Original Article

A Digital Aesthetics? Artificial Intelligence and the Future of the Art

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Abstract
Artificial intelligence has brought about significant changes in various creative domains, sparking discussions about the nature of art and its authenticity in the era of AI. Some scholars assert that the computer monitor now serves as a canvas, a brush, a musical instrument, and even an art tutor, leading us to explore deeper connections between AI and creativity. However, in this presentation, we wish to emphasize the humanistic dimension of creative processes once more. we acknowledge the role of AI in enhancing creative endeavors, but we firmly believe that human creativity remains paramount in the production of artistic works. The current notion of machines replacing artists is, in our view, more of a media sensation than a reality. Examining the history of electronic arts, our paper argues that claims of AI's artistic superiority are not novel; they echo similar trends from the past. The current enthusiasm mirrors earlier media frenzies. While the sciences have made significant strides in unraveling the mysteries of the human brain, our understanding of the intricacies of our remarkably creative minds, their origins, and their fulfillment in our brains

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remains quite limited. Until these processes are thoroughly comprehended, artistic creation will continue to be a distinctly human endeavor.

Key words: artificial intelligence, creative processes, philosophy of the arts, virtual art.

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Introduction

Art, the quintessential expression of human creativity, has witnessed profound transformations throughout history. From the intricate cave paintings of Lascaux to the breathtaking masterpieces of the Renaissance, art has evolved as a reflection of our cultural, technological, and intellectual progress. Today, we stand at the threshold of a new frontier in artistic exploration—one where the brush strokes of genius are often rendered not by human hands but by algorithms and neural networks (Zohouri et al., 2021). This article explores into the fascinating realm where art and artificial intelligence converge, raising fundamental questions about the future of artistic creation, authenticity, and the very essence of human creativity. In the not-so-distant past, the realm of art was firmly grounded in the traditions of physical craftsmanship. Painters skillfully wielded brushes, sculptors chiseled marble, and musicians played instruments, all in a quest to give life to their artistic visions. These artists were revered for their unique abilities to convey emotions, tell stories, and provoke thought through their works. However, the advent of artificial intelligence (AI) has introduced a paradigm shift, challenging age-old notions of artistic authenticity.

In the age of AI, the canvas is no longer confined to physical dimensions, nor is the artist bound by flesh and blood. Computers, once mere tools for artists, have now become creators in their own right. Algorithms, fueled by vast datasets and intricate neural networks (see for example Nosrati et al., 2020), generate artworks that blur the line between human and machine. These digital Picassos produce paintings, sculptures, and even music compositions that elicit awe and contemplation.

Consider the works of "AIVA," an AI composer that crafts symphonies capable of moving the human soul. Or "DALL-E," an AI that conjures surreal and captivating images from textual descriptions, sparking the

imagination in ways previously unimagined. These AI-driven creations challenge our preconceived notions of what is achievable in the realm of art. They beckon us to ponder whether the hand that guides the brush or the fingers that press the keys matter as much as the creative impulse itself.

As AI steadily infiltrates the artistic landscape, questions of authenticity reverberate through the art world. Can an AI-generated masterpiece possess the same value and emotional resonance as a painting by a renowned human artist? Does the absence of a human creator diminish or enhance the authenticity of the work? These questions are not merely philosophical musings; they strike at the heart of how we perceive and appreciate art.

The proponents of AI in art argue that these digital creations open new avenues for artistic expression. They celebrate the fusion of human ingenuity and computational prowess, envisioning a future where artists collaborate with algorithms to birth entirely novel forms of phenomena (Sarfi et al., 2021). In this vision, AI augments human creativity, offering tools that transcend the limits of individual talent. It becomes a co-creator, amplifying the artist's intent rather than supplanting it.

Yet, amidst the fervor surrounding AI's potential, a counterpoint emerges—one rooted in the enduring significance of the human touch. While AI can replicate patterns, styles, and techniques, it may lack the profound emotional depth and lived experiences that human artists infuse into their works. Art, for millennia, has been a vessel for human stories, struggles, and triumphs. It embodies our capacity for empathy, our capacity to reflect on the human condition. Can AI truly replicate this profound connection?

