

ARE WE OBSOLETE?

The Dangers (and Advantages?) of Artificial Intelligence and Technology

Introduction

In 1968, American novelist Jim Berry predicted the following in his article "40 Years in the Future": Most schooling — from first grade through college — consists of programmed TV courses or lectures via closed circuit. Students visit a campus once or twice a week for personal consultations or for lab work that has to be done on site. Progress of each student is followed by a computer, which assigns end term marks on the basis of tests given throughout the term. Now, nearly 60 years later, with the aftermath of the COVID-19 pandemic still in effect, this prediction rings a familiar

tone for many students across the globe as online learning took over the past pandemic years. Alongside this, Berry also correctly predicted online shopping, credit cards, Apple Pay, vacuum robots, and more. However, reading through excerpts of his article, the tone it exhibits is reminiscent of that of dystopian novels; human interaction is replaced by internet presences and human workers are replaced by robots. Compared to Berry's time, today's world is more advanced as tasks are made easier and more efficient by technology, but what are the implications of this?

Autonomous & Automated

As autonomous technology continues to invade jobs formerly occupied by humans, we begin to ask ourselves: are human jobs becoming obsolete? As many businesses and corporations realize the capabilities and efficiency of robotic applications, we begin to see the fear of robots taking over the world begin to come true. Amazon's breakthrough unmanned grocery stores opened in 2018, prompting a new system of buying produce. A highly programmed system was implemented into the grocery store's technology that tracks shoppers' movement, weights items in their shopping cart, and automatically pays for everything on an app, eliminating checkout lines. But there is concern of allowing technology to have access to your credit card numbers, address, and other personal information. Many people fear the rampant automated machinery is taking on many occupations. There

seems to be an unspoken consensus about the relationship between job loss and robot takeover. In a recent 2022 study by Socius: Sociological Research for a Dynamic World, only 14% of workers say they've seen their job replaced by automatic machinery. Workers who have already been replaced with robots estimated that 47% of all jobs have been taken over by robots. Many services have already been automated: customer service, data entry, market research analytics, and manufacturing are nearly fully autonomous. But what people don't understand is that automation creates jobs. For example, the implementation of ATM machines lowered the costs of opening new offices, leading to an increase in new offices, and allowing more employees to be hired. While autonomous programming and automated machinery is being implemented into the routine tasks of jobs, it is allowing further development in numerous fields of work.

Artificial Intelligence

As technology continues to develop in our ever-growing modern world, the time comes where we say goodbye to outdated technology, and welcome this year's newest online trends. The biggest theme being brought into the future is bridging the physical and digital world. With implementation of artificial intelligence in healthcare and social media, it is becoming less robotic and more human.

Several types of AI are already being employed by payers and providers of care, and life sciences companies. The key categories of applications involve diagnosis and treatment recommendations, patient engagement and adherence, and administrative activities. Although there are many instances in which AI can perform healthcare tasks as well or better than humans, implementation factors will prevent large-scale automation of healthcare professional jobs for a considerable period.

AI has already been implemented during minimally invasive surgeries, assisting a human surgeon which has resulted in decreased surgical errors, and increased patient recovery, but the full transition to surgical robotics has yet to be fully explored due to ethical implications, such as sudden malfunctions during surgery performance, or AI's lack of knowledge of human functions. AI is also taking over the internet: due to modernized technology, AI is now being used all over social media in

the form of "deepfakes." These deepfakes can be seen impersonating many influencers and celebrities, creating videos of them saying false information. Bhavin Patel, director of technology, said, "I have been working with technology professionally for over 25 years, and the evolution of technology has been night and day since I started working. I used to teach workshops in college just to show students how to use email and the internet. Back then, it wasn't a social, interconnected tool, it wasn't about data harvesting. I think if users of the internet continue to use it this way, then it will continue to grow. However, if the people collectively say I don't want to put as much of myself out there, then it has to scale down or adjust. So I think that it all comes down to responsible use."

