

THE FUTURE OF ART IN THE ERA OF ARTIFICIAL INTELLIGENCE

Daniela GLIGA^{1*}, Arina PERETEATCU¹,
Irina NEDEALCOVA¹

¹Department of Software Engineering and Automation, group FAF-223, Faculty of Computers, Informatics and Microelectronics, Technical University of Moldova, Chisinau, Republic of Moldova

*Corresponding author: Gliga Daniela, daniela.gliga@isa.utm.md

Abstract. As artificial intelligence (AI) technologies become more prevalent in our daily lives, another area that has been affected by the growth of technologies is the field of art. This work aims to acknowledge the application of artificial intelligence (AI) in art, which is examined from a dispassionate standpoint; the history, the evolution, and the impact of AI on humanity and art are also touched. Using articles on this topic, we conducted research and analyzed the existing art and how machine learning algorithms could assist artists in the creative process. We address the application effect of Computational Intelligence on Art, the good potential. However, we address such issues as authorship and ownership. Ultimately, we contend that while AI offers the realm of art intriguing new possibilities, it is crucial to approach its use thoughtfully and with an eye toward its larger social implications.

Key words: artists, ethics, evolution, humanity, opportunities.

Introduction

Once Hawking said, “Artificial Intelligence will either be the best thing that ever happened to us or the worst. If we are not careful, it may well be the last” [1].

However, if it is used wisely and in the right quantities, AI has a lot of potential benefits for humanity. The way artists create and interact with art is being changed by artificial intelligence. AI allows artists to push the limits of traditional art forms and discover new creative horizons. Artificial intelligence innovations in the art include computer vision, neural networks, and machine learning.

AI in the art can take on many forms, such as generative art, computer-generated images, and interactive installations. Generative art is a form of digital art created by using algorithms to produce unpredictable and unique images, sounds, or other forms of media. Computer-generated images are images created entirely by computer programs, often used in the film and video game industries. Interactive installations use AI technology to engage with viewers in a dynamic and responsive way.

AI in art has also sparked discussions around the role of AI in the creative process, the ethics of using AI in art, and the future of AI-generated art. Despite these arguments, it is obvious that artificial intelligence (AI) has the power to transform the art world and open up new options for both artists and audiences.

The connection between the past and present state of art

Art is very closely related to a fundamental sense of self. Artists use various forms of expression to convey feeling, the state of society, to represent critical moments in history or perspective through space and time. Art has always been a creative way of preserving history, presenting different perspectives and scenarios throughout the centuries [2].

Outstanding works of Romanesque, Gothic, Baroque, Classical, Romanticism, Realism and Modernism have certainly left their mark on history. Many contemporary artists use historical references to the art of the past in their work, so it is critical to know the historical context and the significance of each period to the history of art in general in order to understand many paintings.

In the 21st century, machines are gradually replacing humans in many areas of human activity. However, how are things on the creative front?

A large number of new styles of art have appeared, some of them based on AI. According to scientists, some viewers already rate paintings created by artificial intelligence higher than those painted by humans. Will neural networks become a threat to artists as well?

Nowadays, AI art has gone much further, here the AI artist has much more freedom in his actions. Brilliant examples of contemporary AI art can be seen on the Ai Artists website, created by curator Marni Bunny. For example, the performances of artist Sugwen Cheung, who first teaches AI using her own drawings, and then stages art performances with a machine version of herself. The work of David Young, who uses his photographs to teach the computer to depict flowers. Sofia Crespo's Neurozoo series of photographs depicting non-existent organisms. Dozens of examples could be cited.

Today, digital artists are pairing up with neural networks to create things that can compete with the "old masters" for collectors' money. So, in October 2018, artificial intelligence officially entered the art world: for the first time ever, an auction house sold a painting belonging to the brush of a neural network. "Portrait of Edmond Bellamy"(Fig.1) - the work of Obvious, an art group working under the slogan "Creativity - not just for people" - went under the hammer. Initially, the picture was estimated in the 7-10 thousand dollars, but eventually was sold for 432 thousand dollars [3].



Figure 1. "Portrait of Edmond Bellamy" was generated by team Obvious [4]

The implication of artificial intelligence on art progression

Artificial intelligence (AI)-related technologies have a significant impact on the evolution of visual arts, which motivates us to investigate and analyse the creative and explorative potentials of AI technologies.

Using algorithms, machines are increasingly producing art with little to no help from humans. However, little is known about the opinions and perceptions of individuals toward artificially created art.

Benj Edwards, an AI and Machine Learning Reporter for Ars Technica, writes in his article about the members of the online community, the biggest and most famous marketplace ArtStation began widely protesting AI-generated artwork by placing "No AI Art"(Fig.2) images in their portfolios. The protest images dominated ArtStation's trending page. The artists seek to criticise the presence of AI-generated work on ArtStation and to potentially disrupt future AI models trained using artwork found on the site [5].

