The impact and application of

AI painting on concept design

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Abstract

AI Painting can produce numerous paintings in a very short period of time in accordance with keywords and brief descriptions, serving as an inspiration and resource for artists. By doing this, conceptual artists are able to produce their works more quickly, more effectively, and with a marginally higher level of quality. This essay explores the relevance and feasibility of the viability of AI painting and potential future directions for advancement. Meanwhile, it also analyzes the impact and challenges of current AI painting on conceptual design. Among them, the conceptual works of art generated by Ai are used for crime analysis.

Keywords

Introduction

Artificial intelligence (AI) is currently widely applied in a variety of industries,

Among them, Ai painting is a well-known and widely used tool in the design field.

Communicate with Ai through human input, such as cold dog, dog painted by

Leonardo da Vinci, dog photographed by 80mm camera. This process is also called

Promt, and the process of root AI communication is called Promt Engineering. In this

process, Ai will pass the images corresponding to these keywords through Latent

Space in deep learning model learning. In order to make the connection between the

images and the text understandable mathematically, the images that match to the text

descriptions are translated into pixel values, and the patterns are summarised by deep

learning. For example, if the red apple is combined with the blue balloon, then it can

be judged by how much blue it has, and if the blue balloon also becomes an red

balloon at this point, then it can be judged by the shape of the balloon and the apple as

another dimension. Ai will create a large number of different dimensions and generate

more images based on the information of each dimension and classify them at the

same time, creating a Latent Space with multidimensional coordinates by means of

deep learning. So, when we need an AI piece of a dog painted by Leonardo da Vinci,

Ai will find an intersection with the dimension of the da Vinci painting and the

dimension of the dog, and then use that as the basis to generate the desired image.

Literature Review

Digital technology should be regarded as a tool and means for artistic creation. Xinlu Liu (2020) claim that, The only way to promote the inventive development of art and the long-term advancement of science, technology, and the humanities is through the ideal fusion of digital technology and conventional painting techniques. Art is a social interaction. Actually, we think we can argue that AI does a fair amount of this, and it can certainly all be accomplished in a creative partnership between and artist and his or her AI system. Marian Mazzone(2019) argues that Artificial I ntelligence-generated artwork can enhance human creativity and productivity. Of course, with practise and time, painters become better at using their tools, and their tools play a part in the actual physical movements through which they create works in paint. Machine Learning techniques such as Neural Networks and Deep Learning can play an important part in bringing higher level of creative semantics to painterly rendering and computational creativity. Steve DiPaola, Graeme McCaig(2016) argues that deep Learning Networks can comprehend at a semantic level how to balance or mix various aesthetic, intellectual, and abstraction concerns, assisting artists in producing more stylish and imaginative paintings.

Ai painting combined with concept art

AI painting is a subgenre of digital art that combines AI with conventional concept art methods. An artist develops a concept or idea for a work of art through this approach, and then employs AI tools to help create a digital painting based on that concept. Typically, a picture dataset is used to train the AI tool, which enables it to produce new photographs with a similar aesthetic to the dataset's existing ones. The artist can then start with the AI-generated painting and add their own artistic contribution to fine-tune the finished outcome.

The use of AI in painting has a number of benefits. AI helps artists create digital paintings more quickly by automating certain tasks, like colouring and shading, and produces novel compositions and styles that may be challenging for a human artist to create on their own. AI can produce digital paintings much faster than a human artist, which can be helpful for artists who have tight deadlines or who want to quickly explore multiple ideas. Tools can be utilised by artists of various ability levels, which can make digital painting more accessible to a wider audience. This can be especially valuable for artists who wish to try out new creative techniques or explore new visual trends. However, it is important to note that AI painting is not a replacement for traditional artistic skills and techniques, and it is still up to the artist to bring their unique vision and style to the final product.

In an effort to comprehend and imitate this creative process, our research employs

many artificial intelligence techniques, such as Deep Learning Neural Networks, Genetic Algorithms, and Neural Networks. Steve DiPaola, Graeme McCaig(2016) claim that Deep Learning Networks have a semantic understanding of how to balance or combine various aesthetic, intellectual, and abstraction issues. They examine three new AI techniques that the Painterly Rendering software framework has added. These three AI techniques are bringing more high level tools and insights to model the cognitive creative process of a portrait artist, generating finished AI paintings with style traits.

Problems faced by AI

Despite the fact that Ai can offer conceptual artists a lot more references and inspiration, as these references are based on photographs in the database, there are times when only a few images are recognised to produce its equivalent works. A artwork that can potentially violate someone's copyright could be created by a machine learning algorithm. It may be considered copyright infringement if the AI system uses another person's artwork as a model or source of inspiration for its own painting and the finished product is sufficiently similar to the original to be regarded as a copy.

Artstation is a comprehensive CG visual art website, a mainstream artwork showcase platform for the game, film, media and entertainment industries. It has a large number

of paintings, CG works created by concept artists, cg practitioners. And it is also one of the sources of AI collection database. As a result, some artists discovered that the posted versions of their creations were only altered by AI before being submitted by others on the network. Many of the artists have publicly expressed their opposition to AI painting on social media because it has greatly harmed them. In response, Artstation updated their website and shared a message on social media with advice on how to use AI software, including crucial guidance on how to handle artist copyright and AI painting software. This is what it says: "We feel that artists should have the freedom to choose how to utilise their work, and we do not want to be a gatekeeper, as the rules of the site will hinder AI research and commercialization while honouring the artist's decision and copyright regulations. However, its exact validity is uncertain. for bargaining. Human-made artworks are thought to be superior to AI-made ones. Paweł Fortuna Artur Modliński（2021）claim that when the identity of the creator is revealed, works created by AI are less valuable than those developed by humans. This tendency happens whether the examined paintings are in a figurative or an abstract style.

The future of AI painting for conceptual art

The precise role that AI will play in conceptual art in the future is difficult to foresee because it will rely on how the technology is adopted and used by artists as well as how AI continues to advance and evolve. But it's likely that in the future, AI might contribute more to the production of conceptual art. AI systems have the potential to

be used by artists as a tool to help them explore and create new ideas because they are capable of producing creative pieces of art that are inspired by specific notions or ideas. However, the application of AI to the arts may also prompt discussions about the function of the artist and the nature of artistic production. While some may regard the use of AI as an opportunity for creative cooperation, others might see it as a danger to the originality and validity of works of art made by humans.

Conclusion

AI painting is still in its infancy, but it has the potential to produce art using a lot of computational power and a lot of training images, which can inspire conceptual artists to produce better art. It is a new technology that is still in the investigation and discovery stage, but policies addressing AI painting and issues linked to copyright infringement are still up for discussion. Ai will eventually be able to assist human artists in their work in more ways.

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