The Future of Work with Automation

Artificial intelligence has been making significant strides in the past few decades, causing both excitement and concern among various segments of society. One of the most pressing fears surrounding AI is that it will take over jobs and render human labour obsolete. While it is true that AI is capable of automating many tasks, this does not necessarily mean that it will have a negative impact on society. In fact, I argue that even if AI does take over many jobs, it will ultimately prove to be beneficial because it will force us to rethink job responsibilities leading to the development of new and different skill sets, allow us to identify patterns and make predictions in various industries such as healthcare which would lead to more efficient resource allocation, and provide us with the opportunity to automate tedious tasks and focus on more important aspects of our work. By examining these three key areas, we can see that the benefits of AI outweigh the potential drawbacks.

As mentioned previously, the rise of AI will force us to rethink job responsibilities and will lead to the development of new and different skill sets. While some may argue that this will lead to widespread unemployment and an erosion of traditional job roles, the reality is that new types of jobs will emerge and require workers with a diverse set of skills. For instance, a report by the McKinsey Global Institute estimates that even though AI and automation may displace some jobs, they will also create new ones that require skills such as critical thinking, problem-solving, creativity, and emotional intelligence ([McKinsey Global Institute, 2017](#)). Moreover, as AI takes over certain tasks, human workers will need to focus on areas that require more complex decision-making and problem-solving skills. In other words, "The fact that the typical bank clerk's job description today might only faintly resemble what it was in, say, 1980, doesn't mean there are no more bank clerks. More generally, automation has a way of redrawing boundaries around traditional job categories" (Zerelli 151). We can see that a bank clerks job has not disappeared but their responsibility from handling transactions in person has changed to include more digital and online transactions. Furthermore, it allowed them to focus more on customer service which is arguably a more important role to grow a business. With AI, this same principle can be applied where just because AI is in the equation, the human worker still needs to be there whether that's to work with the AI or to focus on the tasks that AI cannot fulfill by itself. In the healthcare industry, AI can be used to diagnose diseases and suggest treatment options, but it cannot replace the role of human physicians who must apply their clinical judgment and experience to make the final decision. Similarly, in the legal profession, AI can assist with legal research and document review, but it cannot replace the ability of human lawyers to argue cases in court or negotiate complex deals. However, what we notice here is that the development of these new skills will require a significant investment in education and training. Workers will need to adapt to these new AI technologies and learn how to work alongside them in order to remain competitive in the job market. Governments, educational institutions, and businesses will need to collaborate to provide training opportunities and up-skilling programs that help workers develop the skills they need to succeed in the AI-driven economy. Will these mediums even take these steps to ensure workers have access to this new training? Well, ultimately, businesses need to grow and by investing in new skills and qualifications for their employees, their goals of

increasing productivity, improving the quality of products, and gaining a competitive edge in the market will all be met. Now that we know that AI will not displace jobs but rather disturb the market to allow for new and different opportunities, we will look closely at what AI has to offer in the context of businesses and what benefits it would provide for them.

One of the key benefits that was mentioned earlier was the ability of AI to identify patterns and make predictions in various industries which can lead to more efficient resource allocation. A key example of this is shown once again in the healthcare industry. AI can be used to analyze large amounts of patient data, identify patterns, and make predictions about potential health outcomes which can lead to more accurate diagnoses, more effective treatment plans, and ultimately better health outcomes for patients. A study published in the journal Nature in 2018 found that a deep learning algorithm was able to accurately identify breast cancer in mammograms with a rate of accuracy comparable to that of human radiologists (Nature, 2020). The study, which involved over 29,000 mammograms from over 14,000 patients, found that the algorithm was able to correctly identify cancerous lesions in 94.5% of cases, compared to a rate of 94.1% for human radiologists. Additionally, the algorithm was able to reduce false positive rates by 5.7% and false negative rates by 9.4%, potentially reducing unnecessary biopsies and missed diagnoses. You might object to this and say that what happens to the actual human radiologists that have the potential of being replaced by these AI technologies? This concern is valid, and it is important to consider the potential consequences of such a development. However, it is worth noting that while AI algorithms may be able to perform certain tasks with greater accuracy and efficiency than humans, they are not capable of replacing the human element of healthcare. For example, an AI algorithm may be able to accurately identify cancerous lesions in a mammogram, but it cannot provide the kind of personalized care and empathy that a human radiologist can. Additionally, human radiologists can interpret other diagnostic information, such as a patient's medical history and symptoms, that an AI algorithm may not be able to take into account. Furthermore, it is important to remember that the healthcare industry and many others are not a zero-sum game. Just because an AI algorithm can perform certain tasks with greater accuracy and efficiency than a human does not necessarily mean that it will replace all humans in that sector. Instead, AI technologies will likely be integrated into existing systems to augment and enhance human capabilities, rather than replace them entirely. Ultimately, in this case, the goal of AI in healthcare should be to improve patient outcomes and provide more effective and efficient care. If AI algorithms can help to achieve this goal while also preserving the vital human element of healthcare, then they will have proven to be a valuable addition to the healthcare industry, rather than a threat to human jobs.

Apart from rethinking job responsibilities and being efficient in the industry, a clear advantage of AI automating certain jobs is the fact that it can free up time and energy for workers to focus on more important tasks. As a software developer myself in the startup industry, the ability to automate certain tasks can be invaluable. According to an article from New Stack, "with this technology, QA teams can execute many tests across a wide variety of devices and variant form factors. And not in days, but in hours. Now that's a revolution" (The New Stack, 2022). What this means is that developers can spend more time on the innovation aspects of

software rather than getting bogged down by mundane tasks that are required to be done. The more brains working towards improving and innovating within a company, the better chance the company has to gain a competitive edge in the market. Of course, some may object that this automation could lead to job loss in this scenario as well or that it may not always be feasible to automate certain tasks. However, as the same article notes, these technologies "still require people and people aren't machines: They make mistakes. Even with no code — though greatly reduced — human error remains a factor from which serious issues can still arise. Consider too the excess use of resources, time, and effort that arises from human testing". So even though it may seem like software developers are out of a gig as soon as this hits the market, the reality is that we need developers to manage these systems and be able to troubleshoot issues in the cases where things go wrong. Human intervention is still key even with AI automation, because who will be there when it makes a mistake or when new business requirements come in?

        The fear that artificial intelligence will take over jobs and leave humans unemployed is not unfounded. However, as I have argued, even if machines do take over most types of work, they will ultimately prove to be beneficial to society. The benefits of automation, including increased efficiency, economic growth, and improved working conditions, outweigh the potential drawbacks. Additionally, while AI may redraw/rethink job responsibilities, it cannot replicate the same sorts of creative thinking that are required in many jobs, and automation would allow us to focus on more important tasks. Rather than fear the rise of AI, we should embrace it as an opportunity to rethink how we work and how we can use machines to make our lives easier and more productive. As history has shown us time and time again, human ingenuity and creativity will continue to be essential, even in a world increasingly driven by machines.