# Are photographers AI artist too?
By Malcolm McElvaney

Some topics just take time to cook in my head until the idea completes itself, AI art is one of them and while I have many questions and opinions I focus on the one question here. Are photographers AI artist too? I feel it has a loose but valid correlation because they are both visual in nature; however, the interesting aspect of comparing art forms usually come down to the medium used dictating method but AI art seems to be less about the medium and more on the process used to create an image. The mechanism is machine learning as the artificial component and intelligence focused on pattern recognition; while crude in someways it succeeds where the ultimate model, the human brain, finds it difficult to do. There are insights to be gleamed and maybe a new way to define the way I approach what I do here that goes beyond wanting to understand AI art.

The video out of the myriad I watched that somehow I could relate to was [New Lawsuits Threaten A.i. Art (Could be Major!) | Corridor Cast EP#163 - YouTube](https://www.youtube.com/watch?v=FqSGP37pu5k) (https://www.youtube.com/watch?v=FqSGP37pu5k). The Corridor Crew has a website, YouTube channel and likely other sites but they are experts at what they do and embrace new tools to do some amazing work. A video about a lawsuit turned into a casual conversation shared on the internet that demystified a process for me. To begin with they were talking about a lawsuit aimed at Stable Diffusion and the use of a data set from LAION specially but this brought out details in general I never knew about. The data set developed by LAION was scraped off the public internet, images freely collected but not exactly cleared for all purposes apparently that was used to train a neural network model via a diffusion model. The numbers boggle the mind but imagine 50TB of images being reduce to a 4GB model that holds the latent details of these training images not as exact replicas but an abstract of all of them in one latent space. The program we humans use has a prompt and way to refine results but the translation of that prompt into an abstract coordinate that finds the needed information in the vast neural network (model) is where the magic begins and in the accelerated time frame of a computer the results appear. Not all AI art programs use the same model and do have differences, further you can train a program with your own unique images for better results.

$$q(x_t \vert x_{t-1})$$

$$x_0 \quad \cdots \quad x_{t-1} \quad x_t \quad \cdots \quad x_T$$
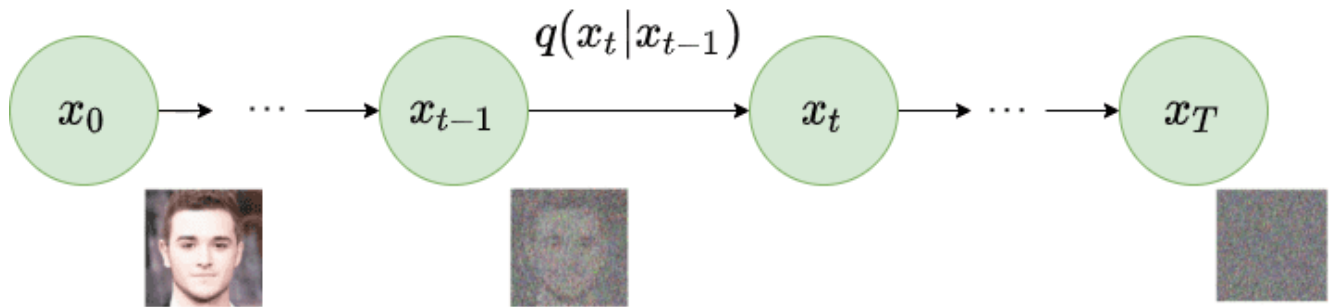
What I describe above is still so vague and beyond me I'm amazed even after watching others play with the software and showing how it works. I will redirect you to Introduction to Diffusion Models for Machine Learning (assemblyai.com) (https://www.assemblyai.com/blog/diffusion-models-for-machine-learning-introduction/) if you would like to learn more about the diffusion model. I borrowed this illustration from another website How diffusion models work: the math from scratch | AI Summer (theaisummer.com) if you would like another source but as you can see the idea is to add gaussian noise over the image in stages and the machine continues to learn how to reconstruct the original. This training progression is a forward diffusion and once fully trained noise can be transformed in a reverse diffusion process.

An absurd assertion

From the technical I move onto the maybe more absurd but I am also trying to see this from another point of view. The questions not to be covered like is this art, will it replace artist, etc still will be left untouched but the premise is simple if this is art and somewhere in the process an artist exist to learn from then it worth exploring further. I'm a photographer not a painter yet knowing more about the process of how a painter produces a painting adds to the appreciation of it, I would have a hard time understanding how the artist themselves produced it or made it appear on the blank canvas. AI art is one step closer to being understood because it is a program and lots of work to train it but ease of use and fast results removes most of this need to know how it works. The prompter isn't the artist and without the user prompting it the software would be idle so the hidden "artist" within might or might not exist; however, a list of qualities characterizing a potential artist could be made instead.

It isn't a painter or photographer but having been trained from so many image types maybe it has less resistance to blending and mixing the digitized images from drawings, paintings, photographs, CGI, etc as I assume the collection pulled from the internet would be just as varied. It is technically an expert at what it does but absence the knowledge of assumptions and rules enforced by us as we interpret the world makes surreal and other odd images in the attempt to give us a result. The results can be refined

or corrected over time by the user but is the charm and odd quirks what attract us to the process. It can take criticism all day long and not judge itself because it is just a program taking the adjusted input but that seems like a quality despite this.

Having met this artist maybe the take away for me would be to be less rigid in the imagery I use even though it would push me way beyond the processing I do now and knowingly break the rules more.

Co-opting some concepts

The latent space of the model refers to the neural network created from the training process resulting in all the images merging into one addressable space. One of the reasons I seem to go down these odd paths is to figure out how I work. One question is how can I keep visiting a location like Comanche Trail Park or the Monahans Sandhills State Park but come out with new images? Perhaps a place in the real world is more like a latent space because is has potential for so many images to be created depending on the light, weather, time of day, path I chose to walk, etc as thing change over time.

I create a data set to train myself on with each processed image but the neural network is my brain and in truth the images get lost eventually anyway so the learning process is similar. What I can do differently is break down the better images for the composition, layering involved, why it worked, etc into a more abstract version that helps me see the pattern later on. This database is one step removed from the strong visuals influencing me. I really prefer to work with my own work but in theory any photograph or painting even could be broken down into a more abstract variation to serve a similar purpose. A sketch, top down view for layers, and text takes less space to store and maybe in putting it down on paper re-enforces the observation.

In the diffusion model remember the source image is progressively being lost via gaussian noise and this could benefit real artist too. If my talents went more toward drawing I could see where having less clear detail in an image I'm copying from might force me to fill in details or help with recall of details. Chances of an exact copy aren't likely but as an exercise this might be beneficial.

Final thoughts

Photographer are not AI artist in the end but can learn from an emerging art form perhaps as I have tried to show here. These are a result of a few days worth of pondering so somewhat random but it is how I work out new ideas. We are all unique and different and it shows in the work we create but just as influenced by all we absorb and see so how creative are we actually versus sharing some common references. AI art models are well trained and having absorbed so much create convincing results but how creative is

it in the end. Distinctions are blurring as digital art in general merges painting, photography, and more into one seamless possibility, so human controlled or machine controlled a grey area exist.