On December 9, criticism of AI art on ArtStation sped up when character artist Dan Eder, tweeted, "Seeing AI art being featured on the main page of Artstation saddens me. I love playing with MJ as much as anyone else, but putting something that was generated using a prompt alongside artwork that took hundreds of hours and years of experience to make is beyond disrespectful" [6].

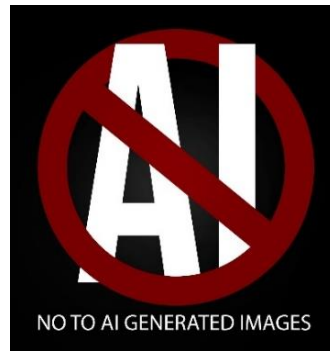


Figure 2. The logo of the protest slogan "No AI Art" [4]

Electra Nanou, an MUO Staff Writer, specialising in creative, professional, and general tech topics, in her article covers the pros and cons of AI Art Generation. AI allows anyone to create art for their enjoyment or purposes, ranging from surrealist paintings and character art to AI background designs for portrait photography. You may complete the task on your own without having to hire costly and time-consuming professionals, at the very least. Creating a level playing field for the arts has tremendous ethical benefits. A competent AI image generator is crucial if someone is low on funds or needs more artwork than they can afford because a human artist can charge a lot for a single project [6].

According to Raya Bidshari, a writer on the topics of innovative education, the future of work and the effects of exponential technologies on society, and artificial intelligence is gradually replacing human intelligence in tasks that were formerly performed by humans. However, when it comes to intellectual and creative jobs, humans still reign supreme. A New York gallery was taken over by an AI Artist called AICAN (Fig.3) and its creator in March of this year. Two series of paintings on canvas depicting terrifying, surrealistic faceless portraits were on display during the HG Commentary exhibition. The show was not solely credited to a machine, but rather to a human and a machine working together.

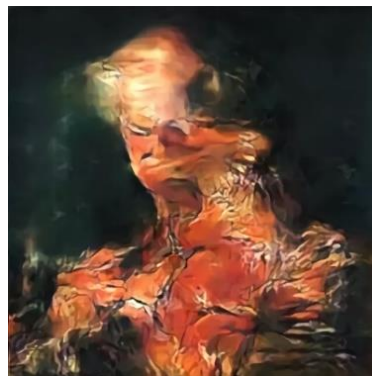


Figure 3. AICAN, Ahmed Elgammal Faceless Portrait [6]

The Art and Artificial Intelligence Laboratory at Rutgers University was founded by Ahmed Elgammal, who also serves as its director. He views AICAN as a partner in artistic undertakings as well as an autonomous AI artist. AICAN uses an algorithm, it was given 100,000 images of Western art spanning five centuries so that it could use machine learning to learn the aesthetics of art [7].

AI creates an image in a matter of minutes while the artists spent years gaining experience and days to create the art, you can just write to a bot in discord and get an image, as the "Midjourney bot" does. But AI can't give us the exact image we want, just something new, but it also gives a wider range of ideas and develops the imagination. Simply providing a prompt, the AI generator will produce the finest possible photos. The responses are generally more intriguing when clearer and

more specific the prompt, on the other hand, it requires a wide range of them so that the generator could give a better image. The best prompt description would make artists, or writers that can explain in detail the view of their image, they should be clear and obvious, therefore giving the idea that no matter how professional the images are created by AI, human eyes are beneficial. The fact with AI is that it gives you a diversity of images you can choose from, it means that it doesn't know what is right and what is beautiful because it's just a machine, therefore AI just gives a pre-pack of a final product that needs to be perfected by humans.

As a result, AI is helpful for specialists, giving them an improvement in creativity and ideas and allows them to understand quicker what the client wants. AI can generate an image based on the database, it can not create something that necessities certain colors, backgrounds, and details. To make a good image in AI you should know photo techniques and have the ability to minimize the number of artifacts that networks generate.

The drawbacks and benefits of artificial intelligence in arts

Art and humanity have been intertwined for thousands of years. Art is not only a reflection of our society and culture, but also a representation of our humanity. As technology continues to advance, the role of art and its creation are also evolving. One of the most significant developments in recent years is the emergence of art generated by artificial intelligence (AI). While this technology has the potential to revolutionize the art world, it also raises important questions about the future of art and its impact on humanity.

Putting too much faith in AI algorithms is risky, especially considering their known biases and relative infancy. Over the last ten years, it have been seen virtual echo chambers created because of AI algorithms driven by massive amounts of behavioral data. Taken together with AI's fundamental lack of human authenticity and emotion, Matt Merrill, the engineer at DEPT said that he has some great concerns about where we're heading.

