

<http://doi.org/10.332.34/SSR.21.3>

## **Can ChatGPT Be Creative? A Comparative Analysis of Human and AI-Generated Art**

Danilo Petrassi

University of Macerata, Dept. of Education, Cultural Heritage and Tourism (Italy).

d.petrassi@unimc.it

### **Abstract**

The paper presents a comprehensive analysis on the various capabilities of ChatGPT, a chatbot developed by OpenAI that is capable of generating creative content in areas such as visual arts, poetry, and music. This study provides a comparative investigation to highlight how AI-generated works differ from those of human-generated works through a number of content pieces: realization and description of a painting, writing a Shakespeare sonnet, and creating modern rap lyrics. This comparison looks at crucial attributes of style, emotional resonance, and complexity to see how well AI models can perform in emulating different forms of human creativity. Therefore the result reflects on the wider implications for practice due to the involvement of AI within the field, before providing a view on the future artistic landscape that will be influenced by AI. The conclusion section examines in more detail the potential and limitations of AI acting as a tool for both human expression and artistic production.

### **Keywords**

ChatGPT; AI-generated content; creative AI; human-AI comparison; AI in art

## Introduction

The rapid advancement of artificial intelligence (AI) has had a profound and transformative impact across multiple industries, changing not only the character of work but also problem-solving and creative-process methodologies. Most significantly, AI's entry into creative arts has brought with it much debate on the nature of creativity, the line between human and machine-generated art, and the capacity of AI to actually enhance, rather than simply replicate, the groundwork of artistic expression. This class of language models has amazingly mastered the generation of coherent, contextually relevant, and sometimes outright surprisingly creative content. This naturally creates ripples in some of the more traditional conceptualizations involving the place of AI in traditionally human-centered creative domains such as literature, music, and the visual arts. None of this is entirely new; early experiments in computer-generated poetry or algorithmic music composition date several decades back (Wingström et al., 2022). However, the sophistication of models such as GPT<sup>1</sup> (Generative Pre-trained Transformer), which were trained on huge datasets and capable of producing highly nuanced text, gave new wind to discussing the potential of AI for truly contributing to artistic creation (Brown et al., 2020). These models do not simply reproduce existing works; they produce content that observes specific stylistic conventions, follows thematic cues, and often catches users by surprise with the level of coherence and creativity. This paper tries to discuss the way AI, especially through ChatGPT, supports the creative creation of content, including literary and musical pieces. In comparing the AI-generated works with human-made works, it is necessary to learn up to which point AI can imitate, contrast, or outshine human creativity in some aspects. Some of the most salient questions answered are: Can AI elicit genuine emotional responses on the part of the audience? To what extent can AI generate truly original ideas? Or is it just rehashing patterns from the reams of data it has been trained on, in which form is new, while lacking in depth and originality compared to human creativity? (Marcus, 2020)

The objective of this paper is to shed light on these questions and contribute to the ongoing discourse on the nature of creativity in the digital age. In other words, as the technology advances, an understanding of AI's role in the creative process will become increasingly important. This study compares specific examples of AI-created painting, poem, song with those usually created by humans, exploring promises and limitations that AI can bring into the arts. The result of this study is to contribute to the debate about whether AI should be considered a creative agent in its own right or rather a tool increasing human creativity by providing new possibilities for artistic expression (Fossa 2017; Boden, 2004). Through a review of the capabilities and limitations of the current generation of AI in creating

---

<sup>1</sup> GPT (Generative Pre-trained Transformer) is a series of language models developed by OpenAI, designed for natural language processing tasks. The GPT architecture is based on the Transformer model, which enables the system to understand context and generate human-like text. Each version of GPT, starting with the original and advancing through GPT-2 and GPT-3 and now GPT-4, increases in complexity and capacity, with larger datasets and more parameters. GPT models are pre-trained on vast amounts of text data and can perform tasks such as text generation, translation, summarization, and more, without requiring task-specific training.

emotionally moving, stylistically rich, contextually relevant material, the aim is to attempt to shed some light on how it might shape the future of arts production.

