

The Rise of the Machines: How AI is Disrupting Traditional Artistic Practices

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Abstract: *"The Rise of the Machines: How AI is Disrupting Traditional Artistic Practices," explores the fascinating intersection between artificial intelligence and contemporary art. It examines the ways in which AI is transforming traditional artistic practices and the implications this has for the art world and society as a whole. From the development of new techniques and tools for creating AI-generated art to questions of authorship, creativity, and the role of technology in shaping cultural production, this topic offers a comprehensive overview of the impact of AI on the arts. At its core, this topic raises important questions about the nature of creativity and the relationship between humans and machines. How do we define creativity in the context of AI-generated art? What is the role of the artist in AI-generated art? What is people's perception of art created by AI? Can AI recreate the endless generative powers of the human mind? What are the limits and challenges of using AI systems to create art? These questions are all crucial to understanding the impact of AI on the arts, and they require careful consideration and critical reflection.*

Keywords: Artificial Intelligence, Art, Creativity, Algorithms, Imagination, Intentionality.

1. Introduction

Artificial intelligence (AI) is rapidly transforming the way we live and work, and it is now having a significant impact on the world of contemporary art. The rise of AI-generated art is disrupting traditional artistic practices and challenging our assumptions about the nature of creativity and artistic expression. As AI technologies continue to evolve and become more sophisticated, artists are increasingly turning to these tools to create new forms of art that are breaking down the boundaries between the artist and the medium.

"The Rise of the Machines: How AI is Disrupting Traditional Artistic Practices" offers a compelling glimpse into the ways in which AI is transforming the world of contemporary art. As AI technologies continue to evolve and become more sophisticated, the art world is likely to undergo even more significant changes in the years to come. By exploring the implications of AI-generated art, this topic offers important insights into the ways in which technology is shaping cultural production and the role of art in the digital age.

Emergence of AI in the Art World

The history of AI-generated art can be traced back to the early days of computer programming, when researchers first began experimenting with using machines to generate images and music.

Ken Knowlton's contribution to AI art:

Ken Knowlton is a computer graphics pioneer and artist who has made significant contributions to the field of AI art. He is best known for his work in the 1960s and 1970s, when he developed a number of ground-breaking techniques for creating digital art using computers.

One of Knowlton's most famous contributions to AI art is his pioneering work in creating computer-generated mosaics.

In the early 1960s, Knowlton developed a technique that allowed him to create mosaic images using a computer program. He used this technique to create a number of famous works of art, including a portrait of John F. Kennedy made entirely out of small photographs of Marilyn Monroe.

Knowlton also made important contributions to the field of computer animation. In the late 1960s, he collaborated with artist Leon Harmon to create the first computer-animated film, titled "Lissajous". This ground-breaking film was created using a computer program that allowed the artists to generate complex, abstract animations based on mathematical patterns and algorithms.

The first significant AI art system: AARON

AARON is an artificial intelligence program created by Harold Cohen in 1973. It is a pioneering computer program that is capable of producing original works of art using machine learning algorithms and rule-based systems. AARON has been used to create a wide variety of art, including drawings, paintings, and even sculptures. The program is capable of generating complex patterns and shapes that are often difficult for human artists to create, resulting in abstract compositions that are both intricate and visually stunning. Cohen continued to work on AARON until his death in 2016, and the program is still being used and developed by other researchers and artists today.

Overall, AARON's contributions to the field of abstract art demonstrate the potential of artificial intelligence to push the boundaries of what is possible in the creative realm, and to challenge our traditional ideas about what constitutes "art".

In the 1990s, AI-generated art began to be used for more than just visual effects. Artists started using AI algorithms to generate music and create new forms of poetry. AI-generated art also began to be used in the field of robotics. Robots were programmed to create paintings and sculptures.

Today, AI - generated art is used in various fields, including advertising, architecture, fashion, and film. AI algorithms are used to create realistic images and animations. AI - generated art is also used to create new forms of music and poetry.