The prospect of how these apps, such as Deep Dream Generator, Artbreeder and Stablecog being easily accessible to users could get rid of human artists completely has been the concern of many artists. Artist Kelly McKernan took to Twitter to share, "I'm incredibly anxious for the future of my career, more than ever before". She added, "Further, I'm concerned for the future of human creativity" [8].

The company behind Lensa, Prisma Labs tweeted, "AI produces unique images based on the principles derived from data, but it can't ideate and imagine things on its own". In a thread, they wrote, "As cinema didn't kill theatre and accounting software hasn't eradicated the profession, AI won't replace artists but can become a great assisting tool." They added, "We also believe that the growing accessibility of AI-powered tools would only make man-made art in its creative excellence more valued and appreciated, since any industrialization brings more value to handcrafted works" [8].

Apart from the concern about the future of creative labour, artists are accusing AI of violating their intellectual property. At the present time, it is uncertain how AIs will technically evolve, and how law- and policy-makers will react to increasingly autonomous machines. In the field of copyright, it should be taken this uncertainty as an opportunity to rethink rationales for privatization in general, and where to place AIs creations in that equation specifically [9]. Discoveries will be made. Machine intelligence, like applied pigments, the printing press, photography, and computers, is an innovation that will have a significant impact on art. As with previous innovations, it will eventually transform society in ways that are difficult to imagine from where we are now; in the short term, it will broaden our understanding of both external reality and our perceptual and cognitive processes [10].

While AI presents both challenges and opportunities for the future of art and humanity, it is important to approach this technology with caution and consideration. As AI continues to evolve, it will be important to strike a balance between the benefits it offers and the potential risks it poses. By doing so, we can ensure that the art world remains vibrant, diverse, and accessible to all, while also preserving the unique qualities that make human-created art so valuable.

Conclusions

In conclusion, art has always been a means of preserving history, presenting different perspectives, and scenarios throughout the centuries. Many contemporary artists use historical references to the art of the past in their work. However, the 21st century has seen machines increasingly replacing humans in many areas of human activity, including art. Today, digital artists are pairing up with neural networks to create things that can compete with the "old masters" for collectors' money. While AI-generated art has received criticism, it has also created a level playing field for the arts with tremendous ethical benefits. The future of art and artificial intelligence is still being explored, but it seems that humans will still reign supreme in the intellectual and creative aspects of art, and AI will become a partner in artistic undertakings as well as an autonomous AI artist.

References:

1. CELLAN-JONES, R., *The development of full artificial intelligence could spell the end of the human race*[online]. [Accessed 12.03.2023] Available: [Stephen Hawking warns artificial intelligence could end mankind - BBC News](#)
2. JANGID, S. *The Significant Role of Art In Shaping Our Society* by Sanjay Jangid [online]. [Accessed 06.03.2023] Available: <https://www.chitkara.edu.in/blogs/the-significant-role-of-art-in-shaping-our-society/#:~:text=Artists%20provide%20creative%2C%20intellectual%20and,happier%20place%20to%20live%20in>
3. KUNAKOVSKAYA, Z. *Humans are no longer needed: robots will also make art* [online]. [Accessed 06.03.2023]. Available: <https://rb.ru/longread/ai-art/>
4. KINSELLA, E., *The First AI-Generated Portrait Ever Sold at Auction Shatters Expectations*[online]. [Accessed 25.02.2023]. Available: [The First AI-Generated Portrait Ever Sold at Auction Shatters Expectations, Fetching \\$432,500—43 Times Its Estimate \(artnet.com\)](#)
5. EDWARDS, B. *Artists stage mass protest against AI-generated artwork on ArtStation*[online]. [Accessed 04.03.2023]. Available: <https://arstechnica.com/information-technology/2022/12/artstation-artists-stage-mass-protest-against-ai-generated-artwork/>
6. NANOU, E. *The Ethical Pros and Cons of AI Art Generation* [online]. [Accessed 04.03.2023]. Available: <https://www.makeuseof.com/ai-art-generation-ethical-pros-cons/>
7. BIDSHAHRI, R. *The Rise of AI Art—and What It Means for Human Creativity* [online]. [Accessed 04.03.2023]. Available: <https://singularityhub.com/2019/06/17/the-rise-of-ai-art-and-what-it-means-for-human-creativity/>
8. KAVYA, P., *Artists Are 'Concerned For The Future Of Human Creativity' After the Use Of AI-Generated Art* [online]. [Accessed 12.02.2023]. Available: [Entrepreneur](#)
9. RAMALHO, A., *Will Robots Rule the (Artistic) World? A Proposed Model for the Legal Status of Creations by Artificial Intelligence Systems (June 13, 2017)*, [online]. [Accessed 15.02.2023]. Available: <https://ssrn.com/abstract=2987757>
10. AGÜERA Y ARCAS, B., *Art in the Age of Machine Intelligence* [online]. [Accessed 28.01.2023]. Available: [\(mdpi.com\)](#)