilities for various professions. However, it is important to evaluate the relationship between AI technologies and the notion of creativity to understand how AI may affect different professions involved in artistic and cultural activities. Specifically, it can be suggested that generative AI has two major roles in creative activity: one that fosters creativity and democratises the process of creation, and another that dilutes it by encouraging derivative work. This research aims to determine which option applies to reality and whether there should be certain concerns regarding using AI technologies in creative industries. Based on a qualitative analysis of the current literature and the use of illustrative cases from the visual arts and architecture to provide examples of possible effects of the integration of AI, the following criteria will be considered: authorship, originality, creative agency, and the influence of the use of AI on professional practice. It is expected that the research results will reveal that, despite the opportunities that are provided to people, the use of AI in creative practices may contribute to homogeneity, loss of cultural context, and the blurring of boundaries between originality and plagiarism. In particular, distributed authorship can be noted, which means that creative works are no longer the result of individual efforts but products of cooperation between people and machines.

Keywords: Artificial Intelligence (AI), Generative AI, Creativity, Computational Creativity, Authorship, Creative Agency, Democratisation of Creativity, Cultural Homogenization, Originality, Architecture and Design

Introduction

The rapid growth of artificial intelligence (AI), especially generative AI, has changed the landscape of creative production in areas like visual arts, design, architecture, and literature. Tools that can generate images, texts, and spatial concepts through algorithms are no longer just for technical experiments; they have become part of mainstream creative work. This change marks a significant shift from traditional forms of creativity, which have long been seen as uniquely human and based on personal expression, cultural context, and experience.

Today, AI acts not just as a passive tool but as an active part of the creative process. It can create outputs that often match or exceed human work in speed, scale, and visual complexity. This development has led to a new kind of collaboration between humans and AI, where creativity is shared between human intention and machine computation. While this transformation broadens what can be made, it also raises important questions about the nature of creativity.

A key claim about AI is its potential to make creativity more accessible. By reducing technical barriers and providing access to advanced tools, AI lets people without formal training engage in creative production. This increased access challenges traditional hierarchies within creative industries and changes who can participate in design and art.

However, this democratisation has its challenges. AI systems depend on large datasets made from existing works, which raises concerns about originality, authorship, and the ethical use of shared cultural knowledge.

At the same time, critics worry that AI-generated content might standardise creative outputs. Algorithms often reproduce the patterns, styles, and biases found in their training data. This can threaten cultural uniqueness, diversity, and depth in creative expression. In fields like architecture and experiential design, where context, human experience, and cultural identity matter, this could lead to environments that are visually striking but conceptually shallow or globally uniform.

Moreover, using AI raises complicated questions about authorship and creative ownership. When creative outputs result from algorithmic processes driven by human prompts, we must ask: who is the true author, the human, the machine, or the dataset that shaped the output? This uncertainty complicates current ideas about intellectual property and ethical accountability, making it harder to define creative agency.

Given these changes, this paper looks closely at AI's dual role in creative fields. It investigates whether AI acts as a tool for making creative expression more democratic or if it contributes to the loss of originality and cultural diversity. By examining the effects of AI on authorship, creative processes, and cultural production, the study aims to position AI as not just a technological progress but a transformative force reshaping the foundations of creativity.

Apart from its role in the creative industry, artificial intelligence is proving increasingly revolutionary in helping to solve environmental challenges through sustainability, especially in the renewable energy sector. Artificial intelligence is being used in renewable energy in order to make energy production, distribution, and consumption more efficient by making use of large volumes of data in real-time analysis. With respect to renewable energy like solar and wind energy, artificial intelligence can help make energy forecasts more accurate by taking into account factors such as weather conditions and demand changes. Also, AI has helped make energy grids intelligent, which has resulted in balancing energy loads and integrating energy from various dispersed sources. (Mahla et al., 2017) Despite these positive contributions of artificial intelligence towards global environmental concerns, it becomes clear that its applications have extended further into other areas, and thus require critical consideration beyond the purely technical perspective.

