

# SCCH CC Advance Photography and Processing Group (“APP”)

## Artificial Intelligence (“AI”) in Photography

October 21, 2022

### 1. What is AI?

1.1. **artificial intelligence (AI)**, the ability of a digital [computer](#) or computer-controlled [robot](#) to perform tasks commonly associated with intelligent beings. ( <https://www.britannica.com/technology/artificial-intelligence> )

1.2. **Artificial intelligence (AI)** is [intelligence](#) demonstrated by [machines](#), as opposed to the **natural intelligence** displayed by [animals](#) and [humans](#). AI research has been defined as the field of study of [intelligent agents](#), which refers to any system that perceives its environment and takes actions that maximize its chance of achieving its goals.

([https://en.wikipedia.org/wiki/Artificial\\_intelligence](https://en.wikipedia.org/wiki/Artificial_intelligence) )

1.3. <https://www.simplilearn.com/tutorials/artificial-intelligence-tutorial/what-is-artificial-intelligence>

1.4. <https://www.codingem.com/what-is-artificial-intelligence/>

1.5. <https://www.codingem.com/ai-glossary/>

### 2. Types of AI used in still image “photography”

2.1. This is my quick take on where AI is being used today

2.2. I use quotes around “photography” to indicate that some of what AI is now doing isn’t the capture – processing model we have all been used to

2.3. I am seeing four main uses of AI in photography so far:

2.3.1. Processing within existing processing apps. For example

2.3.1.1. Some selections in Lightroom and Photoshop

2.3.1.2. Neural filters in Photoshop

2.3.2. Utility Apps that can be used standalone or as plugins. For example

- 2.3.2.1. Topaz DeNoise AI, Sharpen AI, Gigapixel AI and now Photo AI.  
Diane will talk about these next month.
- 2.3.2.2. DXO DeepPRIME, NIK Collection
- 2.3.3. Photo restoration apps
  - 2.3.3.1. These can be standalone or within an existing processing app – eg the new neural filter for photo restoration that was just added to Photoshop – it has been in the Photoshop beta for a while)
  - 2.3.3.2. Graham is going to tell us about his experience today
  - 2.3.3.3. Here are some links to videos on photo restoration apps:
    - 2.3.3.3.1. PiXimperfect re Photoshop Neural Filter:  
<https://www.youtube.com/watch?v=K1xrOPKjPrA>
    - 2.3.3.3.2. VerticDesigns re Photoshop Neural Filter (I found PiXimperfect to be a better video):  
<https://www.youtube.com/watch?v=0iPWqSG3Cpo>
    - 2.3.3.3.3. Glyn Dewis using DALL-E , Photoshop and Topaz GigaPixel AI to restore and add background): <https://www.youtube.com/watch?v=KAABMsQnfYA&t=93s>
    - 2.3.3.3.4. SaaS Master using ImageColorizer (link in description of video – I didn't open the link): <https://www.youtube.com/watch?v=soA36KFPtIY>
    - 2.3.3.3.5. PiXimperfect re DALL·E 2 for adding to or varying (?) images: [https://www.youtube.com/watch?v=QrT4gdk\\_HLM](https://www.youtube.com/watch?v=QrT4gdk_HLM)
    - 2.3.3.3.6. VanceAI re the Best 3 Image Restoration Tools (Restore Old Damaged Photos Without Photoshop) – I haven't watched:  
<https://www.youtube.com/watch?v=bfCiabSCecs>
    - 2.3.3.3.7. Anthony Morganti re using Topaz Labs Photo AI on a number of old scanned images – I haven't watched:  
<https://www.youtube.com/watch?v=XWEKuvvmCHDI>
- 2.3.4. Standalone AI processing apps:
  - 2.3.4.1. Topaz Studio 2
  - 2.3.4.2. Luminar NEO and AI
  - 2.3.4.3. On1 Photo Raw (2023 is the most recent version, I believe)

