CURMUDGEON CORNER

Generative AI and human labor: who is replaceable?

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Generative AI like ChatGPT and Midjourney (generative art) are disruptive, to say the least. They can complete tasks thought unrealizable by machines, like writing decently sophisticated essays or generating art indistinguishable from human art. Occupations like artists, or video and photo editors can now complete tasks that took weeks in a matter of hours. A new skill has emerged called 'prompt engineering.' Anyone capable of constructing intelligent prompts can potentially do these jobs. Prompting is a technique to communicate in natural language with a generative AI model (GPT-4, MidJourney) to produce some output (art, essays, or code). Sophisticated, clever, and precise prompts aim to get the most valuable and relevant outputs and even workarounds to the built-in rules of generative AI models. However, even simple prompts by students can generate well-written essays without the student ever having done the research. Even many coders and programmers are worried about their careers. As a result, until now, the occupiers of the ivory towers, the academics, artists, scientists, and the newly minted class of tech-workers rarely felt the vibration of discomfort or the existential threat posed by technology. When machinery based on human skills replaced skilled human labor, we did not hear the same calls for it to be controlled as it "stole" the skills of these humans. A 1979 Fiat motor commercial had a tagline that said, "Hand built by robots." This mindset continues to be true today. Of course, there was the working-class rebellion led by Ned Ludd (where the word Luddite comes from) in the United Kingdom during the industrial revolution. Still, it was swiftly put down by the British Army (Smith, 2).

When technology came for the jobs of the working class, other than the people it affected, the resounding chorus among the elite was "retrain, continuing education," or it is "inevitable." The answer to blue-collar workers was and continues to be similar. Many physical labor jobs and assembly-line work have been replaced with robots, and banks continue to replace tellers with smart teller machines. The claim is that it is inevitable for technology to replace low-skilled workers. Now, the classist nature of the arguments in favor of the artists and writers versus what we derogatorily sometimes refer to as low-skilled labor is hard to miss. If the artists, the writers, and the academics are the occupiers of the luxury parlor suites on the Titanic, the "blue-collar" workers are the stokers. One vocation resonates as more essential than the other, less replaceable than the other.

Let me focus on whether the data used by machine learning algorithms for generative AI is any more thievery than data of other skills or jobs replaced by AI. In short, it is not. The same complaint in the art community against AI-generated art is echoed by the community of writing teachers at all levels. Of course, legitimate concerns about learning, misinformation, and students' potential loss of writing skills exist. There is also a concern about job loss by writing teachers, instructors of English composition classes in college, artists, and so on. These jobs and skills were considered high-skill or jobs safe from the AI revolution, but not anymore.

On the surface, the complaint by artists (and writers) is correct. The generative AI techniques and methods differ from how human artists create art. Humans are not simply using words and relating them to images. They do not strictly order a random collection of pixels and noise (chaos) representing some image associated with some prompt. (Of course, an argument can be made that even artists and philosophers begin with a chaotic idea for a project or art piece. Then, through thinking and tinkering, the product comes together over time).

Why do I bring this up? The theft argument is put forth because AI allegedly takes the fruits of Artists' labor (the art) and steals (samples) them to create a mesh of its novel art. However, when other human artists do this, it is not theft because the techniques deployed are creative. Thus, the emphasis is not on the art (product) itself but on technique, or so the claim goes. So, what ought to be clarified is whether the concern of anti-AI-art individuals is the theft of

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the final product or the process through which the product is constructed. If it is the former, then human sampling should also be theft. If it is the latter, then the argument is generalizable to other vocations, thus, rendering it relatively thin.

Allow me to explain. The way AI creates art does not make AI-generated art more stolen than other vocations and jobs replaced by AI. The idea is that either all the vocations and skills replaced by AI are forms of theft or none are. For example, take robotic arms at manufacturing plants across the world. For artists, the fruits of the labor are the art itself. However, the fruit of a car builder is not the car but his skill in building the car. The robots are modeled after how humans move their bodies to build a car. The skill is physical labor, and robotic arms are modeled and built to emulate those skills. Thus, the developers of robot arms and the robot have stolen these skills from humans. We seem to be more or less okay with this transition. Even when the workers complained that these machines were an existential threat to their vocation, the robot car builder was promoted as the tool for a prosperous future. I suspect this example is not satisfactory to some. We seem to place a higher value on intellectual skill over physical labor. Take another example that involves not physical but intellectual work.