Objectives

1. To analyse how AI tools are transforming creative processes across disciplines such as art, design, and architecture.
2. To investigate the changing notion of authorship and originality in AI-assisted creative outputs.
3. To evaluate whether AI enhances accessibility and democratisation of creativity.
4. To examine the risks of creative homogenization, bias, and cultural dilution in AI-generated content.

Literature Review

Artificial Intelligence as a Creative Agent

The rapid growth of generative artificial intelligence (AI) has changed the landscape of creative work. Now, AI is not just a tool; it actively participates in creating art. Recent studies show that AI systems, especially those using machine learning and large datasets, can produce visual, text, and spatial works. This challenges the old view that creativity belongs only to humans (Reimagining Human Creativity, 2025). These systems use pattern recognition, probabilistic modelling, and recombination, leading to what is now called computational creativity.

Researchers are increasingly viewing creativity as a shared process. Ideas come from the interaction between human intent and algorithmic generation (Artificial Intelligence Reshapes Creativity, 2024). This change aligns with posthumanist views, which question the idea that only humans can create culture. In this context, AI is seen as a partner

in the creative process. This shifts the role of the designer or artist from being the only creator to being a collaborator or curator. Now, the creative process is not straightforward or focused solely on humans. Instead, it is networked and repetitive, involving both human thinking and machine processing.

Theoretical Frameworks of Creativity: Human vs Computational

The rapid development of generative artificial intelligence (AI) has changed the landscape of creative practice. AI is now seen not just as a tool but as an active participant in producing creative outputs. Current research shows that AI systems, especially those based on machine learning and large datasets, can generate visual, textual, and spatial compositions. These creations challenge the traditional view of creativity as something unique to humans (Reimagining Human Creativity in the Age of Generative AI, 2025). These systems work through pattern recognition, probabilistic modelling, and recombination, leading to what we now call computational creativity

Traditional theories of creativity focus on traits like intentionality, originality, emotional depth, and contextual meaning. In this context, creativity is rooted in human experience and shaped by social and cultural factors. On the other hand, computational creativity views creativity as the ability to generate outputs that are statistically novel and relevant within a dataset. This raises an important question: Can algorithmic novelty be considered the same as human creativity?

From a sociological angle, creativity is linked to cultural capital, as noted by Pierre Bourdieu. This means the knowledge, experiences, and cultural skills that influence creative expression (Bourdieu, 1986). AI systems, which lack personal experience and cultural context, operate only within the limits of their training data. This restricts their ability to create outputs that carry meaningful context or cultural nuance. While AI-generated works may show formal innovation, many scholars argue they often miss the intentionality and emotional depth found in human creativity (Generative AI in Art and Literature Creation, 2024). Additionally, research indicates that AI-generated creativity is mainly derivative, as it depends on recombining existing patterns instead of creating truly original ideas (The Creativity of Artificial Intelligence, 2026). This has led to ongoing debates about whether AI expands human creativity or merely mimics it.

While traditional creativity is rooted in human experience, computational creativity relies on the structural efficiency of machine learning models. The ability of an AI to "learn" artistic styles is fundamentally a result of architectural frameworks designed to optimise data processing. Research by Kaur and Gupta (2019) suggests that the performance of these constructive neural networks is dependent on the underlying framework, which allows the machine to build complexity over time. Furthermore, the use of specific algorithms, such as the extended bipolar sigmoid algorithm, can significantly enhance the performance and learning speed of these networks (Kaur & Gupta, 2020). In the context of creative production, this technical optimisation is what enables generative AI to mimic the visual complexity of human art, even if it lacks the emotional depth of a human creator.

Authorship, Agency, and Creative Control

The integration of AI into the creative process has challenged the conventional meaning of authorship and creative agency. The conventional meaning of authorship has been based on the idea of the sole creator who has full control of the creative process. The integration of AI into the creative process has fragmented the meaning of authorship.

Recent literature has introduced the idea of "entangled authorship," where the creative output is the result of the interaction between the input of the artist, the AI algorithm, and the training data (Agency and Authorship in AI Art, 2025). This idea of entangled authorship is also in line with the idea of the Actor-Network Theory (ANT), which emphasises that both the human and the non-human actors are involved in the production of the outcome of the networked system (Latour, 2007). From this perspective, the role of AI is that of the actor that influences the outcome of the creative work.

