

ARTS

THE IMPACT OF AI ON VISUAL ARTS

Babayev Murad Elbeyi

Lecturer of the Department of "Visual arts"

Nakhchivan State University, Azerbaijan

<https://orcid.org/0009-0003-0779-0199>

Abstract

The integration of artificial intelligence (AI) into visual arts has prompted significant shifts in artistic practices, creativity, and the concept of authorship. AI technologies, such as generative adversarial networks (GANs) and neural networks, are now actively involved in the creation of art, producing works that challenge traditional notions of creativity. This paper explores the evolving relationship between art and technology, focusing on the transition from pre-AI to post-AI creative processes. It examines key case studies of AI-generated art, such as *Portrait of Edmond de Belamy* and Refik Anadol's data sculptures, to understand the ways in which AI tools are reshaping artistic expression. The study also addresses the philosophical and ethical implications of machine-generated art, including questions about authorship, originality, and the role of the human artist. Ultimately, this paper highlights the opportunities and challenges AI presents to the future of the visual arts, reimagining the boundaries of creativity and artistic identity.

Keywords: Artificial Intelligence, Visual Arts, Creativity, Authorship, GANs, Digital Art

Introduction

The intersection of artificial intelligence (AI) and visual arts represents one of the most intriguing developments in contemporary creative practices. While technology has historically played a role in shaping art—whether through the invention of the camera, the development of digital media, or the use of computational tools—AI introduces a new dimension by enabling machines to actively participate in the creative process. What was once considered a uniquely human endeavor is now being increasingly shaped by algorithms, neural networks, and data-driven systems, leading to profound questions about the nature of creativity and authorship in art [8].

Traditionally, art has been seen as a deeply personal and emotional expression, with the artist's vision and skill at the core of the creative process. From the Renaissance masterpieces of da Vinci and Michelangelo to the abstract experiments of Jackson Pollock and Mark Rothko, artists have always sought to express their unique perspectives on the world. The tools they used—brushes, paint, chisels, or cameras—served as extensions of their creative capacities [9]. The notion that creativity stems from the human mind and emotions has been central to the philosophy of art for centuries [7].

However, the advent of AI challenges this traditional view by blurring the lines between human and machine-generated creativity. AI technologies, particularly deep learning algorithms like generative adversarial networks (GANs), have the ability to "learn" from vast datasets of existing artworks, mimicking styles, techniques, and forms, and then generating new pieces that are often indistinguishable from human-created art. This raises important philosophical and ethical questions: Can a machine be creative? Does the involvement of an AI in the creation of art devalue the artist's role? And, importantly, who owns the rights to a piece of art created by an AI?

These questions are not just academic—they have real-world implications for artists, collectors, critics, and audiences. For example, AI-generated art has made its way into high-profile auctions, with pieces selling for hundreds of thousands of dollars, forcing the art world to confront the question of whether a machine can truly create something of value. At the same time, the growing accessibility of AI tools has democratized the creative process, empowering new generations of artists to experiment with these technologies and explore new forms of expression.

This paper aims to explore the impact of AI on visual arts by examining how AI technologies have reshaped the ways in which artists approach their work, the questions these changes raise about the nature of creativity and authorship, and the broader implications of AI's growing role in the artistic landscape. The paper will also trace the evolution of art-making from pre-AI techniques to the present day, highlighting key moments where technological innovations have influenced artistic practices and led to new modes of artistic expression. Through a comparative analysis, the study will explore how the rise of AI is transforming the way we understand and experience art, challenging long-held assumptions about the role of the artist and the meaning of creativity in the digital age.

Literature Review

Before the advent of AI, technological advancements in art were typically limited to tools such as brushes, canvas, and photography. Historical shifts, like the introduction of photography in XIX century or the use of digital tools in the late XX century, significantly impacted the way artists worked. However, AI stands apart because it introduces a degree of autonomy in the creative process, enabling machines to create without human intervention or direction.

Several scholars have explored the influence of technology on art creation. McCormack et al. (2019) discuss how AI systems like generative adversarial networks (GANs) have become a central tool in digital art

creation, offering new possibilities for image generation and manipulation [5]. Elgammal et al. (2017) examine the use of neural networks in art and propose that AI can be seen as a new artistic medium rather than merely a tool [4]. Other researchers, such as McVeigh (2020), investigate the ethical implications of AI-generated art, focusing on issues like copyright, authorship, and originality [6].