Several examples here can make my point, from replacing bank tellers to fast food workers and future truck drivers. Nevertheless, take, for example, fitness trainers or personal trainers. Virtual or live-streaming trainers have recently gained popularity (Peloton and Mirror). For now, those trainers are real people. Very soon, the trainers will be AI-generated avatars (AI-Trainers) made to look just like human beings. Like any other AI-generated object, their physical features will be a conglomeration of various real humans. Their speech, physical movements, how they train, knowledge of the human body, and so on will be a conglomeration of human trainers. Suppose we generalize the claim that AI art is theft or AI text is plagiarism or theft. In that case, AI trainers are similarly guilty. The existential risk to artists and the writing profession is also true in the AI-trainer case, if not more severe. I suspect people are less likely to care or notice whether the trainer is an AI or an actual human. You might not share this intuition. You might care, and I am glad. That means we are on the same side.

However, if your attitude and intuition differ, it highlights my point. We as a people have already drawn some lines that AI cannot cross. These lines seem to be motivated by social and intellectual boundaries. The boundaries delineate social classes based on skills regarded as sacred as opposed to skills perceived as replaceable. At worst, people we deem replaceable. To me, academics, artists, poets, and so on are just like so many others whom AI has or is replacing. Many of us regarded the replacement of 'low-skilled' workers as inevitable and expected. It turns out, so too, are we. We, the occupiers of the ivory tower, thought our skills were uniquely human and unreachable by technology. Unfortunately, technology's new weapon, the transformer, is replacing the ivory bricks of our towers with data.

As for our economic future with generative AI, there are two ways to think about it. First, the optimist might see the instantiation of the old promise of a work-free world. AI will do almost all the jobs for us (Tuncdogan and Acar, 3), and we all receive universal payments to live a life of leisure.[1] Generative AI of today, in the next decade, will be replaced by a more sophisticated AI. As we get closer to AI systems capable of doing general tasks and not specialized models for particular tasks, far more jobs will disappear. However, in this optimistic world, the powers that be compensate the people for their lost wages. Or, unlike the unfortunate blue-collar workers of the past, ignored and tossed aside, the writers, artists, and all others affected by generative AI are louder and carry more influence over the narrative. As a result, the pressure may cause policy changes (which have occurred to some extent) to hinder or alter the progress of AI. In this future, the progress of AI is coupled with social, economic, and ethical concerns of society. For example, imagine the current AI progress as a train engine barreling down the tracks at full speed. However, because of social movements, regulations, push back from society, we attach freight cars of ethics, economic concerns, and legal regulations, not to slow it down but minimize the negative impacts on the various stakeholders.

In the second and pessimistic view, imagine a not-so-kind future in an uncontrolled capitalistic society. People whose jobs are eliminated by AI will have little to no help. As AI gets more sophisticated and displaces more workers (and obsolete versions of itself), people will be left to fend for themselves. Their plight for regulating AI or not leaving them behind will be brushed aside. We will likely continue to hear that the jobs lost because of AI will be more than made up for jobs created by AI. The ones affected are unfortunate casualties of AI progress. In the coming generations, careers like AI designers, programmers, modelers, and others capable of improving AI will be secure, but only for a short time. Still, the rest who cannot or do not want to work for the lords of Silicon Valley, Bangalore, or Shenzhen will be left behind. The question of whether this progress is sustainable is an open question.[2]

So, what of the question I started with – "Generative AI and Human Labor—*who* is replaceable?" Increasingly the answer appears to be 'everyone.' However, the hope is that the future of human labor lies somewhere between the two scenarios, at the very least.

Curmudgeon Corner Curmudgeon Corner is a short opinionated column on trends in technology, arts, science and society, commenting on issues of concern to the research community and wider society. Whilst the drive for super-human intelligence promotes potential benefits to wider society, it also raises deep concerns of existential risk, thereby highlighting the need for an ongoing conversation between technology and society. At the core of Curmudgeon concern is the question: What is it to be human in the age of the AI machine? -Editor.

Declarations

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