Moreover, the act of creating art is often a deeply personal and introspective journey, a reflection of the artist's innermost thoughts and emotions. Human creativity is borne from our unique perspectives, shaped by our experiences and beliefs. AI, however advanced, lacks this innate human essence. It operates on data and algorithms, devoid of consciousness or subjective understanding.

As we navigate this brave new world where algorithms share the stage with artists, it becomes evident that the future of art is both promising and uncertain. The canvas expands to encompass the digital realm, inviting us to explore uncharted territories of creativity. We are presented with a spectrum of possibilities, from collaboration between human artists and AI to the emergence of entirely autonomous digital creators.

In this article, we will go through a multidimensional exploration of AI's impact on the world of art. we will scrutinize the nuances of AI-

generated art, its place in the continuum of artistic traditions, and the implications for artists, scholars and audiences. I'll try to cope with the fundamental question: Can the fusion of art and artificial intelligence illuminate new facets of human creativity, or does it cast a shadow over the authenticity of artistic expression? In order to answer this tricky and elusive question, we should look back at the history of the digital art.

Digital art: A history

Advancements in machine technology are closely tied to the concept of Modernity. In fact, the emergence of the modern world is significantly influenced by these technological breakthroughs that have revolutionized manufacturing and transportation, making traditional methods outdated. This has a noteworthy impact on Modernism—the cultural movements that have embraced the changes characteristic of the modern era. Modernist art has frequently held machinery in high esteem, not just for its role in new forms of production but also as a symbol of change and efficiency. Futurism serves as a prominent example of this sentiment, valuing the energy of technology and modern life, although it tends to inspire art more than serve as its technical foundation. A more integrated relationship between technology and art developed post-World War I, epitomized by institutions like Germany's Bauhaus and the Soviet Union's Vkhutemas, which aimed to blend technological innovation with artistic craftsmanship to produce functional yet aesthetically pleasing items (Crowther, 2018). But the roots of the digital arts should be sought in the years before WWII (Cohen et al., 1997).

It was demonstrated when in 1934, New York's Museum of Modern Art hosted an exhibition focusing on Machine Art. Curated by Phillip Johnson, the exhibit featured everyday industrial items like typewriter springs, ball bearings, and toasters, among others, highlighting their aesthetic attributes. Alfred H. Barr, in his introductory remarks for the exhibit catalog, underscored elements such as kinetic rhythm, material beauty, visual complexity, and abstract geometric form as central tenets of machine art's aesthetic (Crowther, 2018).

Another facet of Modernist interaction between technology and art can be seen in the controversial use of Marcel Duchamp's "ready-mades." These are objects that the artist declared to be art, even though they were manufactured by someone else, often as mass-produced items rather than high-design Bauhaus products (Ibid). The underlying aim of Duchamp's ready-mades is somewhat ambiguous, but it seems, at least partially, to question the undue emphasis placed on the physical process of creating

art. This suggests that the conceptual essence of an artwork may hold greater weight than its material realization (Haralambidou, 2017).

This critical employment of machine-made objects to interrogate the art-making process has been expanded upon in various ways. For instance, in the 1930s, Italian artist Bruno Munari created "useless machines" (*macchine inutili*) as a subtle critique against the Futurists' excessive admiration for mechanical power. Even more pertinent to this discussion is the work of Swiss artist Jean Tinguely. In the 1959 Paris Biennale, he showcased Meta-Matic no 17, which was a drawing machine operated by a motorized arm. The drawing tools could be selected by the viewer, who then participates in the art-making. These machines produce graphics through the layering of harmonic oscillations, generating an unpredictable composition of lines and dots. Tinguely's work serves as an example of how mechanical objects can interact with viewers, serving both as artistic and conceptual apparatuses (Crowther, 2018).

During the late 1950s and 1960s, a handful of visionaries, such as Desmond Paul Henry, Ben F. Laposky, and Vera Molnár, began to use early computers to create art (Caldwell, 2022). Their work was primarily experimental, aiming to understand how technology could serve as a new canvas or even a collaborative partner in the artistic process. These early artworks were often algorithm-based and focused on pattern generation, exploring mathematical beauty and geometric complexity. Desmond Paul Henry was a British artist, philosopher, and academic, primarily remembered for his pioneering work in the field of computer-generated art. Born in 1921, Henry was initially educated in philosophy, earning his Ph.D. with a focus on the philosophy of aesthetics. However, his interests were diverse, covering fields like mathematical logic and machine aesthetics, in addition to philosophy. During the 1960s, Henry repurposed analog computing machines originally designed for military uses in World War II to create unique works of art. He modified these machines to generate intricate, oscillating drawings that resembled complex spider webs, or what some have described as visual harmonics (O'Hanrahan, 2018). His work was considered groundbreaking at the time, as he was among the first artists to explore the potential of using computers as a medium for artistic expression.

