

AI GENERATED ART

CS 131

Discrete Mathematics

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INTRODUCTION



WHAT IS AN AI ART?

AI art refers to art generated with the assistance of artificial intelligence.

AI can construct novel works through machine learning, using various self-learning algorithms that derive knowledge from data.

- To create AI-generated art, artists use AI as a creative tool and work with algorithms to set up specific rules through which machines analyze thousands of images to comprehend a particular creation process, like a specific style or aesthetic.

AI Winning First Place in Finr Arts Exhibition

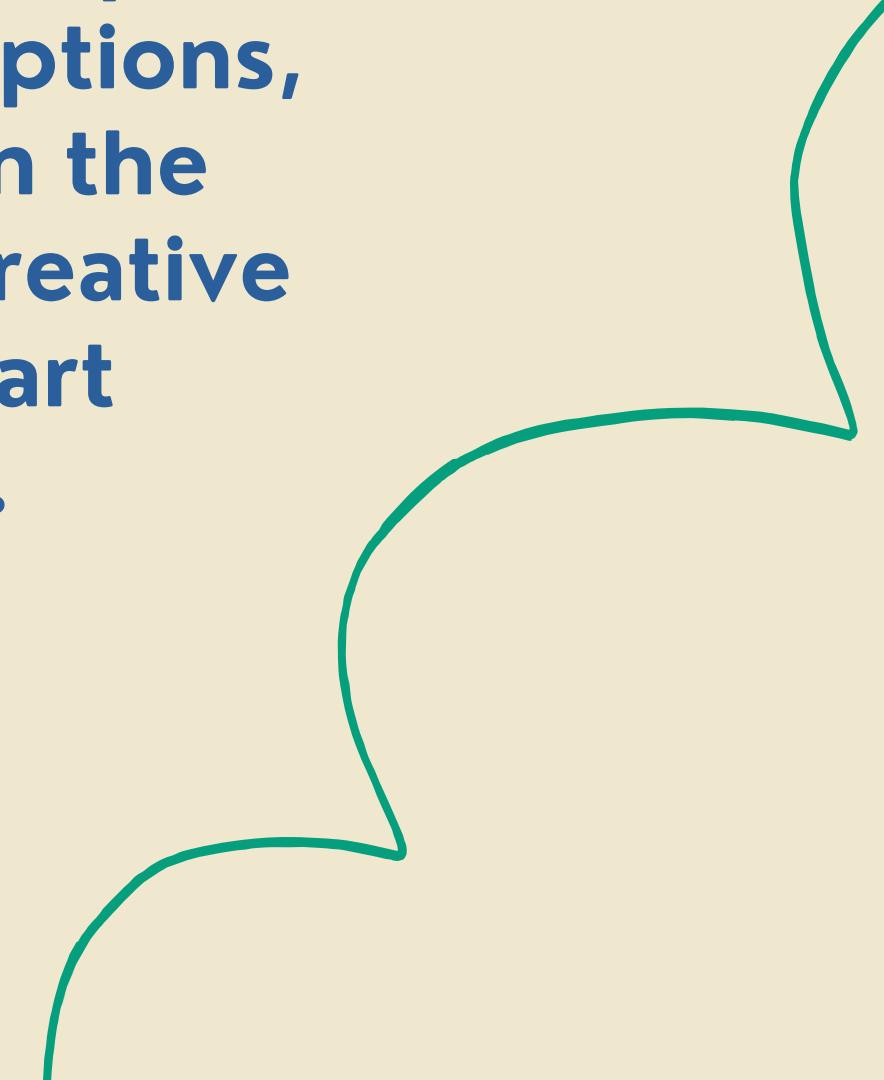




How to Make an AI Art?



One can develop images in the style of others, generate unique graphics just by text descriptions, or even embark on the journey to learn creative coding and make art merely with code.



How exactly an AI can make an art?

Researchers and developers have been building many tools and applications that can be used by anybody to create art.

Most of these work with Generative Adversarial Networks (GANs)

Most of the time, art pieces that are generated by AI-based algorithms involve GANs.

What is GANs?

With a GAN, two sub-models are trained at the same time. The first is a generator model that is trained to generate new examples, and the second is a discriminator model that attempts to classify examples as either real or fake. The two models are trained simultaneously until the discriminator model is tricked about half of the time. Once this occurs, the generator model is generating plausible examples.

AI in creative process

The most common AI generation method used by art generators: VQGAN+CLIP.

VQGAN+CLIP is a neural network architecture that revolves around a text-to-image model to generate images of variable sizes. It does this after being fed a set of text prompts and various other parameters. VQGAN+CLIP is actually a combination of two neural network architectures: VQGAN and CLIP. In simple terms, CLIP helps guide VQGAN to achieve an image that is the best match to the given text.

NightCafe Art Creator

one of the top AI generation tools is NightCafe Creator. The app offers two methods of AI generation: neural style transfer and VQGAN+CLIP. The first helps re-imagine images in any style chosen by the user, while the second creates art out of a text prompt.



THANK YOU!

