Is the growth of artificial intelligence in matters of employment a reason to celebrate or to be cautious?

INTRODUCTION

Artificial intelligence (A.I) is a computer program that mimics similar human characteristics. They have abilities to reason, evaluate, have skills to solve problems, and learn from experiences (Copeland, 2020)[1]. It is categorized into computer algorithms, robots, auto machine vehicles which are all modifying our lifestyle. As said in a report by UNESCO, A.I is the beginning of a new industrial revolution (Copeland, 2020)[1]. Therefore, we should reap its benefits and can globally create a productive and efficient workforce. However an article by Calum McClelland (McClelland, 2020)[2] claims that by 2030, automation and A.I will replace 400 to 800 million jobs globally requiring people to change their job careers or categories. This shows that this is not a futuristic fiction issue and it could actually overpower us humans. A.I advancement can cause fear in developing countries and technology advanced countries such as China and the developing regions of Pakistan by further affecting the workplace, therefore, I believe the dangers of A.I should not be ignored. Therefore, actions must be taken to solve and prevent issues in the workplace which are caused by the advancement of A.I technology.

ISSUES

Automation and Replacement of labor.

As the growth of A.I increases, there's a major threat to the labor force. Globally 1.4 billion workers are already in vulnerable positions such as construction workers, farmers, manufacturers, miners, etc, mostly in developing countries as they have lower wages. 800 million people out of 3.25 billion laborers live in poverty (between 1.9$ and 3.1$) (Khan, 2017)[3]. The introduction of automation will affect these worker's income, which varies according to a person's age, gender, and race. People who are starting their careers can experience greater obstacles and will be affected by machine learning (West, 2015). This is because artificial intelligence has quick decision-making skills and has no human error issues. A.I applications and robots can work non-stop, thus, these machines are time and energy-efficient compared to humans (Alkemi, 2018)[4].

Therefore, business owners would welcome benefits provided by A.I technology since it saves time, money and grows revenue rather than giving wages to employees. I observe this is the main factor by which laborers will be replaced. With less errors, their customer service improves too, so the increase in unemployment rates is a likely outcome. Oxford Economics report estimates that by 2030, 20 million factory workers can be replaced by robots, with about 14 million manufacturing jobs lost in China alone. China is predicted to have the most manufacturing automation, with 14 million industrial robots. (BBC, 2019)[5]. This is because China has the largest labor force and with the most A.I applications in the world (Inside Big Data, 2020)[6].

Although Cong Yi, argues there will be no large-scale unemployment in China as new industries will be created with advancement in technology (Hui, 2018)[7]. As a professor at Tianjin University of Finance and Economics, his experience gives weight to his words

therefore the public would agree with his opinion. He believes A.I automation may affect tasks, rather than jobs and cannot replace humans but can act as a tool. In short, A.I can eliminate jobs, but can simultaneously produce more as well. In my opinion the adoption of A.I is inevitable and we need to adapt and prevent labourers from being replaced in the future.

Learning basic skills in programming, management of data and building skills in teamwork, creativity, and expressing ideas with critical thinking should be instilled to adapt in the world of automation. The Ministry of Education of China has taken action to give A.I education in universities and has 180 colleges to offer majors in artificial intelligence (SCMP, 2020)[8]. Silicon Valley created over 20 A.I startups that attract tech creators across the globe (Sheehan, 2020)[9]. Consequently, it will lead to skill empowerment. It gives people opportunities for tech-based jobs, which in my opinion, is better than living as a laborer with less or no income and moreover, improving their living standards and wellbeing. With more skilled professionals, unemployment rates would likely decrease. Although providing education on a global scale will take time to produce results since developing countries have low literacy rates. This is where global collective action is necessary for developed and developing countries to exchange resources to create an empowered skilled labor.

Artificial Intelligence and Wealth Inequality.

Which leads to another important issue that with advancement of artificial intelligence, it can rapidly create large amounts of wealth. This is a great advantage and can boost economies. Although we cannot overlook the possible negative consequences. With no proper distribution of wealth, it widens the gap between rich and poor. Research by James Hardley (2020) includes in his book that: "artificial intelligence fits the role of a catalyst for capital income- thus a catalyst for inequality."(p.4).

Inequality is already known as a global issue, the gap is increasing due to the latter having less education, resources, or skills and is exacerbating due to A.I development. Ryan Daws, working in TechForge Media reports (2018) that 1% of the rich people in the world own half world's wealth. The impact of Artificial Intelligence on inequality has negative and positive perceptions depending on fields and jobs. I believe that content creators or innovators in the field of technology, can benefit the most by earning most of the capital income. Some famous companies like Amazon, Tesla, Alibaba, Apple etc, are masters in artificial intelligence, and are using it to increase quality products and services (Marr, 2019). This will likely increase income and therefore increase inequality since the distribution of wealth is aimed towards them. Although, in local regions of developing countries i.e Balochistan, majority don't have basic knowledge of A.I developing around the globe. They are not equipped with proper skill, knowledge, and resources to compete in the tech industry. "The literacy rate in Balochistan is 41%, the lowest in the country." (Nadeem, 2018). Areas similar to Balochistan face challenges to meet other regions standards and won't be able to cope in the global market.

Governments can invest in institutions to provide training and knowledge. This creates awareness and empowers the public to gain basic skills to attempt the field of artificial intelligence. Volunteering movements through professionals who are a part of the

technological division, have the required skills, knowledge to provide courses to the general public which has the potential to help as well.

