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Algorithmic Horizons: The Impact of AI On Our Future

Intended Audience: People who are concerned about the rising impact of Artificial Intelligence

As of its increase in popularity since 2012-2014, the world has been drastically changing in the way it operates on many levels due to artificial intelligence (AI). We have seen how what used to be talked about as fiction has quickly begun integrating itself into our society with the emergence of autonomous machinery and life-replicating programs/software. Most notably after Covid, we have seen large leaps in the field of AI through the examples of ChatGPT, self-driving vehicles, autonomous robotic warehouse workers, and many more. We are reminded daily of the impact that AI has on our lives and society, but as it continues to grow, we should be asking ourselves: Is AI truly as great as we make it out to be, or are there unintended consequences that we should be more wary of before we continue at this pace? Thus, we will be looking much deeper into how AI affects us by looking at the pros and cons of what it could offer and the opinions of the American public in order to truly tell whether or not the direction we are heading in is something we should continue to push for or stop before it is too late.

Artificial Intelligence has always seemed fascinating to me. Something that seemed like such a fantasy has become such a common thing now in our lives and although I may not

understand all the intrinsic elements of AI, it's still so interesting to learn more of the advances in the field and this new technology can be leveraged to help people around the world. However, I am well aware of how crucial it is to understand how AI is impacting us now and how it will continue to affect us in future generations. In particular, I'm referring to how AI is affecting the working class and the school system. One of my biggest concerns about AI is its dominance in utility and viability in comparison to manual labor. While increasing output and decreasing resource consumption is a large plus, what this worries me with is the erasure of many middle class worker jobs, which are not only the foundation of what helps keep our country running, but also what gives millions of Americans the jobs they need in order to take care of themselves and their families. Furthermore, I'm worried about how the use of AI can lead to a dependence on it for future students in the future, lowering critical thinking skills and pushing out talent and innovative ideas. Thus, in this paper, the intention as I execute my research is to collect reliable data regarding the number of jobs that AI is currently impacting and the influence it has in our school system in regards to the learning process in order to determine whether or not if this push for AI is a positive or negative direction for our society.

Before going deep into the data, I wanted to hear first hand from someone who has experience in this field as to what their thoughts were on this question. Therefore, I went to ask my older brother, Kenny Contreras, who is a senior in Rensselaer Polytechnic Institute studying computer science with a concentration on machine learning (ML). During this interview, I asked him on what his opinion was on AI in the way that it is transforming our society:

H.C.   *What benefits do you believe AI will bring to society?*

K.C.   **AI will definitely come with many benefits, as it already has. There are a multitude of advances in different fields because of AI/ML, such as healthcare, finance, cybersecurity, and many others. As AI continues to grow, all these other fields will continue to further advance and at some point, most, or at least many, fields/jobs will have AI incorporated in some way.**

H.C.   *How would you picture AI reshaping industries such as healthcare, finance, transportation, or education?*

K.C.   **I can see AI bringing greater efficiency and simplicity to these industries for both the workers and their customers, which really is the whole point of incorporating AI. As of now, AI isn't at the point where we can just lean on it to do all the work for us. We of course still need our professionals in healthcare, finance, and education to keep doing the brunt of the work. However with AI, it makes their work much easier, such as if we wanted to determine if someone is at risk for a certain disease, we can use AI to help make that decision based on a set of collected data which points to results being positive in some cases. So overall, I don't think AI will reshape industries as a whole, but rather optimize their work flow.**

H.C.   *How do you think this will affect students' education and middle class jobs specifically?*

K.C.   **There's definitely two sides to this argument, I'm more on the side of it being very beneficial overall. I know it's a very common fear that one day AI will replace all workers and that they'll rule over the world like in some fantasy story. However, the truth is that AI will never truly replace the workforce, at least not entirely. Sure, there'll be certain tasks that will be automated because they're either very simple and mundane or because it's just much more cost effective to use AI. The thing is that there are still too many jobs that are too complicated or would require a tremendous amount of restructuring to replace with an AI, which simply is not worth it, at least in present time. As for education, I think it's actually doing a good job at helping students learn. Yes, students will find a way to cheat because of them, but if there are proper measures put into place to prevent/punish cheating, then AI is actually a blessing for students who need an alternative to the traditional style of learning. Once again, I do believe that AI is overall good.**

After speaking with my brother, it's clear that he's a big advocate for the use of AI. However we still need to look at the data to determine how this AI revolution is currently affecting those in this position and to where it will lead.