- 2.3.5. AI Art generation apps
  - 2.3.6. Creating something from nothing (or, rather, from zillions of existing photos and other artwork)
  - 2.3.7. As recently as a week or so ago, I had no idea these apps existed.
  - 2.3.8. Not sure I want to know, but today I will discuss briefly.
3. What is AI art generation?
- 3.1. Basically, the generator creates an image
  - 3.2. <https://www.youtube.com/watch?v=SVcsDDABEkM>
  - 3.3. <https://www.youtube.com/watch?v=1CIpzeNxIhU>
4. Types of AI art generators
- 4.1. Text-to-image generators
  - 4.2. Mobile generators
  - 4.3. image-to-image generators
  - 4.4. AI generators with APIs that developers can use (API is the acronym for Application Programming Interface, which is a software intermediary that allows two applications to talk to each other)
5. Lists of AI art generators:
- 5.1. <https://www.codingem.com/best-ai-art-generators/>
  - 5.2. <https://www.skylinesocial.com/ai-art-generator/>
  - 5.3. <https://gizmodo.com/ai-art-generator-midjourney-starry-ai-1849397263>
  - 5.4. [https://www.youtube.com/watch?v=pHO\\_24oAo9Q](https://www.youtube.com/watch?v=pHO_24oAo9Q)
    - 5.4.1. Jasper Art
      - 5.4.1.1. \$20 per month
      - 5.4.1.2. Use for business generating images
      - 5.4.1.3. Can try for free
    - 5.4.2. craiyon (was Dall-E Mini)
      - 5.4.2.1. Free
      - 5.4.2.2. Can't use images for commercial purposes
      - 5.4.2.3. Takes time to generate image-to
      - 5.4.2.4. Weird looking people (people working in an office)
      - 5.4.2.5. May be OK for non photorealistic
    - 5.4.3. Photosonic

- 5.4.3.1. more photorealistic
- 5.4.3.2. limited in works, based on package signed up for
- 5.4.4. Wonder
  - 5.4.4.1. Free and paid versions
  - 5.4.4.2. But, watch an ad
  - 5.4.4.3. Not great for photo realistic
  - 5.4.4.4. Perhaps better for abstract
- 5.4.5. Wombo
  - 5.4.5.1. Gives one version
  - 5.4.5.2. Photo realistic not so great
- 6. Using AI Art Generators to supplement regular photography
  - 6.1. Even if you have no interest in creating entire images using an AI art generator, you may wish to use one to fill in parts of images where something has been removed or is missing
  - 6.2. PixImperfect on using Dall-E to fill in where you have removed objects from an image: <https://www.youtube.com/watch?v=ZK1lsnWEbj8>
  - 6.3. Repeated from above: Glyn Dewis using DALL-E , Photoshop and Topaz GigaPixel AI to restore and add background):  
<https://www.youtube.com/watch?v=KAABMsQnfYA&t=93s>
- 7. Pros and Cons
  - 7.1. There is discussion going around whether this is good or bad for artists who live off of what they produce. Obviously, it isn't going to affect real photograph (at least for a while).
  - 7.2. <https://www.weforum.org/agenda/2022/10/ai-artist-systems-bring-delight-and-concern/>
  - 7.3. There were two articles in the New York Times today, both on AI image generation. These are accessible from my Dropbox:  
<https://www.dropbox.com/sh/lr55ffyoax541u8/AAAAb1plOGUwHiUGjaX766WXa?dl=0>
  - 7.4. But see the PiXimperfect YouTube mentioned above: basically, AI is here, may as well use it like any other tool.
- 8. Example:

- 8.1. I signed up for and played around with one of the text-to-image generators
- 8.2. My sense is that this is pretty gimmicky except for one instance:
  - 8.2.1. Filling in when you want to add to a scene because your borders are too close to your subject (example shown in the Glyn Dewis YouTube video was restoring an old photograph of some kids)
- 8.3. Here is one example of what I was able to produce with zero experience and zero training:  
<https://discord.com/channels/662267976984297473/989739686203367464/1032042230480904203>
- 8.4. Here is another:  
<https://discord.com/channels/662267976984297473/989739686203367464/1032421527402057830>