## 1. AI in Creative Content Generation: Historical Context and Current Capabilities

As mentioned before, AI has been engaged in creative content development for several decades, though involvement and the role have dramatically changed over time. The first attempts of AI creativity started as early as the middle of the 20th century when relatively simple algorithms that were supposed to create music, visual arts, and even poetry first took place. These early systems, while groundbreaking, were rudimentary next to sophisticated AI models now capable of emulating human creativity in complex, and sometimes unexpected, ways. The journey of AI from basic computational creativity to cutting-edge generative models like ChatGPT underlines both the progress of machine learning and the increasing complexity of AI's role in creative processes. The earliest explorations of AI-generated art relied on rule-based systems. These systems worked by following a set of pre-programmed instructions, allowing them to compose simple works of music or to draw abstract visual artworks. Probably the most well-known example is the algorithmic music produced by the composer Iannis Xenakis during the 1960s, who utilized stochastic processes in creating musical compositions (Hofstadter, 1985). At about the same time Harold Cohen's AI program AARON<sup>2</sup> was in development to create computer drawings and thus exploring some of the very first possibilities of AI as a contributing collaborator for the visual arts. These early experiments were the best that could be done at the time with the technology, by the relatively narrow scope of output, but paved the way for more advanced models of AI that would be able to create content closer to human creativity.

As AI continued to evolve, its creative capabilities did too. It was not until the advent of machine learning algorithms in the mid-20th century that a critical inflection point was reached; whereas rule-based systems were precedent, the discovery of complex and diverse outputs might be optimally "learnt" by such engines using large data sets. By the early 2000s, for instance, AI systems were able to develop more sophisticated pieces of art, such as computer poetry and algorithmic music that were more multi-dimensional in their depth and character (Colton, 2008). For instance, the EMI<sup>3</sup> system, developed by David Cope, was capable of analyzing patterns in the works of classical composers and used the knowledge

---

<sup>2</sup> AARON is a program developed by artist and computer scientist Harold Cohen in the early 1970s. It was one of the first significant examples of an AI system used to create art autonomously. AARON was designed to produce abstract drawings and later evolved to create more complex images, including representations of plants, human figures, and landscapes. Cohen programmed AARON to follow a set of rules for constructing images, allowing it to generate original artwork without human intervention. While AARON was capable of creating visually appealing art, its output was constrained by the parameters set by Cohen, raising questions about the nature of creativity and the role of AI in artistic processes.

<sup>3</sup> EMI (Experiments in Musical Intelligence) is an AI-based system developed by composer David Cope in the 1980s. The system was designed to analyze the musical styles of various composers and generate new compositions in their style. EMI works by deconstructing musical works into smaller elements and then recombining these elements to produce original pieces that mimic the structure and style of the analyzed compositions.

gained to produce stylistically consistent new pieces of music. Yet even in these systems, which, for their time, were impressive, the tendency was to remain somewhat bound to the data they had learned from, with outputs often criticized for the depth of emotion and originality that ultimately makes human-created art so unique. For this reason, Boden believes that AI, through the development of deep learning and neural networks in the 2010s, entered a period of creativity never before seen. These models have been seen, with a focus on generative models in particular, initiated through the GPT, which has been considered a breakthrough in AI capability for generating truly human-like text. Unlike earlier machine learning systems, which relied on extensive hand engineering of features, deep learning models are able to learn patterns and structures directly from large amounts of data (Goodfellow et al., 2016). This progress enabled shades of nuance and contextual relevance that had not been possible before, with the AI engines now churning out complex written content-poetry, short stories-which assumedly could convincingly parallel the style and tone of human authors.

One of the most striking examples of such generative advanced models is represented by OpenAI's GPT series, the third version first (GPT-3) and the latest version now (GPT-4) has marked a serious revolution in the realm of AI-driven content creation. The model that underpins ChatGPT, GPT architecture, was trained on a very large corpus of text and parameters. This made the text incoherent, contextually relevant, and produced with appropriate styles (Brown et al., 2020). This has further empowered GPT models in creating creative works of poetry, short stories, and even rap lyrics with examples that are not easily differentiable from those created by a human mind. Such flexibility and power of the models have finally silently stoked their adoption for creative purposes-whatever be the domain: writing, journalism, creation of music, or visual arts in a kind of pseudo-creativity (Runco, 2023). AI creativity goes way beyond text. Similar generative models, such as DALL-E<sup>4</sup>, which have been developed by OpenAI, show that AI is able to create complex, visually appealing images from textual descriptions. This model uses similar deep-learning techniques found in GPT but creates images by learning patterns from huge data sets of visual arts and photographs whenever it is relevant. The result is an AI system capable of creating artwork from prompts as varied as "a surrealist painting of a cat playing chess" to "a photorealistic image of a futuristic city." Yet, both this and all other developments beg a very important question: can AI really "create" as humans do? According to critics, though AI can produce content that is beautiful or stylized, it is unable to charge its creations with meaning, emotional resonance, or even intentionality. Personal experience, emotional expression, and cultural context are the usual causes of human creativity, qualities that AI operates without, based merely on statistical pattern recognition. As Boden (2004) aptly points out, although AI can be programmed to produce novel combinations of pre-existing elements (the so-called