Researchers in the 2000's created and made public vast sets of data, such as ImageNet that could be used to train algorithms to catalogue photographs and identify objects. Ready - made computer vision programs like Google DeepDream allowed artists and the public to experiment with visual representations of how computers understand specific images.

Amid all these innovations developments in the field of AI Art began branching and overlapping. These are the 3 main categories:

1. Chat Bots
 - 1995 – A. L. I. C. E
 - 2001 – Agent Ruby
 - 2020s – Expanded Art
2. Generative Art
 - GAN – Generative Adversarial Networks (2014)
3. Beyond Generative Art
 - ImageNet Roulette (2019)

2. Analysis/Argument

How is AI disrupting traditional art practices?

AI algorithms have been used for a very long time to create or produce abstract composition to photorealistic portraits. We need to understand various aspects to answer the question of how AI disrupts traditional art practices.

One of the positive sides of using AI is art conservation. It helps to analyse and restore damaged art works, for instance algorithms can detect cracks or discoloration in paintings and suggest appropriate restoration techniques which helps to preserve artworks for future generations. AI can create original pieces and remix existing works using various styles and techniques.

This technology challenges the traditional practices and raises questions about the role of human creativity in art. It is important to understand the concept of creativity to analyse the problem. Art isn't a measurable fact according to humans and humans infer motivation and intention to creativity and art. But creativity in the context of artificial intelligence can be analysed as the relation between the programmer and the program. Creativity lies in neither the programmer nor in the program alone, but in the dialog between the program & programmer, a dialog resting upon the special & peculiarly intimate relation that had been built between the AI and the programmer over the years. As long as humans associate motivation to art, AI can never really be artists as they lack the ability of subjective experiences.

What is the role of the artist in AI - generated art?

Artists play a crucial role in AI - generated art because they are the ones who provide the input and direction to the algorithms that generate the artworks. While AI algorithms can create images and other forms of art on their own, they lack the creativity and originality that human artists possess. By working together with AI, artists can leverage the strengths of the technology while also providing the human touch that makes art unique and valuable.

One important role that artists play in AI - generated art is in determining the input that is used to train the algorithms. By selecting specific images or other data points to use as training data, artists can guide the algorithm to create art that is more likely to reflect their own style and preferences. This can help to create more personalised and unique art pieces.

Another important role that artists play is in evaluating and refining the output of the algorithms. AI - generated art can sometimes be unpredictable or produce unexpected results; there have been instances where AI has produced unexpected results such as distorted images due to an overload of information or due to lack of sufficient or qualitative information.

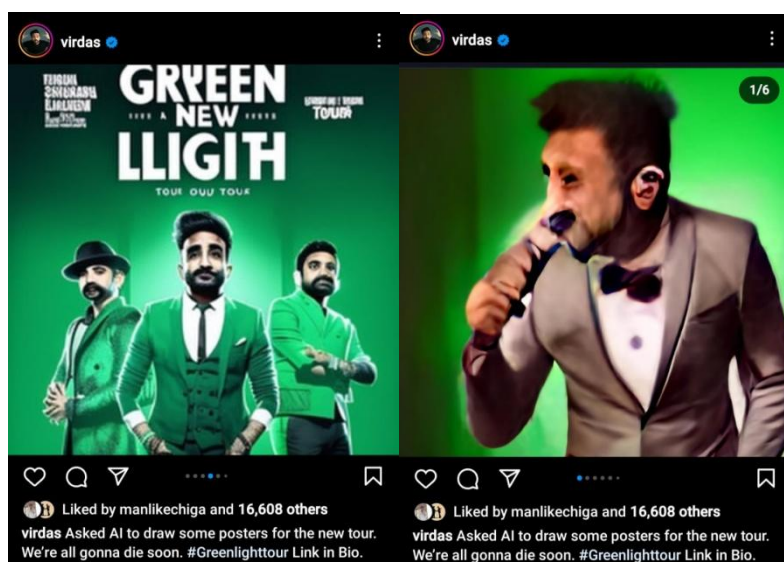


Figure 1: Examples of recent unsuccessful images created by AI

In the AI generated art, it is up to the artist to decide which outputs are successful and which ones are not. By evaluating the output and making adjustments to the algorithm, artists can help to create more refined and sophisticated art pieces.

