

AI Art Will Never Reach the Level of Human Art

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AUTHOR BIO

Olivia Zhao is a student at Belmont High School who plans to study art and technology in college. She is passionate about painting and computer science and has received multiple scholastic awards for her art. Through her art, she strives to express herself and her beliefs and to advocate for societal issues.

ABSTRACT

This paper discusses Artificial Intelligence (AI) in art and compares its artistic ability to that of a human. In the past few years, the increased usage of AI based tools in art has led to a concern that it will replace human artists. However, this article argues that AI cannot possibly surpass human artists due to many adverse factors: Most people prefer human artworks; AI artwork developments are based on human creativity, not original; Therefore AI art is not real art. It is important to have a definition of art; so we can compare aspects of both artificial intelligence and humans and determine which is more capable of creating real art. If art is defined as the channel for emotional transfer from the art creator to the viewer, AI-created arts are far less likely to be considered as real arts as they lack original emotion and cannot express its inner meaning for the viewers effectively. While artworks created by human artists can convey the deepest metaphysical truth by sensory/perceptual means much more effectively.

Keywords: AI, Art, Creativity, Emotional Transfer, Creator.

INTRODUCTION

In recent years, the involvement of AI in our lives has increased drastically. Artificial Intelligence can now accomplish many tasks in place of humans in artistic rendering or creation (Please check Fig. 1 for a list of popular AI art platforms). As an example, 3D illumination/rendering in computer generated videos have been effectively automated by tools such as Mid-Journey(or others) that only minimum human interventions are needed. They even pose a threat to replace human artists as many positions are no longer needed.

While AI may work more efficiently(up to several orders of magnitudes) in these repetitive use cases than humans, it still cannot match human artists in other aspects. For instance, most people prefer their art to be made by humans, as they are more likely to build a personal connection to it; They are less inclined to consider AI art real “art”. As a result, AI art is commonly devalued in comparison to human art and has lower monetary value. Although some pieces were sold for high prices, the general opinion of these occurrences has been negative. As most of the AI generated art works, although proficient in certain techniques, lack the resonance in human reception in conveying underlying meanings. Since AI art is a reflection of human capabilities, it will never be able to further its abilities unless humans develop related concepts first. It cannot create art that it has not already seen, while many humans consider this their main purpose in their work. Furthermore, “art” is a term commonly

associated with the emotions put into the work and the emotions it evokes in a viewer. AI, which has no experience and real emotion, at least in the foreseeable future, is unable to convey the same emotion as a human artist can and is therefore incapable of creating real art. It has also been proven that humans sympathize more easily with other humans, so the knowledge of a piece having a human creator can affect the piece’s impact on a view as well.

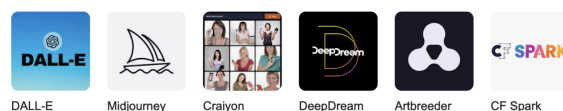


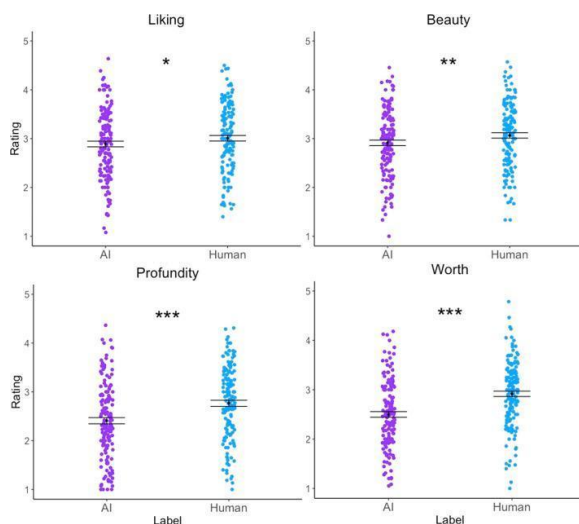
Figure 1. A short list of popular AI tools for artistic rendering

AI in Art

To determine whether or not AI art will be on the same level as human art, we must first establish a set of criteria for what defines “real” art. This topic, as well as the discussion of whether or not AI can create real art, has been a source of debate for many years. “Art” is a very difficult word to define, as there is no single property that can apply to every piece. However, I believe that the significance of true art lies in two groups: the creator and the viewer. The transference of intention from the artist to the piece and then from the piece to the viewer is what creates the art. Without these two aspects, I do not believe a piece of work should be considered true art.

Most People Prefer Their Art to be Made by Humans

The University of Waterloo Research Ethics Board conducted a study in which participants were shown 60 paintings, half of which were created by AI, and the other half created by humans. The test participants did not know which art piece was created by AI or human artists. Partakers were given four criteria to rate each piece: Liking, beauty, profundity, and worth. Across 4470 trials, the researchers found an anti-AI bias across all four categories, in which participants favored the work labeled as “human-made” more than the ones labeled as “AI-made” (Bellaiche et al., 2023). This experiments verifies that general people would perceive the differences between AI arts and human arts using these very general/vague ratings.