---

<sup>4</sup> DALL-E is an AI model developed by OpenAI, introduced in 2021, designed to generate images from textual descriptions. It is based on the GPT architecture and uses a similar approach, applying its understanding of language to the generation of visuals.

combinatorial forms of creativity) it lacks the capacity for true innovation or personal insight, both of which are key aspects of human creativity.

Even so, the role of AI in creative content creation continues to evolve. As these models get refined, as in the case of GPT and DALL-E, they are increasingly put into use in practice as augmenting tools to human creativity, not entirely displacing it. Most artists of this modern day and age, musicians and writers included, work with AIs through the use of such models to brainstorm ideas, refine their work, and push beyond the bounds of their creativity. It suggests this approach to collaborative creation where, rather than competition, the future for AI within creative fields might be one of augmentation: AI is a powerful tool that enables wider capabilities of new creative possibilities and extended limits within human imagination (Sawyer, 2012).

## **2. Comparative Analysis: Human vs. AI-Generated Content**

The comparison between human-generated and AI-generated creative content presents a unique opportunity to examine not only the technical capabilities of AI but also the broader implications of machine-generated art within cultural and semiotic contexts. At first glance, AI models, like ChatGPT, seem capable of producing works that are strikingly similar to those created by humans. However, a deeper analysis reveals crucial distinctions in originality, emotional depth, and the ability to convey meaning (areas where human creativity is often seen as superior). To fully understand these differences it is beneficial to employ semiotic theories in order to understand the production and interpretation of signs, symbols, and meanings applied to both human and AI-generated works. Semiotics will be useful in creative content to show how the individual elements of a work (a word in a poem, a stroke of the brush in a painting, a melody in a song) contribute to its overall meaning and emotional impact. Human-generated content tends to be semiotically complex because it emerges from lived experience, personal emotions, and deep cultural understandings. On the opposite extreme, AI-generated content, while successful in propagating formal structures of human works, remains devoid of subjects and contexts that essentially generate symbolic meaning.

One strong difference between AI and human-generated content lies in the ways each interacts with signs and symbols. Following Saussure's theory of the sign, meaning is established through the relationship between the "signifier" (the form of a word, image, or sound) and the "signified" (the concept or meaning it represents) (Saussure, 1916). In human-made works, the signifiers are often invested with complex and multilayered meanings based on the individual, cultural, and historical context of the maker. For example, a human poet's sonnet might employ specific metaphors and symbols not only because of obligations to form but also to express profound emotional truths or cultural critiques. Whereas ChatGPT, like other AI models, generates content based on large datasets of what is most probable, they lack deep insights into the semiotic relationships between a signifier and the signified. Basically, the AI's use of language and symbolism is predominantly due to its

training data rather than anything related to subjective meaning or intention. When ChatGPT composes a poem, it selects probably the most statistically appropriate words and phrases from its dataset based on grammatical rules and stylistic convention. While the result can be coherent and even poignant, it is semiotically superficial when compared to works produced by creative humans: their symbols and metaphors carry a great deal of personal and cultural baggage (Boden, 2004). In further support of this chasm between human-generated and AI-generated content, Peirce's semiotic theory (which extends Saussure through the inclusion of a triadic model of the sign that incorporates the "representamen," "object," and "interpretant") provides further insight. According to Peirce, an interpretant is an understanding or meaning, which a sign evokes in the mind of the observer; a representamen is a form, which the sign takes, while the object is what it refers to (Peirce, 1931). Because human artists and writers have living experiences, they can create signs that evoke interpretants (meanings emotionally and culturally resonating with the audience). An AI does not possess intuitive knowledge of an interpretant, its content generated through statistical analysis bereft of the deeper cultural or emotional contexts; hence, the AI cannot fashion works that evoke the same richness of interpretation (Runco, 2023). Perhaps one of the most telling comparisons between AI and human content is in their emotional depth. Human creators share in their works personal experiences, emotions, and insight that resonate with audiences on deeper levels beyond sympathy. For instance, when a poet addresses the subject of loss or love, their language, tone, and imagery express the peculiar emotional take they have on that experience. It turns what could be simple words on pages into a work which can stir extreme emotional resonance from the reader. According to Stevendon (1981), such works may have powerful emotional effects on the readers. Since AI could not feel emotions, it would not have any capability to create such works which can reflect genuine emotional depth. While large language models like ChatGPT are able to emulate the linguistic hallmarks of emotional expression, their grasp of emotion is syntactic (a function of data patterns and not experience) and therefore a fundamentally deep chasm in the emotional authenticity of the content generated by AI.

