The Future of AI

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Abstract. The world is always changing at a rapid pace. With new devices and systems being invented every day, it is no surprise that Artificial intelligence is becoming more commonplace as the years go on. Artificial Intelligence is technology that has human like capabilities and can perform tasks by thinking rationally and using problem solving. There are many benefits to the integration of AI into society such as help for teachers in an education setting or help to doctors and nurses int the medical sector. With the help of AI some jobs can be made much easier by allowing it to do some simple yet time consuming tasks so that the professionals can better focus on the serious aspects of their jobs. However, with the advancements made in AI there comes along some concerns. In recent years, more and more people have been raising concerns as to the stability of their jobs and the fears they have that a robot might take over from them and leave their job obsolete. These are very valid concerns and the question most are asking is how can we integrate AI in the workforce to increase efficiency without leaving people jobless and a having a higher unemployment rate. There are also major concerns in regard to AI in terms of safe internet usage. Many people are second guessing what they see on social media and such as now it is so easy to AI generate photos videos and other things to mislead social media users into believing something that is not real. All these things raise quite many ethical concerns where AI is involved which could lead to people not trusting technology as a whole and that can have quite the negative effect on the ever-advancing world of tech.

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1 AI in Healthcare

One of the many benefits of AI is the help that it has given and can potentially give to the medical sector. There are many different kinds of Ai systems that could be adapted

to help those in a healthcare setting. There are many reasons why an automated system can be beneficial in helping doctors, nurses, and anyone in the medical profession. For example, an AI could be used to perform administrative tasks in a hospital or a GP's office. Paperwork is something that can be quite tedious, and for surgeons, who don't have a lot of time in between surgeries, this can be quite time consuming and can lead to fewer surgeries being performed, and paperwork has not been filed. AI can fix this problem. If a doctor is able to input a patients details into a system, and the system can then search for and file all the necessary documents, that can save quite an amount of time on the hospital's end therefore there creates the possibility for more procedures to be performed which could reduce the lengthy waiting list for appointments across the country.

There is also the matter of the severe understaffing of nurses in the medical profession. There are many people that require home help or those in care homes that are not getting the help that they need as there are so few staff that can tend to those needs. Many more are living at home, where the lack of social interaction can take a severe toll on mental health. Engineers in Trinity College Dublin (TCD) invented a solution to this. The Stevie robot is a socially assistive robot, created by these engineers in TCD, with hopes of aiding those in care homes and elderly people living alone. The initial premise of Stevie was to help around the house with general medical needs for example, reminding a patient that it is time for their medication dose, however there was an overwhelming response to patients feeling comfort when interacting with Stevie in a social sense. This has called for an upgraded version of Stevie, Stevie II. Stevie II, like its previous counterpart, helps the patient perform general medical tasks, but it can also do much more. This newer model is fitted with laser rangefinders, depth cameras, tactile, inertial and vision sensors to interact intelligently with its environment. All these features and more allow Stevie II to interact with its client and can help the client feel more comfortable, reducing the feeling of loneliness many of them tend to feel. With its voice recognition feature, Stevie II is not difficult to use which can leave many patients, who might not be able to navigate technology, at ease knowing they do not need to learn how to use their robotic helper like they might have to do with a mobile phone etc.

However, as much as this technology is good for the medical sector, we must think of its implications. While a robot can help many people in socially isolated situations and significantly help medical staff with full schedules, it raises questions like can it do a better job than a human home help nurse. The human touch is one that many people appreciate, especially when difficult news needs to be shared. Human empathy is one that cannot be adapted by robots and that can make the world of difference when it comes to difficult medical decisions.

There is also the issue of who is responsible when the system malfunctions. In an article written by Forbes, they point out the uncertainty of knowing what an AI can do without supervision. Can we ethically allow venerable people to be solely looked after by a robot, making it their main form of social interaction? Can the family of an elderly person trust a robot to deal with end-of-life care and the decisions to be made in those kinds of emergency situations? While it can be easier to have technological assistance.

Is the risk of them not receiving any visits from a human going to take a different toll on their mentality? All these questions need to be thoroughly researched and evaluated if this form of healthcare is to come into mainstream effect.

2 AI in Education

Artificial intelligence has already made a large impact on the education system. A study done in the U.S in 2023 by Forbes Advisor found that 60% of educators that were surveyed have used AI in the classroom to aid them in their daily responsibilities, with the most popular AI tool being AI-powered educational games. Although AI may seem like an exciting and much needed development, can we confidently say that all these changes have been for the better? What will the future of education look like? Let us look at some examples of how AI has been implemented into today's school system, and how we anticipate its evolution in the near future.