At the same time, the idea of the creative control theory has also emerged, where the role of the human as the sole author of the work is emphasised based on the level of control that the human has on the creative process (Authorship in Human-AI Collaborative Creation, 2025). The idea of the creative control theory emphasises that the act of controlling the output of the AI is also the act of authorship, although this act of authorship is different from the conventional meaning of the act of creating.

However, the question of the ownership of the work of art created by the AI also involves the issue of the training data of the AI, which may be composed of large quantities of the work of different artists. The idea of the "hypercommons" emphasises that the work of the AI is the result of the common knowledge of the artists, which also involves the question of the violation of the rights of the artists (Generative AI as Hypercommons, 2024).

Democratisation of Creativity

Perhaps one of the most cited benefits of the role of artificial intelligence within creative fields is its capacity to "democratize creativity by lowering technical hurdles and making creative tools more accessible." This is because "AI platforms allow people without formal training to produce high-quality visual, textual, and design work, thus upending traditional power structures within creative industries" (AI and the Future of Creative Development, 2025).

This, of course, has several important implications, particularly in relation to the role of participation and inclusivity. Indeed, it could be argued that this role of artificial intelligence is, in a sense, a "means of empowerment, helping to bring new forms of creativity and innovation." Nevertheless, it is important to note that such a role of "democratisation" is not without its limitations. Indeed, it has been argued that "AI may make creative tools more accessible, but it does not necessarily make people more creative or foster creative skill-building."

It has also been noted that "AI-generated work is so easy to produce, it may actually lead to a lack of critical thinking and creativity." Therefore, it is important to note that "democratisation is not just a matter of access but also of quality and depth."

Homogenization and Cultural Dilution

However, a significant amount of research suggests that the use of AI can also lead to a homogenization of creative content. This is because the content generated by the AI will be based on the patterns, styles, and aesthetics of the content from which the training data was collected. This can result in creative content that, though highly aesthetic, also shows a high degree of similarity in terms of style and content, regardless of the creator or context (Generative AI in Art and Literature Creation, 2024).

Empirical research on the use of AI in creative tasks suggests that, though the use of AI can increase productivity, it can also result in a decrease in diversity in creative content, as different individuals tend towards a similar style of creative content. This can be a cause for concern for the loss of originality in creative content and the rise of a globalised aesthetic, where local cultures are overridden by a global aesthetic.

From a cultural perspective, this can be understood as a form of homogenization, where global systems of production override differences and lead to the marginalisation of localised cultures and identities. This can be particularly problematic in the case of AI, as the algorithms used in the production of creative content can also be biased towards certain cultures or aesthetics, leading to the marginalisation of other cultures and the promotion of a hegemonic aesthetic.

Methodology

Research Design

In order to investigate how artificial intelligence affects creativity in modern creative fields, this study uses a qualitative and critical research design. The study aims to explore the conflict between the democratisation of creativity and the possible homogenization of creative outputs. It is mainly theoretical in nature and is backed by case-based analysis.

Before focusing on architecture and design as a discipline of personal and contextual relevance, the study is organised to first examine AI's role across general creative domains. This enables a more grounded disciplinary insight as well as a broad conceptual understanding.

Data Sources

This research is based entirely on secondary data, derived from:

- Peer-reviewed journal articles about creativity and artificial intelligence
- scholarly works on cultural theory, authorship, and computational creativity
- Recent research on generative AI tools and conference papers

Analytical Framework

The analysis employs a theory-driven and comparative framework, organised around the following principal dimensions:

1. **Authorship and Agency:** Look at who owns the creative rights to AI-assisted outputs. Uses ideas like "distributed creativity" and "entangled authorship"
2. **Originality and Creativity:** Look at the differences between outputs made by humans and AI. Evaluate whether AI generates genuine originality or derivative recombinations.
3. **Democratisation vs Skill Dilution:** Look at how easy it is to use AI tools and whether that makes creative expertise less deep.
4. **Homogenization and Cultural Impact:** Look at stylistic similarities between AI outputs and look into the risks of cultural flattening and loss of diversity.
5. **Industry and Practice Implications:** Look at how AI is changing the way people work in creative fields, with a focus on the designer/architect's job.