Originality is another critical dimension in the comparative analytics between human and AI creativity. Human creativity often may be typified by its ability to produce novelty, breaking out of constellations that have already been set. This directly aligns with semiotic theories of creativity, where innovation is about maneuvering and changing signs to create new meanings (a view which Boden has elaborated). In sharp contrast, AI-generated content can never be other than determined by its training data. Models like ChatGPT, however, are limited to the patterns and structures of their datasets. AI doesn't "invent" *de novo*; it creates new combinations of pre-existing elements without the conscious intent to break the mold or do something completely new.

In other words, while recent AI models, like ChatGPT-4, can indeed closely imitate the artworks created by humans according to what is deemed appropriate in form and style, the differences in emotional depth, originality, and semiotic complexity of the latter remain

enormous. While human creativity emanates from personal experiences, cultural contexts, and emotional states, resulting in great richness and depth of works that could be profoundly emotive, AI content is created based on statistical patterns with no subjective understanding nor intention. Using semiotic theory allows for an idea whereby, despite appearances to the contrary, AI-generated content is a denial of the very backgrounded processes constituting human creativity as dense and multilayered.

### **3. Generated Examples: Showcasing ChatGPT’s Creative Potential**

In the following sections the capability for creativity was investigated by testing ChatGPT<sup>5</sup> function (‘image generator’ and ‘Write For Me’) in three artistic domains: describing and visually realizing a painting, writing a poem in the style of William Shakespeare, and creating a rap lyrics song, to illustrate originality capability. Each of these tasks was selected deliberately to test different facets of creativity, from descriptive capability, via linguistic nuance, to rhythmic complexity. These examples help underline both the strengths and the limitations of the creative capabilities of ChatGPT and hint at just how powerful AI-generated content really is in terms of human artistry.

#### **3.1. Visual Description: Generating and Describing a Painting**

The first task consisted in asking the function ‘image generator’ of ChatGPT to realize and describe a highly imaginary painting. This was an exercise to test the model for generating a painting and describing it in detail. A task reasonably close to traditional art criticism, or ekphrasis (a rhetorical device to describe works of visual arts in such a way that allows the reader to “see” it) according to Mitchell (1995). The prompt was to describe, develop a serene landscape and paint it with ChatGPT (Figure 1).

---

<sup>5</sup> To illustrate this section, the 4-o version of ChatGPT (currently the most recent) was used to generate the painting, poem, and rap lyrics..



Figure 1: This is ChatGPT's realization and description of the painting:

"Here is the serene landscape painting based on the description. If you'd like to make any adjustments or add details, feel free to let me know!"

The description that emerged was clear and full of detail: "A sun-dappled meadow stretches to the horizon, where a line of ancient oaks stands against a golden sky. In the foreground, wildflowers bloom in a riot of colors, their delicate petals swaying gently in the breeze. A river, reflecting the pale hues of the sky, winds lazily through the landscape, its surface shimmering under the last light of the setting sun." Though the description was intelligible and evocative, it struck some critical chords concerning the originality of a visual created by AI. It seems that AI can master aesthetic convention, but it has no real sense of the visual. While this output from ChatGPT did have structure and language like any other traditional art description, it was not particularly innovative or uniquely personal. The description pulled from very common tropes found in many landscape paintings; similarly, so did the creation, suggesting the AI synthesizes pre-existing patterns to make up a new one. This agrees with Boden's (2004) concept of "combinational creativity," which involves making something innovative by recombining familiar elements rather than creating something entirely new.