Distribution of values on artworks associated with AI and Humans for each criterion (Liking, Beauty, Profundity, Worth). Error bars represent the standard

error of the mean. Following multiple-comparison corrections, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 2. Statistics of Preference between Human Arts and AI Arts

In another study with 254 people from the USA, participants were asked if an abstract painting was considered art. The experiment had two scenarios: one being an accidental creation with the paint having been knocked over, and the second being an intentional painting.

For both experiments, participants were more willing to judge the human-made piece as art, and the paintings that resulted from intentional action were considered to be art much more than the ones that resulted from an accident.

The consensus that arose from these two experiments was that people are more likely to consider human-made artworks than AI ones as real art, even in the form of abstract arts. However, in both scenarios, there were still people who judged AI art to be legitimate. However as shown in Fig. 2, the statistical analysis reveals a significant difference in participant’s opinions between human arts and AI arts.

People tend to devalue AI art

When buying art, people typically prefer human-made pieces over AI ones. In comparison to human art, AI art is consistently devalued and considered to be of less monetary value. “This is true even when the art itself is held constant

(i.e., labeling the same piece as “AI-made”) and regardless of participants’ overall feelings towards AI. Echoing historical examples of automation in other industries, this devaluation is more pronounced on evaluations of skill and monetary value and is less pronounced on artistic dimensions (e.g., evaluations of complexity or emotional intensity). Moreover, devaluation effects weaken substantively when participants are not directly comparing human and AI-made art.” (Bellaiche et al., 2023)

“Although collaborative art (humans interacting with AI art generating softwares) is perceived to be less valuable than work made only by humans, perceptions of the human artist’s status as the primary creative agent depend largely upon whether the collaboration is being compared to human or AI-made references. That is, an evaluative bias against AI-made artwork persists even in circumstances where the AI functions as a human aid but these detrimental effects on value can be moderated by anchoring the evaluator on the efforts of AI art produced without the help of humans.” (Bellaiche et al., 2023)

Even if a piece is only assisted by AI and the majority of the work is done by a human, the piece is still devalued. The bias is not about the quality of the piece but about the AI itself. These results were demonstrated in (Bellaiche et al., 2023) where experiments are designed and statistical results are collected.

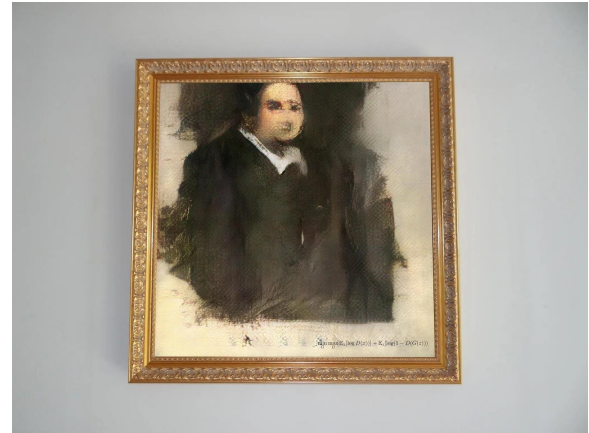


Figure 3. The AI art “Portrait of Edmond Belamy”

AI can only replicate that which has already been made by human artists

AI software is trained through the algorithm known as reinforcement learning on images and art that has been created by human artists, which means its development is dependent on human progress. Therefore, AI art is also dependent on human creativity. Over time, the images AI software churns out start to become repetitive, as it cannot create anything that it has not already seen. It can only repeat what it sees, meaning that it cannot surpass human creativity, which can form that which does not currently exist. If AI is to create anything worthwhile, it must be able to have its own insight and senses (Demmer, 2023). These attributes are not demonstrated in the generative AI systems so far. Therefore, we consider AI arts more of imitations/mixing of human artists that they learned from in the recursive ML process.

AI art is an imitation, eliminating its ability to be creative

Although AI's efficiency and capability may seem to far surpass humans, its systems "remain a reflection of their training data -- and do not have the same capacity for originality and critical thinking as humans do...Human creativity draws not only on past data but also on experimentation and the full range of human experience." (Demmer, 2023) It can only imitate what it can see, meaning it lacks the essential form of creativity.

The efficient generation of AI-based artistic rendering or even the creation of artworks of different styles is incredible in the speed of volume of the outcome. But we still argue that we are yet to see that AI arts are truly capable of refreshing the boundary between existing techniques and truly original creativity.

AI cannot create "real" art

A key difference between AI and human artists is that humans can incorporate their emotions and past experiences into their work, giving their pieces depth and allowing them to evoke feelings in others as well. Artificial Intelligence, developed to create 'art' after being given a prompt, possesses neither of the two and is therefore unable to incorporate them into its pieces. Through machine learning, AI learned to make inferences between different language based inputs to the vast majority of existing artworks. But AI could not understand the true

human emotion and apply these feelings in the composition and techniques.

