

## The Balog Group at Morgan Stanley

### Interesting Artificial Intelligence Projects – 01/23/2023

Recently there's been some big headlines in relations to artificial intelligence. You likely have heard about 'ChatGPT'. What is ChatGPT? It's an open-source artificial intelligence project that mimics human language. This means anyone can go to their website free of charge and use the tool and ask the 'chatbot' to generate messages. Usage can range from people innocently testing its capabilities, to students at universities perhaps not so innocently using it to cheat on essays, all the way to Hollywood writers using it as inspiration for their next movie script. The 'Chat' part of its name makes sense as its sole purpose is to replicate language in a more conversational way. But the GPT part is a bit more complicated. Generative Pre-trained Transformer is what it stands for. It's an autoregressive language model that uses deep learning. In plain speak, it teaches itself by reading millions of pre-existing texts that exists on the internet, and it gets smarter over time as it gets used more. Just like how a child would learn to speak...but just supercharged. On the following page we share a conversation we had with the AI. We feel it's a good example of what it's capable of, and the most impressive part about it in our opinion is that it provided this response in the matter of seconds.

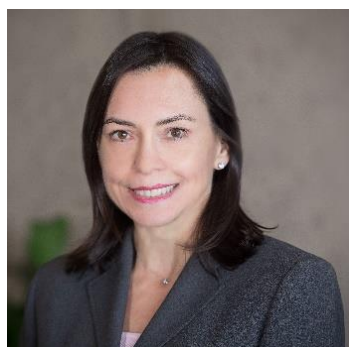
Turning to art, and other AI projects, the first AI-generated portrait sold at Christie's in December of 2018 for \$432,500 by a GAN (Generative Adversarial Network). The AI was fed 15,000 portraits painted between the 14th and 20th centuries in order to 'learn' the style. The AI's algorithm was composed of two parts, a 'generator' that makes images and a 'discriminator' which judges images. The 'generator' would spit out images and the 'discriminator' tried to spot the differences between a human-made image and the 'generators' images. The 'successful' images are the ones that fooled the 'discriminator'. The painting sold was "The Portrait of Edmond Belamy" a fictitious individual of the fictitious Belamy Family. There's a whole family tree that exists. We would suspect more AI generated images to make waves in the art world.

DALL-E is another example of interesting AI Projects. It's from the same people who made the ChatGPT AI, and it too is considered 'open-source' allowing anyone to use it. Instead of learning the human language however this AI is geared towards learning art. Proponents of the technology say this can help build out the visuals within the metaverse and artists can work in conjunction with the AI. Critics however have expressed concern over this technology helping bad actors create false images and increasing the amount of misinformation on the internet as what gets created by these AI isn't necessarily factual.

We'd love to hear from you, what are your thoughts on this kind of new technology that's coming out?



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### Interesting Artificial Intelligence Projects – 01/23/2023 [continued]

#### Exhibit 1. A Response from ChatGPT to a specific request from Steven Anderson

ST Hi, I write a weekly newsletter to our clients about interesting topics usually about the economy or stock market. However, this week I'm writing about you! Can you give us a quick introduction to who you are and why you are so special? I try to keep the letter lighthearted, fun, and entertaining, but also relatively short. 

 Sure, I'd be happy to help! I am ChatGPT, a large language model trained by OpenAI. I am special because I have been trained on a massive amount of text data, which allows me to understand and generate human-like text with a high degree of accuracy. This makes me a powerful tool for a variety of tasks, such as answering questions, summarizing text, and even writing creative content. I'm like the AI language genius!  

ST Thanks! I'm sure our readers will find you very interesting. I hope you have a good rest of your week.

 Thank you! I am always here to help, and I'm glad that you found me interesting. I don't have the capability to rest but it's my pleasure to assist you and your readers. Let me know if you need any help with your newsletter in the future. Have a great week!  

#### Exhibit 2. 'An astronaut riding a horse in a photorealistic style' Generated by DALL-E2



## Sources:

1. [Wikipedia - ChatGPT](#)
2. [Wikipedia – Generative Adversarial Network \(GAN\)](#)
3. [Wikipedia – Edmond de Belamy](#)
4. [Wikipedia – DALL-E](#)

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CRC# 5421253 01/2023