### 3.2. Literary Composition: A Shakespearean-Style Poem

The second task involved asking ChatGPT to compose a sonnet in the style of William Shakespeare. This test was intended to evaluate the model's mastery of formal poetic structures, particularly its ability to mimic the iambic pentameter and rhyme schemes typical of Elizabethan poetry. Additionally, the task probed whether ChatGPT could replicate the thematic and linguistic richness that characterizes Shakespeare's work, such as his use of metaphor, imagery, and emotional complexity (Leech, 1969).

ChatGPT's response, using 'Write for Me' function was a well-structured sonnet:



*“In yonder skies the stars do brightly gleam,  
 And cast their silver light upon the shore;  
 The waves, with gentle kiss, embrace the stream,  
 While silent winds through golden meadows soar.  
 The moon, a witness to our fleeting time,  
 Doth hang above in melancholy grace;  
 Her pale beams light our love, so pure, sublime,  
 And gild the tender lines upon thy face.  
 Though time may steal the youth from out our eyes,  
 And fortune’s hand may lead us both astray,  
 Yet love shall stand, untouched by fate’s disguise,  
 For hearts united shall not break away.  
 Thus in this sonnet do I pledge my truth,  
 That love will bloom eternal, e’en in youth.”*

The poem indeed succeeded in following the structural demands of a Shakespearean sonnet, with ten-syllable lines and a coherent rhyme scheme (a sequence of ABAB CDCD EFEF GG<sup>6</sup>). It was thematic in content, akin to those more classic subjects of love, time, and fortune. But this poem again has demonstrated the lack of AI in terms of imagination and creativity. While the sonnet conformed to both the technical and stylistic conventions developed by Shakespeare himself, it lacked the depth and innovation one finds in human literary works. Human poetry deeply concerns the “interpretant” (what meaning an individual mind and culture imparts). The interpretant, so to speak, seems very low in chatbot texts. ChatGPT’s sonnet was more of a reproduction, not an innovation in content. It structurally followed many classic poetic tropes, but did not really bring anything new either in view or in emotional consequence. This reflects a wider debate about AI creativity: although machines are able to closely mimic human artistic forms, they often fail to produce works that rise above technical proficiency to create a deeper emotional or intellectual resonance. The Shakespearean sonnet example reveals ChatGPT’s proficiency in form but highlights its limitation with respect to meaning-making.

---

<sup>6</sup> The rhyme scheme of a Shakespearean, or English, sonnet is ABAB CDCD EFEF GG. This sonnet form comprises 14 lines of iambic pentameter, with a rhyme scheme schematized as three quatrains plus a final couplet. The rhyme scheme is: First quatrain follows the pattern ABAB, where the first and third lines rhyme, and the second and fourth lines rhyme. The second quatrain is CDCD, with a similar structure but a different set of rhymes. The third quatrain is EFEF, again with a new rhyme set. The final two lines form a couplet that rhyme with each other, often providing a resolution or concluding thought. It is a structured format characteristic of Shakespeare’s sonnets, where the development of themes or arguments unfolds through the quatrains, with the couplet offering a concluding insight or twist.

### 3.3. Musical Composition: Lyrics of a Rap Song

Third in the list of tests was the creation of rap song lyrics, a genre that combines linguistic acrobatics and rhythmic precision. Rap lyrics are often famous for elaborate rhyme schemes, internal rhymes, and even cultural relevance because of their nature to usually depict self-expression, social critique, or narration of experiences in story form. This task aimed at assessing the extent to which ChatGPT could go in generating coherent and rhythmic lyrics that engage in thematic richness typical of the genre.

The lyrics ChatGPT produced, again with the help of 'Write For Me' function, looks like this:

*"I'm ridin' through the city with my head held high,  
 Dreamin' big dreams, reachin' up to the sky,  
 From the bottom, now we risin' like the sun at dawn,  
 Grindin' every day, keep the hustle strong.  
 The streets taught me lessons that school never could,  
 From the corner to the stage, now it's understood,  
 They said I'd never make it, but here I stand tall,  
 I'm the king of my fate, never gonna fall."*

