READY OR NOT

ChatGPT and other AI could upend education as we know it

By Aleena Gilani, Elizabeth Hu & Serina Yan

HELLO! I'M CHATGPT

When researching ChatGPT, we went straight to the source and asked ChatGPT to write an article for a high school newspaper about itself. This is what we got:

"Have you ever wished you had a smart, witty and knowledgeable friend to talk to at any time of the day? Well, your wish might have just have been granted! Meet ChatGPT, the OpenAI language model that's taking the world by storm."

ChatGPT wrote this paragraph in under five seconds, and it's terrible.

It starts with a question lede, which is amateur at best. And an exclamation mark? Strictly forbidden. But even though the ending is editorializing, it's not wrong.

> Sticking your head in the sand and pretending they don't exist does not seem to me to be either an intelligent or productive answer.
>
> ***DWIGHT RAULSTON***

The chatbot was released on Nov. 30 by research lab OpenAI. ChatGPT was coded to interact with users in a way that mimics human conversation, but it can be used for a multitude of purposes, including writing poetry, computer coding and solving equations.

It has garnered international attention, amassing one million users in under a week and eclipsing 100 million in January. What distinguishes ChatGPT from other chatbots is its ability to engage with user prompts without sounding overtly robotic since it was trained using human interaction and feedback.

Because ChatGPT can generate a high school caliber five-paragraph essay – with quotations and citations – in seconds, teachers are naturally concerned that students have already used it to complete assignments.

"I would put money on the idea that I probably have received papers that have been, at least in some part, AI-generated," said English teacher Clay Guinn, who is leading the Upper School English Department's task force on ChatGPT.

Leonard, not his real name, is an Upper School student who has used the chatbot to create outlines for English essays. He simply followed ChatGPT's suggestions and plugged in quotations. Leonard admits that the quality was the same as what he would have done on his own, but it was significantly less work. "I didn't really have to think about anything," he said.

Guinn is concerned that instead of using AI as a research tool, students will use ChatGPT to do all the thinking for them.

"ChatGPT will never tell you something that hasn't already been thought of," he said. "If it is my job to help you think about stuff in new ways or put ideas together, then ChatGPT will short-circuit that."

The chatbot's meteoric rise to popularity has caught educators off guard.

"It happened super fast. It's hard to regroup at a time that's not summer," Guinn said. "I'm worried we're going to be behind."

Students currently use the chatbot for assignments in almost every subject area, confirming many teachers' fears.

Harvey, an Upper School student, says members of his science class used the chatbot for major projects. "People used it to do the entire midterm – they just plugged it into ChatGPT, and it produced the answers."

According to Head of School Dan Alig, students representing chatbots like ChatGPT's outputs as their own work violates the Honor Code.

"We still expect deep engagement when it comes to writing and reading, and we still expect kids' work to be their own," Alig said. "We'll be looking for ways to ensure the kids are authentic and honorable."

Director of Curriculum Dwight Raulston says the School has to do more than just alter the Honor Code. AI is here to stay, he explains, and St. John's needs to adapt.

"All they're going to do is evolve and get more sophisticated," Raulston said. "Sticking your head in the sand and pretending they don't exist does not seem to me to be either an intelligent or a productive answer."

One analogy Guinn uses is that ChatGPT is like a calculator: once the devices became more accessible to students in the 1970s, schools had a similar reaction. Educators soon realized that if their homework could be solved by a pocket-sized device, the curriculum needed to change.

"We need to rethink not only how we assign papers, but also how we assess them," Guinn said. "So we can make rules about it, and we can block the site, but we need to make it not tempting for students to use."

If a student can generate a paper in seconds and get an acceptable grade, Guinn says teachers need to change the way they evaluate student writing. He admits that, while it may be cliché, there is no "heart" in AI-generated writing. But heart and voice are hard to quantify on a grading rubric.

The English department task force has been discussing the situation and encourages teachers to have conversations about ChatGPT and other AI tools with their students. Guinn even demonstrated to his seniors how they could hypothetically use the chatbot for their assignments.

"I actually put the current essay prompt into ChatGPT," he said. "It is interesting and fun to play with, but it's also shallow and a little childish."

The chatbot is built on the GPT-3 language model, also developed by OpenAI. It is the largest neural network ever created, containing samples of human text ranging from 17th-century prose to Reddit threads.

"It's mainly focusing on creating a neural network that's simulating the same neural pathways that you would have in your own brain," Engineering teacher Matt Bounds said.

One of the primary issues with using chatbots for papers and projects is that they often pull information from untrustworthy or faulty sources. While OpenAI has made efforts to prevent ChatGPT from including offensive or false content in its responses, the model still struggles with accuracy.