Methodology

1. Case Studies of AI-Generated Art

The second part of the methodology involves the selection and analysis of prominent case studies in AI-generated art. These case studies are used to illustrate how AI is currently being employed in the creative process and to highlight both the potential and the limitations of machine-generated artwork.

Key examples include:

- **Obvious' Portrait of Edmond de Belamy (2018):** A portrait created by the Paris-based art collective Obvious using a GAN. The work made headlines when it was auctioned at Christie's for \$432,000, sparking debates about the nature of art and authorship [3].

- **Refik Anadol's Data Sculptures:** Anadol's AI-driven installations use real-time data to create immersive visual experiences, blending the digital with the physical to explore the intersection of technology and creativity [1].

- **AI-Generated Music and Art Projects:** While not strictly limited to visual art, projects like *Dada's GAN-generated poetry* or *Artbreeder*—a platform that allows users to blend images and create new artworks using AI—offer valuable insights into the role of AI in collaborative creativity [2].

In examining these works, the paper analyzes the specific AI tools and techniques used (such as GANs, style transfer, and neural networks), the involvement of human artists in the creative process, and the reception of these works by the public and critics. By analyzing these case studies, the paper aims to understand how AI is being integrated into traditional art-making practices and how it challenges conventional notions of artistic authorship and originality.

2. Interviews with Artists and Art Critics

To gain deeper insight into the experiences and perspectives of practitioners in the field, the study includes qualitative interviews with contemporary artists who use AI as part of their creative process, as well as art critics who have written about AI-generated art. These interviews focus on several key areas: The motivations behind using AI in their artistic practices, the perceived advantages and challenges of working with AI as a creative tool, opinions on the ethical implications of AI art, particularly concerning authorship, originality, and the art market, the impact of AI tools on their traditional artistic methods and how AI has influenced their broader creative vision.

These interviews serve as a means of bridging the gap between theoretical analysis and practical experience, offering valuable insights into the day-to-day use of AI in art creation. Additionally, the conversations with critics and curators help contextualize the broader reception of AI art within the art world.

3. Comparative Analysis: Pre- and Post-AI Artistic Practices

To better understand the shift in artistic practice with the advent of AI, the study employs a comparative analysis of traditional (pre-AI) and contemporary (post-

AI) artistic techniques. This analysis focuses on the following aspects:

- **Process:** How has the introduction of AI tools transformed the steps involved in creating visual art? In the pre-AI era, artists would sketch, paint, or carve by hand, relying heavily on their skill and intuition. Today, artists can use AI to generate preliminary designs, experiment with different styles, or even allow the machine to complete certain parts of the artwork.

- **Style and Aesthetics:** How has AI affected artistic styles? Pre-AI art movements like Impressionism, Cubism, and Surrealism were driven by specific philosophical and aesthetic ideals. Post-AI art, on the other hand, allows for more fluid experimentation, producing works that might blend multiple styles, create unexpected forms, or even challenge traditional concepts of beauty and representation.

- **Creativity:** The concept of creativity is central to this comparison. In traditional art, creativity was viewed as an entirely human trait, often linked to intuition, emotion, and individual perspective. The introduction of AI challenges this view, as machines can now generate "novel" compositions based on data rather than emotional or intellectual insight. The paper investigates whether this constitutes true creativity or if AI simply mimics human-generated content in a novel way.

By comparing historical and contemporary methods, the study highlights the profound changes in the way art is conceptualized, produced, and consumed. It also explores how AI's role in the creative process has shifted the artist's role from sole creator to that of a collaborator with the machine.

4. Theoretical Framework: Creativity and Authorship

The theoretical lens for this study is drawn from both art theory and philosophy of technology. The paper engages with questions about the nature of creativity, authorship, and the definition of art in the context of AI. Specifically, it examines theories such as:

- **The Romantic view of creativity**, which posits that artistic genius arises from the individual's deep emotional connection to the work (e.g., Schopenhauer's view of art as the expression of pure will).