A handful of professors from the University of Vienna wrote that "A core aspect of making art seems to be the ability to record and then impart some aspects of a creator's reality, their views, and their feelings to an audience. This latter aspect, often in the form of specific emotions, is suggested to be a main aspect of such connections and a core element—as a human communicative act—of art's definition itself." Tolstoy put it this way: 'to evoke in oneself a feeling one has once experienced, and ... then, using movements, lines, colors, sounds, or forms ... to transmit that feeling that others may experience the same feeling—this is the activity of art.' It appears to be very problematic to ascribe such intentions to an AI or any computer. Thus it is extremely hard to analyze how artificial intelligence can actively transmit emotions to viewers. Even when the emotions are hard to define with regards to AI. Therefore, in this definition, art generated by AI may, in the critics' view, not be qualified as true art. As the main communicative channels are instructions, software code or data-feed; without an artist to even initiate the communication of emotions, the entire interaction becomes an empty gesture—an 'illusion of art'." (Demmer, 2023)

The transfer of feeling from the artist into their work, and then from the piece to the viewer (Tolstoy, 1995) is such a vital part of what true art is and is something AI is unable to

replicate. AI's inability to incorporate emotion into its art results in a piece that contains nothing and is essentially hollow.

The impact of having a human creator

The knowledge of a human creator affects a person's perception of a piece as well. In an experiment conducted by Kwak et al, he asked children (10–12 years) to engage with a robot, resembling a head with eyes, designed to communicate emotions via colored lights. The engagements, in which the child and robot played a collaborative game, were framed by two conditions in which participants were told that the robot was expressing its feelings (e.g., sadness when making a mistake) versus expressing another's feelings, framed by showing a picture of a person suggested to be controlling the robot. Children showed stronger empathic responses (operationalized as a propensity to take a penalty in the place of the robot) when they believed that the feelings were from the human operator and not from the robot, which, the authors suggested, indicated that the quality of an emotional interaction is crucially tied to the presumed level of agency behind, but not necessarily embodied by, an object.

Even if AI attempts to spark emotion through its work, knowing that the intention behind a piece comes from a human self-consciousness but not a machine makes it more genuine to the viewer. As proved in the experiment, people are more willing to resonate with a piece created by other

humans. AI can imitate a human, but it can never become human, at least in the foreseeable future, as it lacks the sensual/philosophical aspects of artistic creation. What AI relies on is merely maximizing a mathematical measure in the maximum likelihood algorithm and the training dataset it relied on. With different training dataset or with separately fine-tuned machine learning algorithms, AI artists might create totally different or even opposing results. AI art also suffers from the instability of the underlying algorithm/computing platform; while the emotional/philosophical values are relatively stable in our human society.

Conclusion

AI will never be on the same level as human artists, as the transfer of self-consciousness between AI and the artwork and a human being is almost impossible. It is also hard for AI to have a breakthrough in creativity. Although AI makes the rendering of certain forms of art more efficient, many are unwilling to consider it real art.

Although among the general population, most prefer human-made art, there have been cases in which AI art has sold for astronomical prices. The most expensive of these was a painting titled 'Portrait of Edmond Belamy', which sold for \$432,500 in 2018. (Figure 3) Instead of being sold to a large institution or community, it was bought by an anonymous individual. Since only one person was willing to value the piece

that high, they do not reflect the general opinion of AI art, and can be marked as an outlier. Unsurprisingly, this incident sparked many controversies, and most reactions were negative. Jerry Saltz, a well-known American art critic, stated, “An artwork made by Artificial Intelligence just sold ... I am shocked, confused, appalled” (Demmer, 2023).

In time, AI will replace humans more prevalently in certain repetitive and time-consuming jobs. It is natural for us to take the route of least effort for our work. Take ChatGPT for example, which can pump out an AI-generated essay in seconds. Many are already using it as a reference for their writing, eliminating the need to find those ideas themselves. If we continue to rely on the development of our technology, our abilities will begin to degrade. With ever-accelerating technological advancements, we need to accept that we must preserve certain critical developments and applications of creative skills for us as a society. (Bran, et al, 2023)

To stop the growing prevalence of AI technology before it becomes detrimental to humans as a race, I believe it is urgent to form an international committee to be a watchdog for the AI industry, and for setting up unified policies as the boundaries for AI. The committee will also discuss current prevalent issues, such as the topic of ownership in AI art and copyright.

The creation of art is incredibly important to our society and is a way for people

to express themselves and communicate with others. Leaving this task to AI takes away a key component of our society. Overly relying on generative AI would not be a viable strategy. In the long run, this could be detrimental to our value system, creativity and humanity as a whole piece.

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