The Henry Drawing Computer stands as a seminal piece of technology in the evolution of digital art, representing the creative vision and intellectual rigor of its creator, Desmond Paul Henry. Originally designed in the 1960s, this apparatus wasn't built from scratch as a drawing machine; rather, it was a repurposed analog computer previously used for military purposes during World War II. What Henry achieved

through this conversion was revolutionary at the time: he transformed a machine designed for calculation and warfare into a vehicle for artistic expression.

In 1963, Henry developed another sketching device, which he later referred to as 'The Henry Drawing Computer.' The Henry Drawing Computer's method of creating art was principally algorithmic. Through an elaborate system of gears and mechanical configurations, it generated intricate, oscillatory patterns reminiscent of spider webs or fractal-like designs (O'Hanrahan, 2014). These designs were not merely abstract doodles but rather visual explorations into the nature of mathematical harmonics and geometric form. The drawings emitted a sense of order yet were imbued with a form of chaos, echoing the simultaneous complexity and uniformity present in natural phenomena.

What makes Henry's invention particularly noteworthy is how it melded the worlds of art and technology at a time when the digital age was in its infancy. Before the wide availability of graphical interfaces and the commonality of digital design tools, Henry was already questioning the boundaries between human creativity and machine capabilities. His work served as a harbinger for subsequent generations of digital artists, heralding a future where computers could serve not just as tools, but as collaborators in the creative process. The legacy of the Henry Drawing Computer and its creator is enduring, providing both artists and scholars with a foundational case study in the integration of technological innovation with artistic inquiry. It remains a compelling example of how machines can be repurposed and reimagined to extend beyond their original utility, serving as conduits for human creativity and intellectual exploration. As such, the Henry Drawing Computer stands not just as a milestone in the history of digital art, but also as an eloquent testament to the limitless possibilities that can emerge when art and technology are brought into dialogue (Witt, 2011).

Ivan Sutherland's Sketchpad, developed in 1963, stands as a monumental milestone in the realms of computer science and digital graphics. Created as part of Sutherland's Ph.D. thesis at MIT, Sketchpad was far ahead of its time, laying the foundational elements for interactive computer graphics and the graphical user interface. In essence, Sketchpad was the antecedent to contemporary CAD (Computer-Aided Design) systems and laid the groundwork for the manipulation of visual data on computers (Llach, 2018). The primary innovation of Sketchpad was its ability to enable direct interaction with a graphical display. For the first time, a user could draw shapes on a computer screen using a light pen and manipulate them with unprecedented ease. Prior to

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this, interactions with computers were largely text-based and highly abstract. Sketchpad made it possible to engage with computing in a more intuitive, visual manner, bridging the gap between human thought processes and machine operations.

Moreover, Sketchpad introduced the concept of object-oriented programming, albeit not in the form we recognize today. Each drawn object in Sketchpad could possess its own set of properties and could be manipulated independently, thereby offering an early model for object-based programming. This was revolutionary because it represented a shift from procedural to interactive programming paradigms, an advancement that would shape software development for decades to come (Borning, 2016). What adds to Sketchpad's significance is the range of fields it influenced. It wasn't merely a technological marvel for computer scientists; it had far-reaching implications for engineers, architects, graphic designers, and even artists. By offering a method for precise graphical representation, Sketchpad found applications in areas that required complex simulations, such as structural engineering and aerospace design (Sproull & Brock, 2023).