This multi-layered framework allows for a systematic evaluation of AI's impact across both theoretical and practical dimensions.

Comparative Analysis: Human vs AI Outputs

A fundamental aspect of this research entails a comparative analysis between human-generated and AI-generated works. This comparison is about:

- Process (planned design vs. prompt-based generation)
- Output (depth, variety, and relevance to the situation)
- Creative agency (making decisions vs. using algorithms to make things)

This comparison is not meant to show which is better, but to critically look at the differences in creative logic and production.

Limitations of the Study

This research is subject to several limitations:

- The study relies solely on secondary data, without primary empirical validation
- Case studies are illustrative rather than exhaustive, limiting generalizability
- The rapidly evolving nature of AI technologies means that findings may become outdated
- Subjectivity is inherent in qualitative and critical analysis

Analysis and Discussion

Transformation of the Creative Process: From Tool to Co-Creator

The use of artificial intelligence in the process of creating works of art is a radical departure from the traditional understanding of how creative processes should take place. In general, the creative process in any field of activity, including art, design, and architecture, is associated with iterative procedures and reflections, involving cognitive processes, experiences, and deliberate choices made by people. At the same time, generative AI changes the way in which creative processes occur in terms of the role played by humans and technology.

AI allows for transforming the process of making a work of art or design into a more mechanical process of producing certain outputs based on the prompts provided by a person. Hence, rather than actively creating something, an individual is engaged in curating a certain piece of work through suggesting inputs and choosing the output. Such a process of making works is consistent with the idea of distributed creativity that was already mentioned in existing studies. Still, this new approach also has some limitations.

Specifically, the outputs generated by AI are not always aligned with the context of the application and cannot provide people with a sense of spatiality in architectural projects. This observation means that, although AI can help create complex designs, it cannot guarantee the same level of intentionality and human-like experiential qualities inherent in the works created by people.

Crisis of Authorship and Creative Agency

The destabilisation of the concept of authorship is among the crucial impacts of integrating AI in creative processes. Traditionally, authorship was defined as being closely associated with human intentionality, control, and originality in the process of creation. On the contrary, when using the creative power of AI, a person can produce the final product by interacting with an algorithm and relying on a pre-defined dataset.

Thus, the notion of ambiguous authorship emerges as people start losing control over the process and becoming less responsible for the product. While the theory of creative control suggests that humans still exercise their control over the process and remain the true authors, it fails to understand the extent of influence exerted by AI in this situation. An algorithm is not simply used as an instruction executor but as a powerful agent capable of interpreting data and creating new objects.

Moreover, when relying on pre-defined sets of data created by many other uncredited people, one faces certain problems connected to copyright infringement and ownership. It is almost impossible to trace who exactly was behind the creation of particular AI-based products, which makes it difficult to address issues of ownership and authorship of the product.

Democratisation of Creativity vs Dilution of Skill

One much-acclaimed advantage of artificial intelligence is the democratisation of creativity through the provision of high-level software for people who would otherwise not have had access to such technologies. People lacking formal education in creative arts can produce outstanding designs, artwork, or visual architecture relatively easily. These changes disrupt the established hierarchy of the creative industry and promote inclusion.

Nevertheless, one should take a closer look at how this democratisation works. By making things easier for those interested in creative expression, AI undermines the significance of developing specific skills and experimenting with materials and different approaches. Ease of use could cause people to treat creativity as a mechanical procedure rather than a process involving deep cognitive work and thoughtful contemplation.

In such circumstances, the position of creative professionals is reconsidered. Instead of valuing their technical skills, clients might focus more on their ability to curate and make critical evaluations of the results provided by various technologies. It means that the expertise of designers and artists becomes associated with critical thought rather than technical skill.

Homogenization of Creative Output

Although the use of AI has great potential for extending creative horizons, there is an inherent danger of homogenisation in its application. The reason is simple: any model that relies on learning from existing works will always have some degree of style consistency built into it. Consequently, AI outputs are likely to be highly similar, especially if the same prompt or tool was used.