Many students own their own social media accounts, including Snapchat, Instagram, and TikTok, all of which include some form of video communication, prompting opportunities for stolen identity through AI. "I don't think it's going to take 30-50 years for AI to take off. AI is already here. Even if it's just asking your phone 'hey Siri, what is my favorite color', it will probably look through your photos to see what color you wear the most and tell you 'Your favorite color is green,'" said Patel. Whether in the medical, educational, or personal use, artificial intelligence has already infiltrated many aspects of our everyday lives. The consequences of its use have yet to be determined as pos-

Cybersecurity: Keeping your online presence safe

From spam risk calls, to texts congratulating you on a thousand dollar lottery win, to a new friend on Snapchat who appeared out of the blue, the practices of illegal activities increase with the advances of the technological world. Especially in recent years, cybersecurity has become an increasingly hot topic as well as a high-demand profession. Walmart, the grocery store chain which has claimed the top place in Fortune's Global 500 list for the 9th year in a row, has placed emphasis on its ongoing cybersecurity investments. With over 200 million weekly online shoppers, it turns to automated technologies for the protection of their customers.

At Masters, the technology team has also been faced with cybersecurity tasks as the internet developed. In particular, Head of Technology Department Bhavin Patel, expressed his desire to focus on technology awareness and education in the future. Patel said, "I believe that cybersecurity education is key. It is imperative for both students and parents to understand the implications behind having a smartphone. Technology is a part of our world; from the moment you wake up to the last news feed your check before you go to bed." As nations, corporations, schools, and many other organizations place a heavier emphasis on cybersecurity, the importance of protecting one's personal online presence has also come to the

forefront of many recent discussions. From online shopping to creating a new email account, users are inputting their personal information into the internet on a regular basis. This information is then exposed to those who might be strolling through your page with a faulty intent. Patel said, "You have your real self, and you have an online self. People need to be aware of the kind of information they are sharing online. One thing that gets missed is asking yourself 'why are these social media apps and services free of charge?' You really are giving them yourself for free. You are giving them your joy, pain, fears, goals, and vulnerability — everything about yourself. So, I encourage people to have an inventory of what they have shared about themselves out there on the internet because once it's out there, you have no control over where it does and you cannot take it back."

Dayan Battulga, senior and member of the Masters cybersecurity team, also warned against cybersecurity breaches that may result from a single click. "Accept only necessary cookies, build up your fire wall, don't go to suspicious websites, and things like that," he said. Perhaps even beyond the physical tasks one can complete to protect their online presence, Patel believes the most important factor in protection against technology is being a responsible user

Oftentimes, the scale and consequences of being online could be lost in the convenience of picking up your phone and posting within a handful of clicks. He said, "If you wouldn't be willing to be judged in a room full of 20 strangers, how are you willing to be judged by the entire world on the internet? This scale of where your information goes and to whom it reaches is lost with the internet."

Although cybersecurity may be a concern in the current world of ever-advancing technology, corporations, schools, and individuals have begun to recognize and place emphasis on the topic in recent years. Battulga also recognized the disparity between cybersecurity measures in the United States and other nations with less advanced technologies. However, he is optimistic when speaking about the future of cybersecurity. He said, "I think it is definitely going to become much better. Technology is improving, cybersecurity will not only stop hackers but also prevent plagiarism and probably much more."

"Green" screen

Another thing we are seeing an increase in is the destruction of our environment. Increased carbon emissions from motor vehicles, light pollution from overpopulated cities, destruction of nature to provide new factories and buildings, and much more. To combat this, a rise in "green" technology is being seen taking over many corporations and businesses. Sustainable technology describes innovation that considers natural resources and fosters economic and social development. The goal of these technologies is to reduce environmental and ecological risks and to create a sustainable product. But in 2021-2023, a global energy crisis began in the aftermath of the COVID-19 pandemic in 2021, with much of the globe facing shortages and increased prices in oil, gas and electricity markets.

