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**The future of AI**

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**12/11/2024**

The article, “The Future of Artificial Intelligence” by Peter van der Made opens by discussing the AI revolution. He comments that “companies must prepare to adapt to this change” (p. 1) and that a certain skill set must be taught to the employees. It is imperative to teach these methods to employees or else the company will slowly fall behind the competition. These teachings should involve an “introduction to AI, its capabilities, and its shortcomings (AI is only as good as its training data)” (p.1). In 2012, AlexNet AI won the ImageNet challenge with a 16.4% error rate compared to the typical 26%, showing massive strides in the development of AI. These advances were due to an advanced neural network or the “brain” of the AI. While our human mind is much more complicated and efficient than a neural network, they have come an exceptionally long way. Originally, neural networks had a few million parameters which eventually grew to two hundred billion. These advances allow for beating humans at chess and tell original stories, to name a few. New computational resources have emerged allowing for these advancements, although without the awareness aspect. Due to the promising benefits to a multitude of fields like finance and healthcare, “Investment in artificial intelligence reached $93.5 billion in 2021” (p.6).

The focus of advancements in this article is neuromorphic processing. Neuromorphic means “like the brain.” The way this would work is to have circuits dedicated to specific functions just like the dynamic cells of our brain. For this to work, all these circuits would have to run simultaneously. Neuromorphic processing models are currently based on the human neocortex, and when compared to it, are much slower and require much more energy to run. In the future, to design makeshift brains, other parts of the brain would need to be formatted such as the hippocampus and the cerebellum. Peter mentions that the neocortex is responsible for cognition and intelligence, the hippocampus is used for navigation and memory, and the cerebellum could lead to simultaneous processing of data. Although well thought out, it is still not certain that this will work since the understanding of the brain is incomplete, as is the technology to replicate it. He believes that “one day, cortical neuromorphic neural networks may displace the neural networks driving artificial intelligence” (p.13). Currently, neural networks need millions of examples along with millions of dollars to train. In theory, cortical neuromorphic networks only require a few examples to efficiently learn something as well as being cheaper to run. This would also eliminate the need for the massive amount of computer resources required now. The future of cortical neural networks is to assist in products for “speech recognition to image processing, space exploration, healthcare, and robotics” (p.16). This development is expected to occur within the next 5 years. Overall, this industry is a must for all companies and this opportunity shouldn’t be passed up on. With the potential introduction of artificial general intelligence (AGI), AI can learn, reason and perform any intellectual task just as well as a human can.

I agree with his perspective to a certain degree. While this is a great idea in theory, we are not 5 years away from achieving this, let alone twenty. For society to build something that requires little to no power and can mimic that of human intelligence and consciousness, many concepts need to be understood. Firstly, we need a complete understanding of how the human brain works. This includes memory, imagination and dreams. These are a few of the concepts that we would need concrete evidence of how they function and why the brain allows it to occur. Apart from this, we would need to be able to translate this into a different form of being. We are the way we are due to years and years of evolution and the properties that our organs provide for us. We are attempting to recreate this inside of tiny little pieces of metal. In many cases it shouldn’t be possible since AI is purely told what to do in certain situations and hasn’t ever had the chance to be something with consciousness. These two facts make it hard for me to know if it could be possible and I do not know when these advancements could be made. I agree that this would make most aspects of society much more efficient while being easy to make. There are a multitude of positives and negatives, so I will provide societal, political and technical advantages and consequences.

In terms of the societal consequences, it will be a massive help in a multitude of industries but will also negatively affect society greatly. Through having cheap computers that can mimic human intelligence, work that may take humans days or weeks will happen in minutes. If a collection of AGI machines is on a project, who knows what strides any industry can make. If AI becomes cheaper and more efficient than having human workers, many industries won’t have a need for them. This will lead to many people not having a method of making money as their skills are outmatched. Advancements would prosper at the cost of many people’s livelihoods. Apart from work and societal progression, since AGI’s are essentially robotic humans, people may become friends with them. Since in theory it’s identical to speaking to a human, our values and emotions will be recognized and reciprocated by AI. While this is a good idea, it will lead to social consequences. In terms of having connections with AGI’s, people would become even further socially inept. In recent times people are becoming much more distant from society due to technology so this would make this issue much worse.

In terms of political advancements, there would be an increase in “brain” power when it comes to issues like climate change and geopolitical conflicts. With more brainstorming and thought in these topics, it would be easier to choose the correct path to take and as a society we could conform with changes much easier. This will also make decision making in governments much more efficient. With ready datasets, insight and better forecasting will be a powerful tool provided by AGI. When it comes to the political consequences, AGI could increase the concentration of power in governments, making people even more invincible. Governments could also hoard AGI, keeping it from the public to have more control. AGI could be used for surveillance, potentially disturbing the rights of our society. Another problem is the elimination of Democracy. By using AGI as a tool of manipulation, governments could easily sway public opinion, threatening democratic values. In the worst-case scenario, the country could turn into a place mirroring 1984 by George Orwell.