Let us first look at how traditional teaching and learning has changed thanks to Artificial Intelligence. There are plenty of commonly used AI-powered systems in today's schools that can adapt their educational content to suit that student's learning style. This ensures the user has a personalised learning experience which is best suited to them. For example, language learning apps that use AI, such as Duolingo test that user's skills in the language and adapt the difficulty of the questions asked based off that user's proficiency in the language and results from previous questions. It can then generate personalised listening, speaking, and written exercises and provide immediate feedback. This keeps the user engaged with the app and its content. The student is then able to identify patterns in their answers and adjust them as needed. AI teaching systems also automate mundane tasks such as grading and gives educators more time to focus on decision-making and engaging with their students.

Although it may seem like adding AI systems to the classroom is a progressive step forward in the tech world, there are some concerns about the unpredictability of AI and how they may permanently impact the future of the education system and the future of the children enrolled.

There is the obvious concern that a lot of educators may lose their jobs, since Artificial Intelligence can do their jobs for them. However, human educators can provide students with certain skills that AI cannot. For example, AI-taught students may not develop the necessary social and creative skills that human-taught students would have. Teachers can offer guidance, interpretation, and deeper engagement with the material. The hope is that the role of teachers as mentors, motivators and facilitators of learning will remain too essential to lose. Teachers bring a human connection to the learning experience that AI cannot. Teachers are also capable of empathy and can connect with their students on an emotional level that is currently not possible for an AI system to mimic.

There is also the fear that students may become AI-dependent when it comes to schoolwork. For example, generative programs such as ChatGPT can be used for cheating and plagiarising essays or other assignments. A study from 2023 into AI use

on college campuses in the U.S found that roughly 56% of students admitted to using an AI tool to complete an assignment or an exam. It also found that only 54% of all students that were surveyed considered it cheating to use an AI tool to help with an assignment. Abuse of these programs could leave students with the inability to think critically and could severely damage their problem-solving skills since they can use artificial intelligence to do their thinking for them.

So how do we prevent these problems going forward so that we ensure a safe and comfortable learning environment for all students? Making sure that teachers are well educated on the dangers of AI will ensure the safety of their students and ensure that the student's privacy and security is the number one priority. This can be done by implementing user authorisation for example. To prevent the abuse of certain AI programs, educators need to enforce guidelines regarding responsible AI use and to use tools that can filter content and detect plagiarism. Educators also need to spread awareness about the consequences of using certain generative AI tools unfairly and emphasise the importance of integrity and ethical behaviour. Countries like China and Singapore have already established 'AI in Education' policies and guidelines, but most other countries are slow to do the same.

The implementation of AI in the education system seems to be inevitable, with a lot of schools already using certain programs to aid students in the learning process. It is possible to be optimistic about the future of AI in schools, so long as educators have the resources, they need to become familiar with AI so they can implement it safely. They also need to ensure that there is a balance between AI-driven learning and human-driven learning in schools. This will provide students with a personalised learning experience which has been customised to best suit them, and the necessary social, emotional, and creative skills that come with being taught by a human. Although AI will continue to show up in classrooms all over the world, that does not mean that teachers should fear losing their jobs. In fact, it highlights the importance of a human touch in the classroom that AI lacks. If the necessary precautions are taken to ensure a safe, secure, and progressive working environment for all students, I do not see why the future of AI in education cannot be a bright one.

3   AI Safety and Control

With the growing incorporation of artificial intelligence in our world today, it is essential for us to see the possible dangers that may come with the extensive use and dependency on it. That being said, the purposes of artificial intelligence developments are to help people with tasks and increase our productivity.

There are a few categories AI safety and control can be classified into, the first being unintended consequences. Within the development of AI in general, it is unintentionally introduced to bias mainly as a result of it being developed by different groups. From my personal experience using the popular AI ChatGPT, I feel like it is more suited for communication with Western society as it was developed by Westerners. This was not the plan during its development, but it was unintentionally introduced to that bias as the training data used would have been gotten mail from

Western society. A report done by IBM showed how the use of AI for recruitment was based on what the developers saw fit which led to the exclusion of so many other groups. This further proves that AI would always favor the group that it is developed by it is not done out of ill faith, but human nature causes people to build things in their image. For example, if I get a team from the UK and one from Spain to design a chatbot that would talk about soccer, the responses from both bots would be different with the bot's favoring teams and players from the respective countries. Jobs that require low-level skills such as being a travel advisor, or a paralegal would be replaced by AI systems. Due to how repetitive and straightforward the tasks are, it is elementary to train an AI system to do them as AI development is based mainly around iterations. With large companies looking for ways to be more profitable and efficient, they are willing to replace people with AI and opt for automation rate. This is done as AI does not require payments, breaks, raises, and the many other requirements that come with having employees. With all this said there are unfortunately benefits attached to it, it helps the capital owners in large companies be in gains that aid in further widening the wealth gap between skilled workers. A prime example can be seen with the CEO of Nvidia Jensen Huang who has had a net worth increase of over 20 billion dollars in the first three months of 2023 as a result of Nvidia pushing and manufacturing AI chips. The misuse of weapons of mass destruction will always be substantial which brings about a lot of ethical dilemmas regarding the principle of proportionality, distinction, and humanity in armed conflict.