The On-Line System (NLS), developed by Douglas Engelbart in 1968 at Stanford University's Augmentation Research Center, stands as a cornerstone in the annals of digital art history. Conceived in the 1960s, this revolutionary system was far ahead of its time and laid the foundation for many aspects of contemporary computing that we now take for granted (Ohshima et al., 2022). NLS was not merely an isolated technological artifact; it was a visionary approach to collaborative computing that sought to augment human intelligence and improve the efficacy of human-machine interactions. At its core, the NLS was designed to be a comprehensive, interactive computing environment, providing tools for document editing, programming, and even rudimentary forms of hypertext linking—concepts that were largely unprecedented at that time. But what set NLS apart was its commitment to collaborative work. Engelbart envisioned a system where multiple users could share resources, edit documents simultaneously, and engage in real-time communication. This emphasis on collective intelligence marked a stark departure from the then-prevailing view of computers as standalone, number-crunching machines (Ronchi, 2022).

Perhaps one of the most iconic features of NLS was the introduction of the computer mouse, a pointing device designed to facilitate navigation within the system. While the mouse is ubiquitous today, it was nothing short of revolutionary in the 1960s, embodying Engelbart's broader vision of intuitive, user-friendly interfaces that could unlock

the computer's full potential as an extension of human capabilities (O'Regan, 2021). The impact of NLS has been far-reaching, influencing subsequent developments in both hardware and software. It provided the early blueprints for graphical user interfaces, collaborative software, and networked computing, elements that have since become integral to our digital lives. In that sense, NLS was not just a product of its time but a harbinger of the future, offering glimpses into a world where technology could serve as a powerful amplifier of human thought and collective action.

Douglas Engelbart's NLS serves as a testament to the transformative power of technology when guided by a vision that transcends mere utility to address fundamental questions about human cognition and collaboration. It remains a monumental achievement, echoing through the corridors of computing history and continuing to inspire new generations of technologists and thinkers.

Richard Williams, a pivotal figure in the realm of digital art, made significant contributions during his time at the University of New Mexico in 1968 by developing a computer program known as ART1. In an academic environment that was gradually coming to grips with the transformative potential of computer technology, Williams sought to explore how computational processes could be leveraged to advance artistic creativity. His efforts culminated in ART1, a software designed not just as a tool for artists but as a system capable of generating art autonomously, thereby pushing the boundaries of what we consider to be the creative process. The core innovation of ART1 was its ability to algorithmically create artworks, a functionality that raised profound questions about the role of the artist in the age of mechanical reproduction. By effectively decentralizing the act of creation, Williams prompted a reevaluation of the traditional artist-medium relationship. This was a groundbreaking advancement, heralding a future where the artist could serve more as a guide or curator of the machine's creative output rather than the sole creator. Williams' work at the University of New Mexico during this period served as a catalyst for the broader academic and artistic communities to recognize the potential of digital technologies in art creation. It spurred debates on the essence of creativity, the definition of art, and the ethical considerations surrounding machine-generated art. In essence, Williams and his ART1 program positioned the university as a nexus for the intersection of technology and art, inspiring further research and development in this burgeoning field.

SuperPaint, developed in 1973 by Richard Shoup at Xerox's Palo Alto Research Center (Xerox PARC), marks a watershed moment in

the history of digital art and computer graphics. As one of the earliest digital paint systems, SuperPaint laid the groundwork for the future of computer-aided design and image manipulation software. The system featured pioneering technologies, including anti-aliased lines and the ability to manipulate both "paint" and "draw" modes, thereby offering unprecedented control over digital imagery. It also introduced the concept of "alpha channels," a technique now foundational in image manipulation that allows for the adjustment of pixel opacity (Ichikohji & Ichikohji, 2022). SuperPaint's technological innovations had a profound impact on both the artistic and commercial realms. Artists suddenly found themselves equipped with a new medium that extended beyond the limitations of traditional art forms, enabling digital expression in an increasingly computer-centric world. The platform set the stage for the later development of sophisticated graphic design software, including industry-standard programs like Adobe Photoshop, fundamentally altering how artists and designers approach their craft (Ibid).

Beyond its role as a tool, SuperPaint also served as a conceptual milestone. It questioned the traditional boundaries between human artistry and machine capability, a conversation that continues to evolve in the contemporary digital art landscape. By bridging the technical and creative worlds, SuperPaint not only expanded the toolkit available to artists but also broadened our understanding of what constitutes art in the digital age (Peddie, 2023).