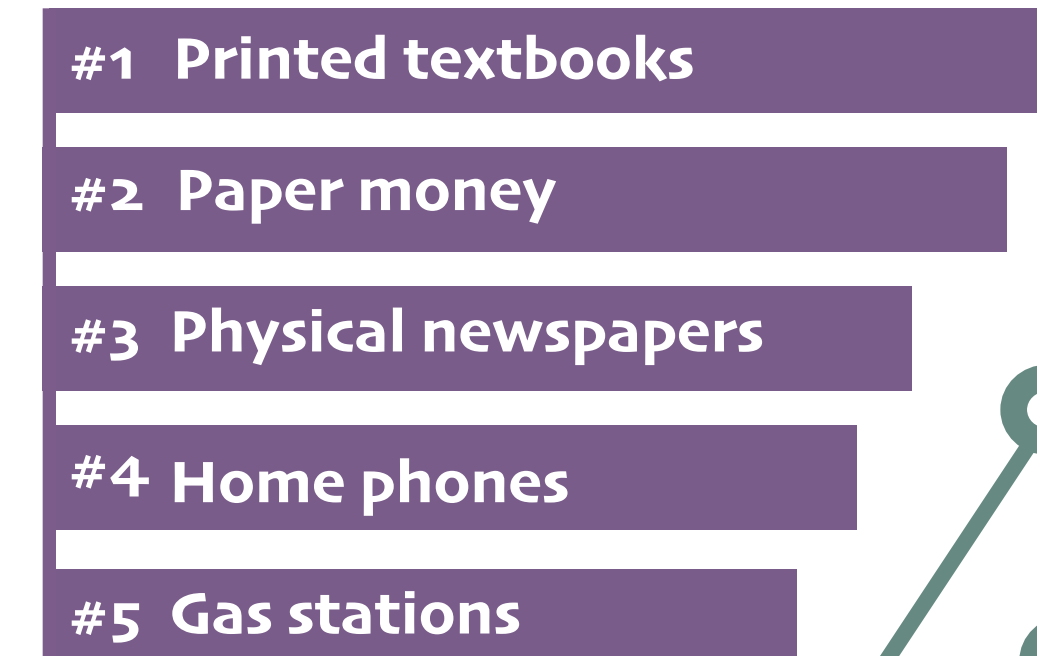
Yet, many corporations and businesses are working towards creating more sustainable products. Companies such as Dell and HP are revamping their approach to computer manufacturing by recycling ink and toner cartridges, and have reused more than 4.7 billion plastic bottles to create said cartridges. Other approaches, such as LED light efficiency and accessible solar power, are smaller steps that make a big difference in decreasing use of electricity and energy consumption. These changes have the possibility to be implemented into the Masters community as the popularity of sustainability continues to grow.

Green technology has the potential to revolutionize our public transportation and systems. Through steps such as reducing carbon emissions, increasing use of biodegradable and renewable materials, companies are able to use their re-

Q: What jobs will be replaced by technology in 10 years?



Q: What items will be replaced by technology in 10 years?



*Data shown in this graphic are results of an informal school poll.

WRITTEN AND DESIGNED BY ELLIE YANG & MAIA BARANTSEVITCH

AI presents promise and threat in the community

ALEXA MURPHY
News Editor

Artificial intelligence (AI) has the potential to significantly impact education in a number of ways. Some of the ways AI could impact education include: Personalized learning, tutoring systems, automated grading, and content creation. However, it is important to note that AI is not a silver bullet solution and its implementation will need to be carefully evaluated to ensure that it is meeting the needs of students and the education system as a whole.

That was ChatGPT's response to the question, "How will AI affect education in the coming years?" The rapid advancement of AI technology is likely to have major implications for the way we will lead our daily lives in the imminent future. Teachers and students alike must adapt to a world where AI is more prevalent than ever before, and choose whether the forthcoming technology revolution will change education for the better or worse. ChatGPT, for example, has posed a threat to academic integrity in schools everywhere. Launched on November 30, 2022, ChatGPT is a chatbot which engages with users casually and conversationally, answering complex questions with supposedly the same ease as a human interlocutor. The service was developed by OpenAI, a company co-founded by Elon Musk. As of January 6, ChatGPT has been banned across New York City public schools. New York City education spokeswoman Jenna Lyle said, "Due to concerns about negative impacts on student learning, and concerns regarding the safety and accuracy of content, access to ChatGPT is