In terms of technical advancements, the automation of tasks would be extraordinarily helpful to society. With a team of robots anything can be done efficiently and correctly. This would lead to even stronger advancements in technology, paving the way for improvements in robotics, engineering, or healthcare. AGI could even assist humans with the most basic tasks such as providing a second opinion on many decisions that are hard to make. When it comes to the consequences, there are many. The biggest problem with AGI is its ability to be used as a weapon. If an AGI were to be weaponized to specifically perform cyberattacks and surveillance, it would be extremely dangerous. It would be able to be used as a protection agent but also as an agent of destruction. Another consequence is the potential loss of control. When AGIs become intelligent as humans there will not be many proper ways to control them. Since society stores a massive amount of personal information online, if a rouge bot learns of it, it could spell disaster.

The first topic from class this article relates to is our unit on the social impact of computing. As previously mentioned, AGI would elevate the effects that AI has on our lives even more. A specific example that relates directly to AGI is that of Paro, the seal. Paro the seal is a robotic seal intended on keeping company to those in elderly care centers. Since these people typically have few visits and few friends, a little companion is a crucial tool to keep them at ease. This company allows for easier days and a lower sense of loneliness. AGI could very well elevate this since it would be so like us as people. Rather than having a tiny seal that moves slightly, we could have actual humanoid beings that mimic us as humans. If this were to be, people at elderly care centers would have more than just company, they could have a friend. It would also decrease the downsides of befriending these bots. We previously decided that spending all our time with robots could lessen social abilities and lead to a sense of loneliness. With AGI, the robots created would be extremely like humans, so one would feel like they are speaking to a person while at the same time exercising their social skills.

A second topic that relates to class is our unit on LLMs. It relates directly to the article on AI sentience. In the article “Inside a High-Stakes Fight to Limit Social Media’s Hold on Children,” it discusses the intricacies related to consciousness of AI. One key factor is that the concept of death is highlighted since unlike humans, digital minds can be paused or restarted. This would lead to a slew of possibilities in the technical world as our concept of death is permanent and this is not. The concept of individuality would be challenged as well. If AI could be replicated and copied, cloning of digital beings would be possible. Identity and uniqueness could fade in the technical world and many bots would be the same being. One of the most important aspects of conscious artificial intelligence is the impact of work. Due to the ability to make the same AI in copious amounts, many jobs would be automated. Societal structures would change as our need for labor would slowly decrease. These three aspects of conscious AI would be prevalent with the introduction of AGI. Our society would face these three dilemmas and much more.

The last topic that relates to class is our unit on free speech. This topic in my eyes would be under heavy debate in terms of an AGI model. The article “The Complex Debate Over Silicon Valley’s Embrace of Content Moderation” displays the debate over freedom of speech on the internet. This debate tackled the amount of responsibility platforms should have for user-posted content. Some companies regulate platforms to a high degree while some leave the content up to its users. Groups such as civil libertarians believe that increased moderation could lead to censorship and bias, while risking the legal issues pertaining to Section 230 of the Communications Decency Act. This leads people to challenge the recent changes to this law, as it has given platforms a shield against liability. Overall, there is a fine line between moderation of harmful content and protecting free speech. I believe that with the potential introduction of aware AI having access to both regulated and unregulated sites, chaos could ensue. If one of these bots entered an unregulated site, it would see and learn a multitude on unsafe content and could bring it to other sides of the internet. This in theory could lead to extremely unethical bots spreading both misinformation and troublesome content on the internet. Overall, AGI presence is going to need more regulation or rules to protect everybody’s experience on the internet.

In conclusion, an AGI would be an extremely beneficial and destructive tool. On the one hand extreme automation would be made possible, giving people more time to pursue other endeavors. This would allow for strides to be made in many industries and advancements would occur much more often. The cost and upkeep required for AGI bots is much lower compared to modern AI. This paves the way for a revolution in the production of our society and will call for societal change. On the other hand, many jobs will be overtaken by the efficiency of AGI as companies do not need to compensate for the work that they do. This will lead to many being forced to change fields in which they aren’t qualified or prepared for. Due to AGIs being very advanced, they could cause trouble on the internet. With both capabilities to commit cyber crimes and spew unethical sayings, the internet could become a warzone. In the end, we must wait and see what the future will hold pertaining to these bots. It will be both promising and scary. All we can do is wait and observe what the future could entail.

<https://www.forbes.com/councils/forbestechcouncil/2023/04/10/the-future-of-artificial-intelligence/>

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