The introduction of MacPaint in 1984 by Apple Inc. stands as a pivotal moment in the advancement of digital art, marking a significant departure from the complex, less accessible programs that had come before it. Released alongside the original Macintosh computer, MacPaint was revolutionary in its user-friendliness, featuring an intuitive graphical user interface that was accessible even to those without specialized technical knowledge. This democratization of digital tools opened the floodgates for broader participation in digital art creation, making it possible for artists and laypeople alike to engage in artistic endeavors using a computer (Conrad et al., 2021).

MacPaint's toolbox offered a variety of features such as brushes, fill patterns, and shapes, allowing for a wide range of artistic expressions. The software provided a canvas that seemed infinite in comparison to the restrictive algorithmic patterns of earlier computer-generated art. Moreover, it supported a cut-and-paste function, facilitating the manipulation and arrangement of different visual elements, a fundamental concept in today's digital design and artistry (Spampinato, 2021). The impact of MacPaint on digital art cannot be overstated.

It did not merely serve as a software application for creating art; it fundamentally redefined the relationship between technology and artistic creation. By making digital art creation more accessible, it encouraged experimentation and innovation, enabling artists to explore new styles and techniques. Consequently, MacPaint can be seen as a catalyst that helped bridge the divide between technology and art, inviting a more inclusive range of participants to contribute to the digital art landscape (Ibid).

The ProPaint software, utilized by pop artist Andy Warhol on a Commodore Amiga 1000 in 1985, holds a special place in the chronicles of digital art. This event signified a momentous intersection between traditional art forms and burgeoning digital technologies. Warhol, already renowned for his ability to blur the lines between commercial and fine arts, took another revolutionary step by adopting this software as a medium. The Commodore Amiga, with its advanced (for the time) graphical capabilities, offered Warhol a digital canvas on which to work, while ProPaint provided a toolkit somewhat analogous to the brushes and paints he would use in the physical world (Sungkar, 2023). The impact of Warhol's use of ProPaint extends beyond mere novelty. It acted as a legitimizing force for digital art forms at a time when the art world was still ambivalent about the artistic validity of computer-generated works. By employing ProPaint, Warhol was tacitly endorsing the capability of digital platforms to be more than just computational tools; they could be artistic mediums with their own unique advantages and constraints. His work with ProPaint displayed an early recognition of the democratic potential inherent in digital art; the technology could make art creation and appreciation more accessible to the masses, paralleling his own philosophies about art's role in society. The ProPaint episode encapsulates a transitional moment for art and technology, representing a step toward the widespread acceptance of digital methods in artistic creation. It wasn't just about the technology; it was about the possibilities that technology could unlock in the realm of artistic expression (Noh et al., 2021).

Introduced in 1985 alongside Microsoft's Windows 1.0, Windows Paint emerged as one of the earliest and most accessible software tools for digital art. Although rudimentary by today's standards, Paint's significance in the history of digital art should not be underestimated. For many people, this simple program served as the entry point into the realm of digital creation. It democratized the art-making process by making it possible for virtually anyone with a computer to engage in artistic endeavors, thereby tearing down some of the traditional barriers

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to entry in the art world. Windows Paint offered a canvas where amateur artists could experiment with basic shapes, lines, and colors. The software allowed for immediate correction and modification, features that were not so easily accomplished in traditional mediums like painting or drawing on paper. Though limited in its capabilities, especially when compared to advanced graphic design software that would later arrive, Paint demonstrated the sheer possibility of computer-assisted art. It gave a glimpse of what would become an exponentially growing field, as artists started to realize that digital technology could not only replicate traditional art forms but also offer an entirely new spectrum of creative possibilities. In its own humble way, Windows Paint was a cornerstone that contributed to the broader acceptance of computers as legitimate tools for artistic creation. It initiated countless individuals into the digital art world, acting as a stepping stone for those who would later move on to more sophisticated software and more complex forms of digital artistry.