restricted on New York City Public Schools' networks and devices. While the tool may be able to provide quick and easy answers to questions, it does not build critical thinking and problem-solving skills, which are essential for academic and lifelong success." The response by the New York City Education Department came quickly, but the consequent backlash came even quicker, as many AI sympathizers highlight that there are perhaps more productive ways to respond to the issue of plagiarism than outright prohibition of the new technology. "When faced with a threat," said John Chiodo, Director of the IEC, "big organizations often put up a barricade, then figure it out. And that tool that figures out whether text is written by an AI or not, that's free. As much as AI may be improved, there will always be technologies and softwares able to detect cheating." Chiodo refers here to GPTZero, a software launched on January 2nd which can easily identify whether an essay was written by a student or an AI. The software is free, and was created by Edward Tian, a computer science major at Princeton University. In creating the software, Tian has explained that he hoped to curb concerns of AI plagiarism in academia. The Masters administration has not yet released comments regarding the role of ChatGPT, or AI more broadly in our community. But its silence on the matter should by no means indicate a lack of engagement with AI technology among students and faculty. In fact, students have turned to AI, most provided for by the free OpenAI company, to assist them in myriad academic tasks. Because of ChatGPT's conversational nature and crisp writing style, the most prevalent of its uses has become essay writing. One Upper School student,

who preferred to keep their identity private, said "This fall they came out with ChatGPT and I started using it for simple English assignments, like paragraph here, paragraph there. It's not good at variation of tone and style, so I'm not going to submit an entire essay written solely by ChatGPT, but it's good for giving you ideas, or it can give you a paragraph, and you can edit it and make it your own." Of course, the development of AI has opened students up to a world of (albeit often morally questionable) opportunities to aid their academic endeavors. AI doesn't exist in a ChatGPT vacuum, and many have discovered other uses for new technologies in their studies. Another anonymous Upper School student reported, "I think that what's been the most beneficial for me has been submitting my writing into AI and having it shoot back feedback, or sometimes I'll ask it for comments on what I'm doing or for it to grade my work. I've given it characteristics of teachers to build feedback that I can expect to receive, and what I've found is that it's immensely helpful to proofread for not just grammatical errors but for content as well, which is unique to this new AI program." Among faculty members, this rise in student use of AI has raised concerns similar to those expressed by the New York City School Board; namely, that ChatGPT is a tool which helps students engage in academic dishonesty. History and Religions teacher Brendan Collins-Jordan said, "You know it's funny. In some ways I don't think it's that different [plagiarism vs. extracting work from AI], actually. In some ways it's really the same thing as if someone paid someone to write an essay for them, except it's a computer doing it, and it's free. And you can sort of catch it in the same mechanisms, and the biggest way is

just as teachers we know what a student's writing sounds like, and we know when we get a paper that really sounds nothing like that student." But many teachers and students alike see AI as less of a threat and more of an educational tool, and it's important to note that as AI expands in scope, so too do its potential uses. Just as AI can be used to help a student proofread a paper, it can help a teacher fill in an end-of-semester comment, or demonstrate a model essay. "I don't see this as a tool that's 100% a problem," said Collins-Jordan. "One thing I played around with is can you, like, fine-tune an essay with this. It actually works pretty well for that. So one thing that I've been thinking about is, I do think it could be an interesting tool to teach writing with, in that you have to know what to look for to fix it, and it can show you what a fix looks like. So I think it does have some pedagogical value as a tool that teachers can use in the classroom." There are also countless options to increase application of AI in STEM instruction, and Mr. Chiodo explains that there is particular room for growth in the realm of computer science. He said, "Teaching students how to code, I find that often students will write it and then can't find the correct answers. In this case, they can do it within a coding platform to get answers directly, instead of analyzing lines of code." AI is expected to soon affect nearly every aspect of human life, which means that it is decidedly up to the Masters community to figure out how or how not to carve space for AI in to the classroom. And perhaps, within these lines of 1s and 0s, there lies a real chance for educational improvement.