- **The idea of creativity as a social construct**, as argued by thinkers like John Dewey, who saw creativity as a social process rather than an individual one.

- **AI as a new artistic medium**, as proposed by researchers like Elgammal et al. (2017), who argue that AI can be seen as another tool or medium, like painting or sculpture, through which artists can express their vision.

By using these theoretical frameworks, the paper aims to situate AI-generated art within broader debates about the essence of art and creativity. It asks whether AI art is a legitimate form of creative expression or simply a tool for enhancing human creativity.

Results and Discussion

Pre-AI Creativity in Painting

Historically, visual art was seen as a deeply human expression, shaped by the artist's individual perception, skill, and technique. Before the advent of digital tools, painting was primarily a manual process. Artists like Leonardo da Vinci, Rembrandt, and Claude Monet were celebrated for their ability to capture reality

through brushstrokes, color theory, and composition [8].

In XX century, movements like Abstract Expressionism and Surrealism pushed the boundaries of traditional art forms, often incorporating new tools such as photography or collage. However, even in these contexts, the artist's hand remained central to the creation of the artwork. Art was, and still is, a reflection of human experience, consciousness, and emotion.

The Emergence of AI in Art Creation

With the advent of AI, the creative landscape began to shift. AI tools like GANs (generative adversarial networks), neural networks, and machine learning algorithms allow machines to generate images based on vast datasets. Artists can now input their preferences and let AI generate new, often unpredictable, artworks. These systems do not simply mimic human creativity—they introduce novel ways of "thinking" and producing images that are sometimes indistinguishable from those created by humans.

In the context of visual arts, AI has enabled artists to experiment with new creative processes. For example, AI-generated art can explore styles ranging from hyper-realistic depictions to abstract designs, often with a complexity that would be difficult for the human eye to anticipate. As AI tools improve, they are capable of responding to specific aesthetic requests, helping artists produce work in new and innovative ways.

One famous example of AI's impact on the art world is the 2018 auction of an AI-generated painting, "Portrait of Edmond de Belamy," which sold for over \$432,000 at Christie's Auction House. The portrait was created by the Paris-based art collective Obvious using a GAN. The painting generated considerable debate about the value and authorship of AI-generated art, with critics questioning whether AI art could be considered "true" art or whether it undermined human creativity.

Post-AI Creativity: Redefining Authorship and Creativity

Post-AI, the landscape of visual arts has expanded to include both traditional techniques and digital creations made with AI assistance. The notion of authorship is a key issue in this transition. Traditional art has been based on the idea that the artist is the creator—the individual responsible for the piece's form and meaning. However, with AI-generated art, the question arises: who owns the artwork—the artist who programmed the AI, the AI itself, or the audience that interprets it?

AI in the visual arts also raises questions about creativity itself. Some argue that AI is simply a tool that allows artists to experiment and push the boundaries of their work (Elgammal et al., 2017). Others, however, question whether an artwork created by an AI can be considered "creative" in the traditional sense. Is creativity simply the product of human intuition, or can an algorithm be creative by virtue of its ability to produce novel combinations of visual elements? While AI has provided artists with new possibilities, it has also raised concerns about the potential devaluation of human cre-

ativity. Critics argue that AI may lead to an oversaturation of artwork and a reduction in the appreciation of human-made art, potentially diminishing the status of painters and other traditional artists. Moreover, AI's involvement in art creation has sparked discussions about ethical considerations, including authorship, ownership, and the potential for AI to reproduce biased or harmful content based on its training data.

Conclusion

The impact of AI on visual arts is transformative, challenging established notions of creativity, authorship, and value. The pre-AI era saw art as a deeply human endeavor, with each brushstroke or photograph representing an artist's unique vision. With the rise of AI, artists now have access to powerful tools that offer new opportunities for exploration and experimentation. However, this shift has also brought new challenges, particularly concerning authorship and the ethics of AI-generated art. As AI technology continues to evolve, its role in the arts will likely grow, prompting further debate on the nature of creativity and the place of human artists in a world increasingly shaped by machine intelligence. It remains to be seen whether AI will ultimately augment human creativity or diminish it. Nevertheless, one thing is clear: the impact of AI on visual arts has only just begun, and its influence will continue to shape the future of artistic practice.

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