This similarity could easily translate into an overall aesthetic uniformity, wherein the creative works generated by individuals from different contexts begin to bear some resemblance to each other. While this might take the form of specific "AI styles" in the visual arts, it could lead to an excessive reliance on formal languages with little contextual relevance in architectural design.

In cultural terms, this would represent a major problem. Creativity is usually grounded in local knowledge and traditions. Using an AI system based on a globally aggregated dataset could undermine the specificity of creative works, effectively producing a globalised design language that ignores local knowledge systems altogether.

Ethical and Industry Implications

However, the application of AI in creative industries also brings up issues surrounding ethics and professionalism. Concerns about data use, consent, and intellectual property remain unresolved because of the lack of proper protocols and guidelines for using AI in creative processes. In addition, since most AI technologies operate based on training from copyrighted or non-attributed content, the problem of unethical behaviour exists.

Within the creative industry, AI has been changing the ways people work, collaborate, learn, and create. On the one hand, the use of AI can facilitate the creation process by automating some tasks, providing faster results, and increasing possibilities. However, AI also poses threats to human jobs, authorship, and creativity itself, which makes people unsure about whether or not to embrace the new technology. Moreover, as the technology evolves and more people adopt it, the notion of professional expertise may change, making the knowledge of AI a requirement for creative professionals.

The issue of artificial intelligence and creative process also touches on the topic of architecture and design. Despite the focus on creating something aesthetically pleasing and visually appealing, architects must also consider human interactions and cultural aspects when designing structures. Therefore, although the use of AI could potentially enhance the design process, there is still much that cannot be replicated by machines.

Synthesis: Expanding or Constraining Creativity?

The analysis shows that AI is a double-edged sword in creative fields. On one hand, it makes things easier to get to, speeds up production, and opens up new ways to try things out. But it also makes people worry about originality, authorship, and cultural diversity.

Instead of seeing AI as either good or bad, it's better to think of it as a tool that changes the way creativity happens. The effect it has depends a lot on how it is used in creative work. Is it a tool for critical thinking and exploration, or is it a replacement for creative thinking?

The real question is not whether AI can be creative, but whether using it helps or hurts the depth, variety, and purpose that make creative work meaningful.

Conclusion

AI is an emerging disruptive factor in various spheres of human activity related to creativity. This research aimed to find out whether AI is a tool of democratising creative processes or, on the contrary, tends to contribute to their dilution and homogenization. It turns out that the effect of AI in creativity is much more complex than it seems at first sight.

Firstly, it is evident that the use of AI tools contributes to the expansion of opportunities for creative processes and makes them more accessible for wider groups of people. AI lowers the bar regarding skills and experience needed for creating something truly novel and interesting, making the process open for everyone, regardless of formal qualifications. Thus, from this perspective, AI is a great tool for democratizing creativity.

Secondly, while democratising creative processes, AI introduces some limitations to them. For instance, due to the nature of algorithmic thinking, AI requires less skill and effort for creation. People no longer need to experiment and discover ways of using particular tools for creating something new – all you have to do is feed the system with your ideas.

Thirdly, the increasing popularity of AI in creativity leads to the tendency towards the homogenization of creative processes. It results from the algorithmic nature of AI itself. Being based on statistical calculations, AI reproduces the dominant aesthetic tendencies observed in particular datasets, thus contributing to the homogenization of creative products. In other words, the diversity of local cultures is overshadowed by the global culture promoted through AI.

Finally, there appears to be a certain issue with the authorship of AI-created works. Based on the results of this research, we can claim that AI works do not belong to any single person, as multiple people are involved in their creation. AI-generated works represent the collaboration between human creators and the algorithm, and the final product is created based on collective effort.

To sum up, AI creates both democratising and constraining effects on creativity processes. AI opens new opportunities and accelerates the process of creating. At the same time, there appear to be some potential risks associated with skill dilution, homogenization, and ambiguity of authorship of AI-generated works. From this point of view, it becomes clear that AI should be approached critically and responsibly in the creative processes.

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