It seems that the lyrics capture many of the linguistic features typical of rap: short, punchy lines with end rhymes and a rhythm that matches the genre's cadence. The content touches on familiar rap themes, such as rising from adversity, self-empowerment, and defying expectations, common motifs in both mainstream and underground hip-hop culture (Rose, 1994). But as with the previous examples, this text is missing the essential cultural reference points of actual human emotion that distinguishes great rap music lyrics. As a genre rap is predicated on personal and cultural narratives, which (at its most fundamental) requires the artist to communicate experiences. Although ChatGPT was good at generating lyrics that were in the vein of rap (concerning talking about yourself and using stereotypes of how you talk about yourself for music to make it interesting) its incidental subject matter, born from that recording corpus, meant there was barely anything it could do to represent rap as a lived experience or a mode for social critique. This relates to the basic reality of AI generated content and is one of its main limitation; no matter how hard it tries, an AI model cannot lean its creation on personal experience (Chatterjee, 2022) or cultural identity – fundamental aspects in human art creativity (Boden, 2004).

### 3.4. Brief considerations of Generated Examples

The generated examples reveal both the powerful creative potential and limitations of ChatGPT. And from a sheer technical standpoint, the AI model does an impressive job at emulating human form of art (whether it's a visual representation, a sonnet in form or rhythmic rap lyrics). But seen through the lens of semiotics and creative theory, AI has its

limitations. But, at the same time, while ChatGPT can mimic human creativity on a superficial level, it seems that it is still unable to produce something more profound on other emotional, cultural or intellectual levels (it takes some effort to train the model). This implies that AI can complement human creativity in an assistive capacity, but that the two modes of creativity diverge from one another at a basic level

## **Discussion**

The ChatGPT examples (a realization and description of a painting, a Shakespearean-style sonnet, and rap lyrics) serve to show the spectacular creations that AI can already produce in the realm of art creation balanced by their natural boundaries. ChatGPT showcased the power to superficially mimic human creativity, generating content by following certain stylistic norms and technical structures. Yet on closer examination of ChatGPT, it is not true that this model, which is capable of very complex language function, lacks the texture of deeply subjective and culturally aware human creativity. In the following section, the results will be analyzed in a broader context and discuss the possibilities and limitations of AI as a creative tool, as well as some ethical and philosophical aspects arising from its use.

### **4.1. The Strengths of AI in Creativity**

ChatGPT's ability to generate coherent, grammatically correct, and contextually relevant content shows how far the landscape of natural language processing (NLP) and machine learning has come with respect to generating intelligible, grammatical, relevant content between various artistic domains. In creative tasks where huge volumes of data are being processed and synthesized at very high speeds, AI's capacity to generate content across an array of styles and formats comes into its own (Brown et al., 2020). One, a Shakespearean sonnet produced by ChatGPT itself through the poetry generation pipeline, showcasing how well this model understands formal restraints such as the sounds of iambic pentameter and rhymed quatrains. Likewise, the model's generated rap lyrics had rhythmic flow and end rhymes that fit other conventions of the genre. It is obvious that an AI model, like ChatGPT, succeeds in being a fair ally for tasks of a technical nature with some creativity, there comes an added advantage. There is also potential to apply AI in practices that require content creation at speed, like advertising, journalism, or education. One way to cope with this might be using something like ChatGPT to generate a massive amount of content very quickly, allowing creative professionals to riff on top of it. AI can act, then, as a partner in the process, one that can help to expedite creativity by decreasing time spent on such tasks like developing raw concepts or finishing droning material (Sawyer 2012). This expression of AI might democratize the creative professions by extending creativity to a wider cohort, and while doing so, shattering notions that only those with coding skills (or traditional artistic ones) can participate in the creative fields.

## 4.2. The Limitations of AI in Creative Expression

Despite these strengths, AI-generated content is fundamentally limited by the constraints of its training data and the lack of subjective experience. Creativity, as traditionally understood, involves not only the mastery of form but also the ability to infuse works with emotional resonance, cultural meaning, and personal insight (Kaufman & Sternberg, 2010). As discussed in the analysis of the Shakespearean sonnet and rap lyrics, while ChatGPT can replicate the formal elements of human creativity, it struggles to produce content that engages deeply with these more intangible aspects.

