



By Kristen Farrell, Manager of Marketing & Public Relations, AFCI

The Google Arts & Culture App became the first viral internet sensation of 2018 when it introduced a new feature that matched a selfie with a museum portrait. "When you take a photo with this feature, your photo is sent to Google to find artworks that look like you," explains the app. Google uses its facial recognition algorithm to compare your picture with classical and modern paintings. This is not Google's first attempt at creating algorithms that re-create art. Last year, the company launched AutoDraw (autodraw.com), which according to Google's blog - is an artificial intelligence experiment that "pairs machine learning with drawings created by talented artists to help you draw." Here, I used AutoDraw to make an orange cat and the tool immediately recognized my drawing by suggesting a professional cat sketch (see next page).

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Google has been training systems to learn sketches with Quick, Draw! (quickdraw.withgoogle. com), another research experiment. Much like Pictionary, Quick, Draw! asks you to draw different images in less than 20 seconds and then tries to guess what you are sketching. After playing, Quick, Draw! shares how many pictures it guessed correctly, and shows you how it figured them out, as well as other sketches from its database of 50 million doodles.

The technology giants of the world are not the only ones who are formulating algorithm art. Computer scientists at the Art & Artificial Intelligence Lab at Rutgers University (sites. google.com/site/digihumanlab) are doing the same thing. Their mission is to "push the envelope of computer vision and artificial intelligence by investigating perceptual and cognitive tasks related to human creativity." Artsy, a digital resource for art collecting and education, hailed Professor Ahmend Elgammal's new art-generating algorithm as "the biggest artistic achievement" of 2017.

Similarly, Dimitris Ladopoulos, an Athens-based artist, created an algorithm that produces random rectangle shapes, which he used to create a digital representation of his favorite paintings. Dimitris' work can be viewed on his website, dimitrisladopoulos.xyz/ projects/portraits.html.





Computers Are Learning the Art of Creativity

So, what's the relevance of all of this?

Algorithm art is another example of how computers are becoming more human-like. Many of the developments in technology we've seen are driven by science; in other words, computers acquiring knowledge. Everyday examples of how we interact with technology in a human-like way are using the self-checkout line at the grocery store or having a conversation with Alexa or Siri about the weather. These are similar to how I played the Pictionary-esque game with Google's Quick, Draw!

The evolution of algorithms in the art industry has not replaced an artist's creativity. Yet the ongoing research on the crossover between algorithms and art could change this one day. Right now, algorithms can replicate art. Will they be able to create original art one day soon?



Support for Art Education

A positive outcome of algorithm art is its potential impact on generating more interest in the arts. New research commissioned by AFCI (available at research.afci.global) shows that 62 percent of United States households participated in a creative activity in the past 12 months, and that kids' crafts is gaining popularity. This research suggests that parents recognize creative activity as an essential component of creative thinking and education for their children. As algorithm art enters the mainstream, it could spawn support for integrating arts into STEM (science, technology, engineering and math) education.

Are you experimenting with algorithm art? We'd love to learn how you are utilizing it in your creative business. Share your story by emailing kfarrell@afci.global.