ChatGPT also cannot respond to prompts relating to current events. The dataset it draws from is limited to anything published before 2021, so if a user was to ask it about the war in Ukraine, it would spew out information about the Russo-Ukrainian conflict from 2014.

Programmers and educators have begun using ChatGPT's limitations to their advantage. While incorrect information and citations are often easy for educators to spot, coders have begun programming models that determine whether text was AI-generated. "GPTZero," a website created by Princeton student Edward Tian, has gone viral.

Despite its threat to the establishment, Guinn says AI could have a positive impact on education – he even mentioned the possibility of ChatGPT being used in class.

"We have to articulate what the line is between stealing and taking building blocks from something and using it to build something new," Guinn said. "We have to figure out how it's a tool, but not a replacement."

THE RISE OF AI 'ARTISTS'?

In August, an AI-generated illustration won first place at the Colorado State Fair's annual digital art competition. The art world was outraged, with many accusing the creator of cheating. Despite the backlash, AI art has only grown in popularity.

Countless AI art filters and generators have come to dominate trends on TikTok and other social media platforms, contributing to its prevalence. Services like the AI Time Machine can "create imaginary AI avatars of a person as he or she may have looked in different periods in history," according to their website, the AI Manga and AI Portrait filters create bizarre and often comical images of users. Over 130 million videos have been created.

These art trends are fun and seemingly harmless, but the ethics of AI art have been the subject of intense controversy. Programs like DALL-E 2, Midjourney and Stable Diffusion analyze thousands of images in order to generate artwork from nothing more than a user's text description. With these algorithms, the apps often steal elements from human artists without giving them proper credit.

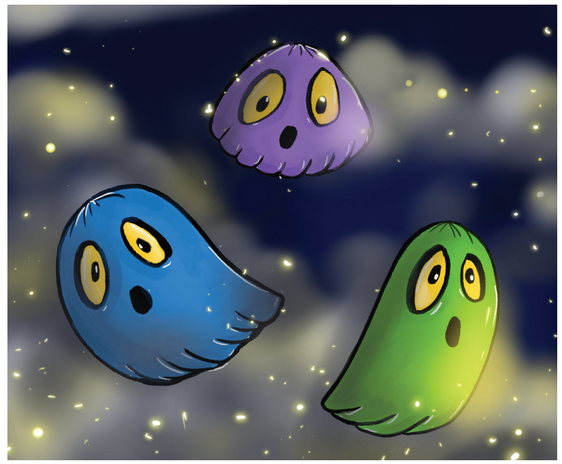
Art teacher and practitioner Dan Havel has had his artistic property stolen before. "I'm pretty concerned about the fact that DALL-E was programmed using imagery from other artists' work without our consent," Havel said. "We don't even know if our work will be shown through somebody else's word poem."

Nhu Chu, a Scholastic Art award-winning junior artist, notes that while artificially-generated images will "become more of a presence" in the art world, they may have less impact on artists themselves.

"Human connection is what gives such great meaning to art – and what makes it memorable," Chu said. "AI art doesn't have much intent, history or storytelling behind it, so it doesn't work as well."

ILLUSTRATION | Serina Yan

DALL-E VS HUMAN



A 30-minute ghost doodle made using Procreate.
ILLUSTRATION | Serina Yan

A DALL-E-2-generated illustration using the prompt "a blue ghost, a purple ghost, and a green ghost floating in a night sky with clouds."
ILLUSTRATION | DALL-E 2

According to experts, the key elements of art include lines, shapes, color, form and texture. While AI art achieves most of these elements, it looks "airbrushed" and "flat" to Chu, lacking the different textures that give artwork depth and movement. With human art, these textures can also reveal the process behind each piece.

"When you do a painting, you can see the paint strokes and the layers and the process itself in the creation of the piece," Havel said.

> A big part of the reason I'm an artist is because I like the physical aspect of challenging myself to create imagery.
>
> ***DAN HAVEL***

AI artwork, which can be generated in seconds, contradicts this concept. For Havel, art is about more than just the end product, and removing the thought and effort behind artwork effectively alters its meaning.

"A big part of the reason I'm an artist is because I like the physical aspect of challenging myself to create imagery," Havel said. "I'm all about hands-on thinking. To sit back and let AI do all the thinking sounds kind of boring to me."

Still, AI-generated artwork can be a powerful tool in the artistic process. In the same way that a Google search can generate millions of reference photos, AI art programs can quickly create unique imagery to spark one's inspiration. Havel views AI as a "part of the process" and is willing to incorporate it into his teaching as a tool, "but not a means to an end."