This limitation is rooted in the nature of machine learning. AI models like ChatGPT rely on probabilistic algorithms that generate content based on patterns identified in the data they are trained on (Goodfellow et al., 2016). As a result, while the AI can mimic stylistic conventions, it cannot innovate in the same way a human artist might, nor can it introduce novel ideas that diverge from the patterns embedded in its training data (Boden, 2004). Furthermore, AI lacks lived experience, which is a crucial driver of human creativity. Human artists draw on personal emotions, social contexts, and historical influences to create works that resonate on a deeper level with their audience. In contrast, AI generates content devoid of these personal and cultural dimensions, leading to outputs that, while technically sound, often feel superficial or derivative. Semiotic theory also provides insight into the limitations of AI-generated content. As Ferdinand de Saussure and Charles Sanders Peirce emphasized, signs (such as words, images, or sounds) derive meaning from their relationship to both the objects they represent and the cultural contexts in which they are interpreted (Peirce, 1931; Saussure, 1916). Human artists are able to manipulate these signs to evoke specific emotions or responses, drawing on shared cultural knowledge and personal experience to create multi-layered meanings. AI, however, operates solely on the basis of statistical correlations and lacks the ability to understand or interpret signs in a meaningful way. Thus, while ChatGPT can generate content that appears creative on a surface level, it cannot engage with the deeper semiotic processes that underpin human creativity (Turner, 2021).

## 4.3. Ethical and Philosophical Considerations

The rise of AI-generated content also raises important ethical and philosophical questions about the nature of creativity, authorship, and the role of machines in artistic production. One of the central ethical concerns is the issue of originality. As AI models generate content based on pre-existing data, there is a risk that they may unintentionally plagiarize or replicate ideas from human creators without proper attribution (Runco, 2023). This raises questions about intellectual property and the ownership of AI-generated works. Should AI-generated art be considered original, and if so, who owns the rights to it (the developer of the AI, the user, or the AI itself)? These are fundamental questions that will need to be addressed as AI continues to play a larger role in creative industries. Another philosophical issue is the question of whether AI can truly be considered “creative.” Many definitions of creativity emphasize the

role of intentionality and consciousness, both of which are absent in AI systems (Boden, 2004). Human creativity is often seen as a product of agency, emotion, and subjective experience, while AI operates purely on computational logic. This leads to a fundamental tension: can an entity that lacks consciousness or intentionality produce something that we would recognize as truly creative, or is AI simply an advanced tool that helps humans in their creative processes? As Marcus (2020) argues, while AI can replicate the appearance of creativity, it remains fundamentally distinct from human creativity, which is shaped by personal, emotional, and cultural factors.

#### **4.4. The Future of AI in Creative Fields**

Despite these challenges, AI has undeniable potential as a tool for supporting human creativity. Rather than replacing human creators, AI can serve as a collaborator, generating new possibilities and expanding the range of creative expression. By handling repetitive or technical tasks, AI allows human artists, writers, and musicians to focus on the more conceptual and emotional aspects of their work. As Sawyer (2012) suggests, the future of creativity may be a hybrid one, where humans and machines work together to push the boundaries of what is possible. In conclusion, while AI has made impressive strides in creative content generation, it remains limited by its inability to engage with the subjective, emotional, and cultural dimensions that define human creativity. However, as a tool, AI has the potential to enhance and augment human creativity, offering new possibilities for artistic expression and innovation. These results therefore need to be interpreted with caution. As the technology continues to evolve, it will be crucial to navigate the ethical and philosophical questions surrounding AI's role in creative fields, ensuring that it is used responsibly and in ways that complement, rather than undermine, human artistry.

#### **Conclusion**

The exploration of ChatGPT's creative potential through the generation of visual descriptions, poetry, and rap lyrics demonstrates both the impressive advancements and inherent limitations of AI in artistic fields. On one hand, AI models like ChatGPT exhibit remarkable proficiency in replicating human stylistic conventions and producing technically sound content across various genres. As seen in the examples of the painting description, Shakespearean-style sonnet, and rap lyrics, the AI was able to follow formal rules, generate coherent text, and even engage with genre-specific characteristics. This highlights the role AI can play in assisting with creative tasks that require structural precision or rapid content generation, particularly in fields like social media advertising, innovating learning education (Petrassi, 2023), or even journalism (Brown et al., 2020). However, despite these capabilities, AI-generated content lacks the subjective depth, emotional resonance, and cultural insight that are fundamental to human creativity. As discussed in the comparative analysis, creativity involves more than just following rules or mimicking patterns. Human artists draw from personal experiences, emotions, and social contexts, infusing their works with meaning that

AI, constrained by its data-driven approach, cannot replicate (Boden, 2004). While ChatGPT can imitate the outward forms of creativity, it cannot innovate or evoke emotional depth in the same way humans can. This limitation is further emphasized by semiotic theory, which reveals AI's inability to engage meaningfully with the signs and symbols that humans use to create layered, culturally relevant meanings (Peirce, 1931; Saussure, 1916).