Computers cannot appreciate art

My argument in this article is that despite the fact that artificial intelligence has reached new frontiers of human-like creation, artistic creation is still the exclusive realm of human endeavor. Traditional artists often cite several reasons to argue against the merit of AI-generated art. One of the core arguments hinges on the issue of skill and technique. In traditional art, be it oil painting, watercolor, or sculpture, an artist spends years mastering the craft. The intricate brush strokes, the interplay of light and shadow, and even the mixing of pigments are all skills that take a considerable amount of time and effort to master. Every stroke is permanent, and errors are not easily undone. This adds a layer of complexity and challenge that, according to traditional artists, digital art fails to replicate. Software applications offer an array of shortcuts, from pre-set brushes to the notorious "undo" function, which arguably lower the skill ceiling, making it easier to correct mistakes or even automate specific aspects of the artistic process. For traditional artists, the presence of such features calls into question the level of skill actually required to create digital art.

Another point of contention lies in the realm of originality and authenticity. A traditional painting is a unique entity. It carries the artist's physical touch, the specific blend of colors used, and even the canvas's texture contributes to its uniqueness. Each artwork is an original piece, often perceived to carry the soul and intent of the artist. In contrast, AI-generated art can be effortlessly duplicated. With just a click, an exact

replica can be created, devoid of any distinguishing features. This ease of reproduction leads to questions about its scarcity and intrinsic value. Traditional artists argue that the ubiquity of digital art undermines the sense of individuality and exclusivity that is often associated with owning an original piece of art.

One of the foremost critics of digital art is the philosopher Roger Scruton (2009), who has long championed traditional forms of art. Scruton contends that art serves as an irreplaceable avenue for humans to connect with the world around them, especially the 'here and now'—a connection he believes AI-generated art often fails to establish. For Scruton, the tactile nature of traditional art forms, where the artist physically interacts with materials like paint, canvas, and clay, fosters an intimacy and a deeper understanding of the world that digital art can't replicate. In his works such as *Beauty*, Scruton critiques how digital art often distances the creator from the creation, as the artwork becomes a set of algorithms and pixels rather than an expression of human skill and emotion.

Jean Baudrillard (1981), another critic, sees AI-generated art as an extension of his theory of "simulacra" where signs and representations replace the real. Baudrillard argues that digital art often leads us farther away from the 'real,' into a world of high-definition illusion. For him, the concern is not just the ontological status of the artwork but also the ethical implications of living in a world progressively dominated by the unreal. His seminal text, "Simulacra and Simulation", elaborates on these views, cautioning that we may lose the ability to distinguish between the 'real' and the 'simulation,' thereby diluting our experience of authenticity in life and art.

Moreover, there are conservative critiques rooted in the realm of aesthetics that argue digital art often lacks the rigor and discipline inherent in mastering traditional art forms. Digital platforms can offer shortcuts—pre-set templates, filters, and even AI algorithms—that can produce aesthetically pleasing results without the painstaking skill that traditional forms demand. This could be seen as undermining the craftsmanship that has been valued for centuries in the art world, and therefore, these critiques reject the idea of digital aesthetics. Digital aesthetics refers to the study, understanding, and critical evaluation of the aesthetic dimensions of digital or computer-based media and art forms. It encompasses a wide range of digital creations, from traditional art forms that have been digitized (like digital painting and sculpture) to newer forms that are natively digital (such as interactive installations, virtual reality, and generative art). Digital aesthetics engages with

questions that are both philosophical and practical: What constitutes beauty or meaning in the digital realm? How do digital media affect our sensory and emotional experience? What are the ethical implications of creating or interacting with digital art? (Fazi, 2019; Drucker, 2009; Weaver, 2005).

The impact of AI-generated art on the audience is another point of contention. Philosophers such as Walter Benjamin have discussed how the "aura" of an artwork, the unique presence and history of a physical piece, is diminished or even lost in the realm of AI-generated art. Benjamin's influential essay, "The Work of Art in the Age of Mechanical Reproduction" (1935), although not directly addressing AI-generated art, provides a useful lens to examine how easily digital artworks can be duplicated, shared, and altered, stripping them of their unique 'aura' and consequently affecting the way they are perceived and valued. Even the marketplace for art has felt the ramifications of this digital upheaval. With the rise of NFTs (Non-Fungible Tokens), AI-generated art has become commodified in unprecedented ways, which some conservative critics argue dilutes the spiritual and emotional essence of art, reducing it to mere digital assets to be traded.

