AI and Art: An Increasingly Inextricable Affair

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Siri, Waze, Google Translate, Instagram -- we experience Artificial Narrow Intelligence (ANI) every day of our lives when we use apps that are trained for a specific task, such as when Spotify recommends new songs based on the music you already like. These apps compute the data users give (whether knowingly or not) and adjust their own algorithms to provide the best possible experience. This is an application of Artificial Intelligence called machine learning. While some see it as a subset of AI, many argue that the ability to learn and improve through experience is critical to the very definition of intelligence. The explanation of machine learning is all-encompassing: "the programming of computers to optimize a performance criterion using example data or past experience."[1] This may mean showing online shoppers clothing ads based on their previous purchases, or, in this article, it may mean breaking our perception of what makes an artist and what makes art.

In an article titled "AI is Blurring the Definition of Artist," Ahmed Elgammal breaks down the process of teaching AI to autonomously create art.[2] Artists first choose and feed thousands of images in the same genre or time period to teach an algorithm a specific aesthetic: for example, Impressionist portraits. Next, a class of two-sided algorithms called general adversarial networks (GAN) are used. "One generates random images; the other has been taught, via the input, how to judge these images and deem which best align with the input."[2] Then, artists must sift through the produced images and hand-pick the works they would like to utilize. Here, Elgammal claims that seventy-five percent of viewers thought the algorithm had been produced by a human artist.

This is a claim corroborated by an interactive lecture given at the Alan Turing Institute in London in the spring of 2019. In this situation, AI artwork was not limited to the constraints of paintings; poetry, prose, and music were also displayed. With each new slide, the presenter would project, side by side, art created by AI and human-made artwork. Using their phones, each member of the audience voted on which artwork they thought was generated by artificial intelligence. Every round, the votes were split 50/50. The audience was never able to agree on which was made by AI, by any margin. Can you?[3,4,5]

A home transformed by the lightning
the balanced alcoves smother
this insatiable earth of a planet, Earth.
They attacked it with mechanical horns
because they love you, love, in fire and wind.
You say, what is the time waiting for in its spring?
I tell you it is waiting for your branch that flows,
because you are a sweet-smelling diamond architecture
that does not know why it grows.

```
you

   are

         inscribed
              in the
                 lines  on  the
         ceiling

           you

  are

     inscribed in
             the depths
     of
            the
       storm
```

```
public class Of_superstition {
says<that<cat>> is;private void devils_pet()
{if(you.cross&its.whicked_way){}
it will = null; your<balls> away_to;}
public static void

main(String[] of_my_idea) throws Exception{
if(you.feel_like instanceof musketeer
& believe_in.engineer){}
int You = can.save + your.pointy_ears;
int This = world.fulfilled + with.fears;

while(you.feel_like.you& are.safe){
dont<forget> of, devils_sake;
int he = can.hunt + you.anywhere;
do{long thinking;}while(you.can);}}}
```

Despite what your instincts may lead you to believe, the only work created by a human is the third. The first poem is a project by biophysicist Zach Scholl who decided to conduct a Turing test on his AI.[3] The Turing test is a test of the ability of a machine to be undetected as a computer, indistinguishable from a human. For Scholl, this meant getting this poetry accepted into a literary journal under the guise it was written by a human poet. Scholl used a poem generator which works by compartmentalizing a poem into smaller constituents like stanzas, phrases, and nouns. "When a call to create a poem is made, then it randomly selects components of the poem and recursively generates each of those. For example, a generated title may look something like this:

```
*title*=A *fruit*
*fruit*=grape|apple|orange|banana|cherry|mango|kiwi|tomato|lemon|fruit
```

In that case the title is generated as 'A' and then it looks up and selects one of the possible words to finish it before it returns 'A grape' or something similar."[4] Using this method, Scholl's AI-created poetry was accepted by *The Archive*, the oldest student publication at Duke University.

While nevertheless a fascinating topic, one would be justified in feeling an undercurrent of alarm while reading this article. The quality of AI to be indistinguishable from a human is one of the hallmarks in reaching Artificial Superintelligence, the arrival of which is highly debated by experts in the field. Nick Bostrom defines ASI as an "intellect that is much smarter than human brains in practically every field, including scientific creativity, general wisdom and social skills."[4] Compared to such an entity, human beings would have the intellect of an ant. The potential implications of this are both immense and unpredictable. As a society, we are losing control of AI. It may start as an entertaining novelty in the form of paintings and poetry, but what happens when super-intelligent systems don't share our motivations, desires, or hopes for the future of humanity?

References

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