First, we'll be looking into what concerns many people, which is the risk of AI stripping millions of people of their jobs. As of right now, it seems that the main narrative for many Americans is that AI will be taking their job, or at least have a concern about it, according to a research article by the Pew Research Center. As of the time of the article, 82% of Americans are

concerned with the emergence of AI, with 37% saying that they are much more concerned than excited about it. In addition to the concerns with the possibility of losing their job, Americans are also concerned with other dangers of AI, such as loss of human life, increase in surveillance, AI becoming too powerful, and the list goes on. A more recent article in 2023, by Gallup, has stated that 75% of Americans believe that AI will actually reduce the number of jobs. It appears from the data that as AI becomes much more advanced, peoples' fear of jobs being overtaken by AI increases. Now as to why people believe this isn't as clear cut, with AI being relatively new and very advanced, it's a possibility that many fear it not because of what they believe themselves could happen, but because of what they hear on the media. With how many paint AI to be such a scary thing, it's no wonder that people begin to develop a negative mindset towards it. This is especially true with influential people such Elon Musk who have stated in previous interviews that at some point, due to the advancements in AI that "there will come a point where no job is needed" (Browne, Ryan. "Elon Musk Says AI Will Eventually Create a Situation Where 'No Job Is Needed.'" *CNBC*, CNBC, 3 Nov. 2023). When people hear such people speak negatively of AI, they'll take their credibility and power into consideration and form it into their own opinions, even if they may not be the most informed. However, there are others who are in favor of AI within the job market, such as on the world's leading scientists in the field, Yann LeCun, believing that "It will be a very long time before we have robotic plumbers, carpenters, handypersons, hairdressers, etc. In general, AI will not replace jobs, but it will transform them". Now, whether someone wants to believe one large influencer or another is completely up to them, but one thing for certain is that AI still holds great potential. The concerns of Americans are being heard by the AI community, and whilst many may see it as the end of jobs for millions

of Americans, we could try and view it from a different angle and see it as a revolution to simplifying many tasks for people around the world and helping improve the state of jobs rather than take them from people.

On the educational side of things, many are much more in favor unlike with the job market. According to a recent article written by LeewayHertz CEO, Akash Takyar, it seems that AI has had a much more positive view in the field of education as it provides humongous benefits to not only students but also to those working in education. He states that with the use of AI, it "helps educators identify gaps in student knowledge and provide targeted feedback to improve learning outcomes". Additionally, it provides educators a tool to do a multitude of other things such as help create "personalized learning experience for every student", "assists in curriculum planning by analyzing educational data", and go as far as to create a second outlet for students who may have questions or struggling to comprehend a subject and receive direct assistance from an AI-powered tutoring assistant. Additional sources from the Office of Educational Technology also tell us that AI is helping revolutionize the classroom by enabling new forms of interactions for students and providing educators with an incredible tool to assist in teaching classrooms full of students who may need a different approach to learning. Overall, it seems that AI is greatly impacting the educational system and seems to only continue to grow as more AI is brought into the classroom as the educational system tests just how far this technology can shine a new light for students and teachers alike.

In conclusion, AI will inevitably be having a significant and diverse impact on our future, providing both opportunities and problems for humanity. We must approach the development and application of AI with caution, intelligence, and with the lives of others in mind. Based on what we can see now, we are taking small steps in order to achieve these milestones and we are seeing the great success coming from it. By doing this, we can use AI to solve urgent global issues, open up opportunities for research and development, and create a more promising and just future for future generations.

Resources

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