Conclusion

Artificial Intelligence has affected many aspects of human life (Sabzali et al., 2022). Art appreciation is a complex cognitive and emotional process that involves more than just pattern recognition or algorithmic analysis; it includes the nuanced interplay of historical context, personal experience, emotional depth, and subjective interpretation (Bullot & Reber, 2013). This complexity currently remains beyond the reach of AI technologies, despite their rapidly advancing capabilities.

At its core, human art appreciation is deeply tied to our conscious experience. It involves not just recognizing forms, colors, and techniques, but also understanding the cultural and historical context in which a piece was created. It can evoke a range of emotions, spark intellectual curiosity, and even provoke social or spiritual epiphanies. These are facets of human cognition and emotion that are currently not replicable in machines, which do not possess subjective states of awareness, emotional engagement, or the cultural and historical background against which art often resonates.

AI, as it exists today, operates on data and algorithms. It can analyze an artwork's elements, perhaps even detect patterns or styles across a range of artworks, but it cannot understand the 'why' behind the art. It cannot feel the emotional weight of a painting or grasp the socio-political

significance of a sculpture. Even when machine learning algorithms are trained to generate art, the pieces are not created with a conceptual or emotional intent; rather, they are the product of data processing and pattern recognition (Saxena et al., 2020).

The ethical dimension is another critical aspect that separates human from machine art appreciation. Eliezer Yudkowsky, a prominent researcher in the field of artificial intelligence, has expressed strong opinions about the intersection of computers and ethics, particularly in the context of AI. He is best known for his work on friendly AI and rationality and is a co-founder of the Machine Intelligence Research Institute (formerly the Singularity Institute for Artificial Intelligence). Yudkowsky is concerned with the long-term impact of artificial intelligence on humanity and the ethical challenges this poses. One of Yudkowsky's key arguments is that AI does not inherently possess human values or ethical frameworks (Mijartovic & Jašić, 2021). Thus, it is crucial to explicitly design AI systems that are "friendly" or aligned with human values.

The relationship between artistic appreciation and ethics is complex and multi-dimensional, deeply embedded in the cultural, social, and historical contexts within which art is both created and received. On one hand, art can serve as a powerful medium for ethical reflection, challenging viewers to confront uncomfortable truths, question societal norms, and contemplate moral dilemmas. It can operate as a mirror, reflecting the ethics of a society, or as a hammer, shaping or critiquing those ethics. On the other hand, the act of creating art itself raises ethical questions: issues of representation, appropriation, and the moral responsibilities of the artist to their audience and subjects. For instance, should an artist depict suffering or injustice, and if so, to what end? Is it ethical to commodify such depictions, particularly when the artist benefits from the plight they represent? These considerations become especially relevant in an era where art is increasingly intersecting with technology, thereby magnifying its reach and impact.

And, perhaps most importantly, AI is not conscious. There is a significant philosophical debate surrounding the concept of machine consciousness. While advances in AI have led to sophisticated pattern recognition and problem-solving capabilities, these do not equate to a conscious understanding of the world (Kauffman & Roli, 2023). Consciousness, at least as it's generally understood, involves subjective experience—something that AI, lacking a biological substrate and the phenomenological experiences that come with it, does not possess. Art and consciousness share a profound relationship, each enriching

and informing the other in myriad ways. At its core, art serves as an expression of human consciousness, capturing the complexities of thought, emotion, and perception. It offers a unique window into subjective experiences, serving both as a mirror reflecting our internal states and a lens through which we view the world. Art often pushes the boundaries of our consciousness, challenging us to confront unfamiliar concepts, embrace new perspectives, and question our own beliefs and values. Meanwhile, consciousness provides the fertile ground from which art springs; it is the mental and emotional canvas upon which artists project their creative visions. Without consciousness, the depth and emotional richness that characterize art would be unattainable. Indeed, one could argue that the act of creating or appreciating art is a celebration of consciousness itself—a complex interplay of cognition, emotion, and sensory perception that affirms our uniquely human capacity for understanding and insight. Without consciousness, there is no artistic appreciation, and, computers are still yet to become conscious.

Ethical considerations

The authors have completely considered ethical issues, including informed consent, plagiarism, data fabrication, misconduct, and/or falsification, double publication and/or redundancy, submission, etc.

Conflicts of interests

The authors declare that there is no conflict of interests.

Data availability

The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request.

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