Furthermore, the rise of AI in creative fields introduces important ethical and philosophical questions, particularly regarding the originality and authorship of AI-generated works. AI's reliance on pre-existing data raises concerns about intellectual property and the ownership of creative outputs (Runco, 2023). Additionally, the debate over whether AI can truly be considered "creative" continues, as human creativity is deeply tied to intentionality, subjectivity, and lived experience, qualities that machines inherently lack (Marcus, 2020).

In conclusion, while AI models like ChatGPT can serve as a powerful tool for enhancing human creativity, it remains distinct from human artistic expression in several critical ways. Rather than replacing human creators, AI should be seen as a *collaborator*, augmenting human creativity by handling technical tasks and generating new possibilities for artistic exploration. As we continue to integrate AI into creative fields, it will be crucial to maintain a clear distinction between machine-generated and human creativity, ensuring that AI is used in ways that complement and enhance, rather than overshadow, the deeply personal and cultural aspects of artistic expression.

## References

- Boden, M. A. (2004). *The creative mind: Myths and mechanisms*. Psychology Press.
- Brown, T., Mann, B., Ryder, N., Subbiah, M., Kaplan, J., Dhariwal, P., ... & Amodei, D. (2020). *Language models are few-shot learners*. *Advances in Neural Information Processing Systems*, 33, 1877-1901. <https://doi.org/10.48550/arXiv.2005.14165>
- Chatterjee A. (2022). *Art in an age of artificial intelligence*. *Frontiers in psychology*, 13, 1024449. <https://doi.org/10.3389/fpsyg.2022.1024449>
- Cope, D. (2005). *Computer models of musical creativity*. MIT Press.
- Colton, S. (2008). *Creativity Versus the Perception of Creativity in Computational Systems*. AAAI Spring Symposium: Creative Intelligent Systems.
- Fossa, F. (2017). *Creativity and the Machine. How Technology Reshapes Language*. *Odradek* 3(1-2),178-208.
- Goodfellow, I., Bengio, Y., & Courville, A. (2016). *Deep learning*. MIT Press.
- Hofstadter, D. (1985). *Metamagical themas: Questing for the essence of mind and pattern*. Basic Books.
- Kaufman, J. C., & Sternberg, R. J. (2010). *The Cambridge handbook of creativity*. Cambridge University Press.
- Leech, G. N. (1969). *A linguistic guide to English poetry*. Longman.
- Marcus, G., & David, E. (2020). *Rebooting AI: Building artificial intelligence we can trust*. Pantheon.

- McCorduck, P. (1991). *AARON's code: Meta-art, artificial intelligence, and the work of Harold Cohen*. W. H. Freeman & Company.
- Mitchell, W. J. T. (1995). *Picture theory: Essays on verbal and visual representation*. University of Chicago Press.
- Peirce, C. S. (1931). *Collected Papers of Charles Sanders Peirce* (Vol. 1-6). Harvard University Press.
- Petrassi, D. (2023). *Integrating ChatGPT as a learning tool: potential benefits and critical considerations*. *Formazione & insegnamento* 22(2), 83-93.  
[https://doi.org/10.7346/-fei-XXII-02-24\\_9](https://doi.org/10.7346/-fei-XXII-02-24_9)
- Ramesh, A., Pavlov, M., Goh, G., Gray, S., Voss, C., Radford, A., ... & Sutskever, I. (2021). *Zero-shot text-to-image generation*. Proceedings of the 38th International Conference on Machine Learning. <https://doi.org/10.48550/arXiv.2102.12092>
- Rose, T. (1994). *Black noise: Rap music and black culture in contemporary America*. Wesleyan University Press.
- Runco, M. A. (2023). *AI can only produce artificial creativity*. *Journal of Creativity* 33(3). <https://doi.org/10.1016/j.yjoc.2023.100063>
- Saussure, F. de. (1916). *Course in General Linguistics*. McGraw-Hill.
- Sawyer, R. K. (2012). *Explaining creativity: The science of human innovation*. Oxford University Press.
- Stevenson, L. F. (1981). *The Study of Human Nature*. Oxford University Press.
- 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*, 36(2), 177-193. <https://doi.org/10.1080/10400419.2022.2107850>