Ultimately, the role of the artist in AI - generated art is to use their creativity and artistic vision to guide and shape the technology. By working together with AI, artists can explore new avenues of artistic expression and create innovative and compelling art that would not be possible through traditional means alone.

What is people's perception of art created by AI?

Some people view AI - generated art as a gimmick, and are sceptical of its artistic value. They may feel that the artwork lacks the emotional depth and human touch that is present in traditional art forms, and therefore is not as meaningful or impactful.

Others, however, see AI - generated art as a fascinating new frontier in artistic expression. They may be impressed by the technical prowess of the algorithms and the intricate patterns and designs that can be created with their help.

They may also appreciate the novel and unexpected nature of the artwork, which can challenge traditional notions of aesthetics and creativity. There are also those who view AI - generated art as a form of collaboration between humans and machines, where the artist provides the input and direction while the algorithm creates the final product. For these individuals, the artwork is not viewed as solely the work of the machine, but rather a unique fusion of human and artificial intelligence.

The art created by the initial AI was perceived to be distorted, unreal and perceived to be without artistic intention. But the art created by later AI such as AICAN was perceived to be "intentional, having visual structure, inspiring and communicative" on the same level as human - created art. From the point of view of people who were exposed to the arts of AICAN 85% of people perceived the art to be created by a human artist.



Figure 2: Art by AICAN

Limitations and challenges of using AI systems to create ART

AI - generated art has made significant strides in recent years, there are still several limitations that exist. These limitations primarily revolve around the lack of creativity, emotional connection, contextual understanding, dependence on human input, limited scope, and lack of authenticity.

While AI algorithms are able to generate new and unique patterns, they do not have the same level of originality and creativity that the minds of human artists possess.

AI generated art is often based on or is derived from pre - existing patterns and formulas. It doesn't have emotional depth or connection unlike the art created by humans. Humans create art based on their association with emotions, personal experiences and their thoughts which cannot be simply recreated or replicated by algorithms. We can see the inability to provide intentionality in arts created by AI. It basically means that they cannot generate art for a specific purpose or with a specific meaning.

Artificial intelligence is highly dependent on human input despite the advancements in AI technology. Let us take into instance the case of the AI system, AICAN. It requires pre - existing art as input and can create art works only by replicating the existing style and compositions rather than creating truly original works. Another drawback of this AI system is that its data set is limited to a specific set of images and styles which may not capture the full range of artistic styles and techniques.

Art created by Artificial Intelligence lacks the ability to understand and interpret cultural, historical and social context in which art is created. This often leads to a lack of relevance or meaning in the art or the art being insensitive and/or inappropriate.

Can AI recreate the endless generative powers of the human mind?

According to our opinions and interpretation, artificial intelligence can not recreate the endless imaginative powers of the human mind as it lacks intentionality and can not be true artists as people associate motivation and intention to creativity. Although the introduction of artificial intelligence in art has disrupted a few of the traditional practices, it can not completely replace the traditional art practices.

3. Conclusion

While there are potential benefits to these innovations, there are also important ethical and cultural considerations that must be addressed as we navigate this rapidly evolving landscape. AI has its own unique ability to create and innovate but it cannot surpass human imagination in the true sense.

Humans possess emotions, experiences, and intuitions which machines currently do not have. However, advancements in AI and neural networks are making it closer to achieving human - like reasoning and creativity. While AI technology may appear to be endlessly creative, it is still limited by the data and algorithms it has been trained on. All the information provided to or used by AI is given by humans

and the collaboration with humans is what helps in the evolution of Artificial Intelligence.

In conclusion “If mankind ceases to exist, artificial intelligence will also fade away from reality”.

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