Artists always found ways to adapt technological advancements, such as when photography gained widespread use. When artists no longer felt the need to render scenes with the same amount of detail as photos, Impressionism emerged, which emphasized brushstrokes and light over realism.

Today, the flat, generic style commonly associated with tech company marketing, known as Corporate Memphis, has received criticism for its lack of creativity and depth. With such sameness, AI can easily replace corporate design by replicating its uninspired elements.

"AI can replicate the output without having to be conscious, self-aware or creative," Raulston said.

WHAT COMES NEXT?

While there can be restrictions placed against conversational AI like ChatGPT, modern technology is bound to evolve beyond any safeguards enacted by administrators.

Art and writing depend on human emotions and creativity, seemingly preventing them from being replaced by technology, but AI art is real, and it threatens the authenticity of artists and writers.

In order to keep up, the world must figure out a way to ethically integrate artificial intelligence into society and provide financial protections for artists.

In the art world, copyright infringement seems to have taken over the creative process. Havel argues that artificial intelligence is not a clear-cut villain for aspiring artists.

"If you're just afraid to try to draw something, AI could be an easy tool for people to at least feel comfortable getting into the creative process," Havel said.

While AI is causing major anxiety among school administrators and the arts community, programs such as Siri and Alexa have been installed in household devices for years and have yet to cause the end of the world as we know it.

Although Siri cannot write five-paragraph English essays in seconds, it is still technically a conversational AI – just like ChatGPT.

"AI has already sort of taken over," says Guinn, pointing to his cell phone. "I carry this thing around me that knows where I'm going every hour of the day; it just sort of keeps track of me and trains me to act in a certain way. So in a way, the computers have won."

In the medical sciences, companies have employed computer systems to diagnose patients, transcribe medical prescriptions and develop new drugs more efficiently and accurately than human experts. Businesses have replaced online customer service with chatbots and have utilized artificial intelligence to gather data on audience-brand perceptions and recommend products based on previous purchases. Some restaurants are experimenting with robot waiters that roll over to tables, perhaps with a cute, happy face on their screens, playing a jingly tune upon reaching its destination.

"You could point to any area of society, and there's going to be AI development happening in that area," senior Caden Juang said.

What this means for the job market is a different story. While there are many aspects of society yet to be digitized, more and more occupations that involve collecting facts from digitized documents are "going to either be replaced or at least reduced to someone supervising and checking the work out," Raulston said. So courtroom judges might have some job security, but paralegals may not.

Occupations that are based on human interactions such as therapists, counselors, teachers and babysitters, will probably remain unaffected by this technological growth, but the computers are learning quickly.

AI is becoming quicker at recognizing danger than humans. Robots can stack blocks and read a picture book without tiring, so if the purpose of a babysitter is to keep a child safe and preoccupied, who is to say that robots are not an ideal candidate for the job?

The Turing Test, created by Alan Turing in 1950, has long been the standard for artificial intelligence. When the day comes that a conversation with a robot is indistinguishable from a conversation with a human, the next question becomes whether or not the robot should be considered alive, as well as what sort of morals should be imposed on it. Raulston is unsure on how this aspect will work out.

"If we don't even agree on what morals are for, among ourselves, we're sure as hell not gonna be able to extend it to something we understand even less well than we understand people," he said.

The future of technology is nuanced, with the only guarantee being that AI is here to stay.

"AI is still a tool," Raulston said. "Whether it becomes a good thing or a bad thing is mostly going to depend on how people employ it in the indefinite future."

DESIGN | Amanda Brantley & Serina Yan

CHATGPT ON CHATGPT

We asked ChatGPT to generate a list of statistics about itself. This is what it said.

1. OpenAI was founded in 2015 by Elon Musk, Sam Altman, Greg Brockman, Ilya Sutskever, Wojciech Zaremba, and John Schulman.
2. GPT-3 (Generative Pre-trained Transformer-3) is one of the largest language models developed by OpenAI, with 175 billion parameters.
3. GPT-3 has been trained on a diverse range of internet text and can generate human-like text for a variety of tasks, including language translation, question answering, and summarization.
4. GPT-3 has been evaluated on a number of benchmark datasets and has shown state-of-the-art performance in several natural language processing tasks.
5. OpenAI has also developed other language models, including GPT-2 (1.5 billion parameters) and GPT-1 (117 million parameters).
6. OpenAI has received significant investment from a number of high-profile investors, including Elon Musk and Reid Hoffman, among others.
7. OpenAI has received attention and recognition from the AI community and the general public, due to its groundbreaking work in the field of AI and language processing.