AI going rogue is one thing that should not be overlooked because of all the access and abilities the most advanced AI systems have. There have been cases of AI going rogue but fortunately, this was early in the development stage, and it did not have access to any system it could have done damage with. Without human oversight and strong development,

Advanced AI systems being heavily implemented are showing no signs of slowing down despite the possible dangers and negative effects it has on workers. As much as we are used to its pros, we must understand and remember the importance of it being safe and giving it limited control.

4   AI in Employment

Fears about the impact of technology in the employability in the work force has been a longstanding issue and with the arrival of artificial intelligence these concerns have only intensified. It is certain that jobs, particularly those involving routine tasks like data gathering, data summary, and writing, as well as those involving regulatory compliance and clerical work are at major risk. Roles like, customer service representative, receptionists and accountant are among those facing to elevated risk of job automation and displacement. According to Freethink due to technological advancements about 65% of retail jobs could be automated by 2050, leading to lower wages and reduced hiring.

One the other hand, International Monetary Fund (IMF) a financial agency in the United Nations, suggests jobs with high complementarity to AI, where the technology

is there to assist rather than displacing it entirely are safer. These jobs often have a high degree of responsibility, interaction with people and decision making such as, lawyers, surgeons, and judges.

One of the benefits of AI in the labor force and industry, is its higher rates of productivity and efficiency. According to McKinsey global institute, AI has the potential to significantly increase global economic activity by over $13 trillion in the near future and by 2030, resulting in a cumulative GDP that is roughly 16% greater than it is now. This translates into an extra 1.2% GDP growth annually. However, there are concerns that the benefits are not always distributed equitably. For instance, despite the massive automation in the US manufacturing sector in the 1970s, causing an increase in productivity the wages of the manufacturing workers did not change reinforcing the inequalities in the benefit distribution. (Irish Times).

Although AI presents challenges and concerns in the economy, it opens new opportunities for positive change in workplaces. In terms of new opportunities, AI's ability to perform routine tasks tirelessly creates an opportunity for employees to focus on more meaningful high-value activities or new job opportunities that require skills like problem-solving and critical thinking. For example, in healthcare, AI is used to assist doctors and nurses in recommending diagnosis and treatments which in the long – run helps to reduce the workload of healthcare workers.

As AI is integrated into our lives it is essential to develop new skills and adapt to the changing job market. Some of the strategies to stay ahead include developing soft skills, like communication problem solving, collaboration, as well as agility and embracing lifelong learning. However, without political intervention, AI could probably worsen inequity across the global economy, causing social tension. Hence it is crucial that labor workers have a voice on how technologies are used and that countries establish social safety nets and retrain programs for workers at risk. This is important as it makes the AI transition more inclusive and protects workers and the equality of the economy. However, there are concerns about the potential for AI to widen the wealth gap, as those with the skills and knowledge to work with AI may earn higher salaries than those who do not have these skills.

5   Conclusion

In conclusion, Ai is transforming many parts of society increasing efficiency, innovation and progress. But with this come s many challenges, mainly ethical and economic. In healthcare, there are many benefits to Ai, from reducing admin tasks to whole robots being used to take care of patients. There are, however, concerns as to the ethics of these implementations, like how it could dehumanise care towards patients. In education, where AI can adapt to a student's learning level, and create a lesson plan accordingly, there are questions being raised as to teachers losing their jobs altogether. The implications of AI are especially looked at in regard to safety where there can be unintended biases or unsupervised use of AI in weaponry, the possibility of AI going rogue also poses major risks. The potential severe impact on employment is quite worrying as fears of job automation could possibly widen

inequalities even more. The shift by AI is not instant it is gradual, and it is already happening, and people need to be ready to adapt. Some industries may experience job displacement like manufacturing, others may evolve like healthcare. AI has its potential pitfalls too, however despite its challenges, AI has the potential to increase efficiency, innovation, and quality of life hence the right measures need to be taken to ensure an equitable future for all. Through the correct usage of AI this we could push towards economic growth and address some of the world's challenges and problems.

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