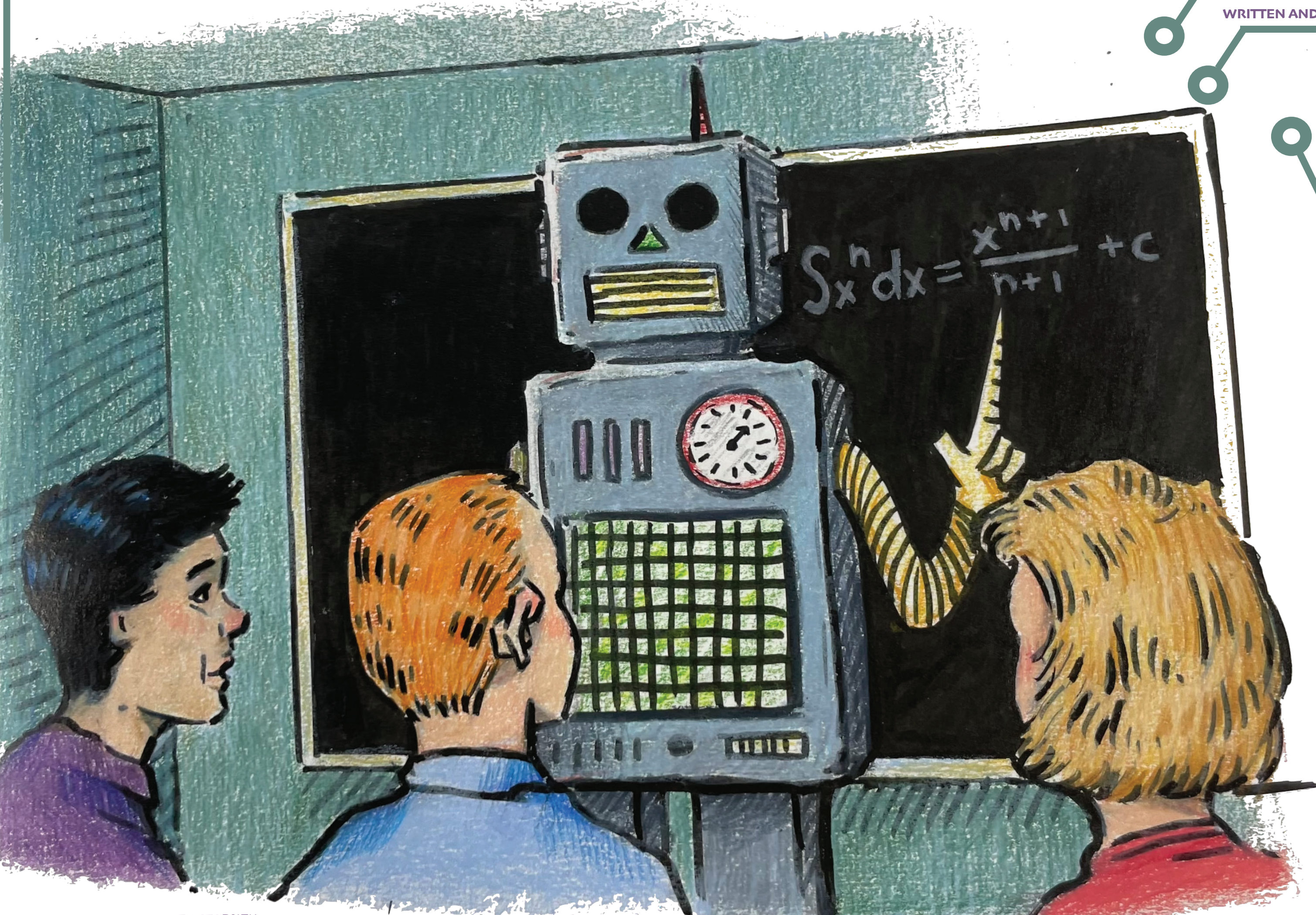


ILLUSTRATION BY SYDNEY STARKEY