Education is highly valuable in my country, Pakistan. Pakistan is recognized for their engineers in the field of maths and science and are now in pursuit of the study of technology. Esteemed companies like Microsoft and Oracle would open up job opportunities for Pakistan to employ their engineers. "The Research Center for Artificial Intelligence, Koshish Foundation Research Lab is a growing player in Pakistani technological research." (Mueller, 2019)

Artificial Intelligence and Data Privacy.

People have different perceptions about privacy but in the age of technology, privacy means to select specific data being posted and exchanged between different groups or individuals online. (Teich, 2020)

I realized that in my local area Karachi, majority people including myself are unaware that A.I is influencing our day-to-day activities. After my current research, I learned that globally two out of three users are unaware they are using artificial intelligence (Brown, 2017). A. I applications are used in virtual assistants (Siri, Alexa), to algorithms in social media platforms like Facebook, Instagram, etc. Smartphones use A.I systems in face and voice recognition (Abramovich, 2020). So the majority of people use A.I because they are mostly found in smartphones. In 2021, the number of smartphone users globally is 3.8 Billion (Turner, 2021), and so people are unaware of the potential breach it does on privacy and usually know its benefits as mentioned before that are convenient to use when completing a task. Overall it's accessibility is the likely reason for the major impact on data privacy.

An article by Teich, D. (2020) shows that businesses use A.I to better understand their customers by collecting their data and then provide services or products accordingly. Governments have enforced certain limits and so businesses try to balance both using private information and staying under the governmental policy. Some A.I applications and websites (cookies) have made it easier to monitor and analyze a person's footsteps on the internet as well as their physical routine, example, China's social credit system. Each citizen has a personal score of their behaviors and actions. Situations like jaywalking, smoking where not allowed, creating fake information or news online, etc, causes a low score and limit access to credit, employment (Lee, 2020). Personally I find it odd and inappropriate, like an invasion of ones private life that not everyone myself included, are comfortable sharing. Bernard Marr who is a technology advisor to companies states that "it's not only an invasion of privacy it can quickly turn to social oppression." (Marr, 2018)

Although A.I threatens data privacy it plays an important role in data security. by using machine learning and artificial intelligence can prevent cyberattacks and data breaches through creating codes, algorithms and monitoring. It's really important in businesses because technologies learn and identify new types of attacks now. There are many A.I cybersecurity companies like Darktrace through which other companies can keep their information secure and not within the public's reach.

I myself am very particular about my security and of the information I'm posting online, but in my opinion using Android phones is much better and safer compared to Microsoft and Apple devices, because of their open-source browsers, which is used with end to end encryption. (Deane, 2018). Moreover, no digital footprints will be left on the internet. Brad Medier a digital engineer has offered solutions for A.I applications builders who should use precise, authentic data and should take the user's consent so that the users are aware or informed if their data is being used or if A.I is making decisions about them (Medairy, n.d). Any company that follows these actions and stays within governmental restrictions will be considered as credible, transparent. They will not face governmental or public backlash, and users' information will remain protected.

CONCLUSION

In conclusion, my perceptions about the influence and dominance of artificial intelligence has drastically evolved. My previous outlook of ai was influenced mostly by sci-fi movies and other predictions that involved A.I ruling the world and how it can negatively affect our privacy and is used to control the population. Although logically speaking and reflecting on my research, if artificial intelligence is used and created in an ethical manner with bias free systems and with no ulterior intentions it would be a source for people to connect and create a productive and convenient lifestyle and workforce. I believe it has a similar role like money and acts as a tool but the benefits and influence of A.I depends on the actions and intentions of both builders and users. Also, I personally enjoyed researching about A.I with so much information and news that I haven't heard especially how A.I has already been adopted into my life. It was quite shocking and fascinating. I believe this research will really help in the future regarding my education and career goals because I am very inclined to the field of technology and rather I feel everyone should celebrate the new era of advanced technology approaching. We need to make people ready, compatible and celebrate the new economic state approaching in the future.

REFERENCES

[1] Copeland, B.J. (2020). "Artificial intelligence". https://www.britannica.com/technology/artificial-intelligence. Accessed 29 January 2021.

[2] McClelland, C. (2020). "The impact of artificial intelligence-widespread job losses".https://www.iotforall.com/impact-of-artificial-intelligence-job-losses. Accessed 29 January 2021

[3] Khan, A. (2017). "10 things to know about global labour force".https://www.odi.org/publications/10770-10-things-know-about-global-labour-force. Accessed 29 January 2021

[4] Alkemi, R. (2018). "Pros and cons of artificial intelligence".https://www.redalkemi.com/blog/post/pros-and-cons-of-artificial-intelligence Accessed 1 February 2021

[5] BBC. (2019). "Robots 'to replace up to 20 million factory jobs' by 2030." https://www.bbc.com/news/business-48760799 Accessed 1 February 2021

[6] Infographic. (2020). "the countries and companies leading in AI patents." https://insidebigdata.com/2020/09/06/infographic-ai-innovators-the-countries-companies-leading-in-ai-patents/ Accessed 1 February 2021

[7] Hui, Z. (2018). "AI to affect 70% of occupations as robotics complement China's shrinking labor force."https://www.globaltimes.cn/content/1119786.shtml
Accessed 3 February 2021

[8] SCMP. (2020). "AI is the fastest expanding discipline in China's universities, with 180 more approved to offer it as a major." https://www.scmp.com/tech/policy/article/3064956/ai-fastest-expanding-discipline-chinas-universities-180-more-approved Accessed 4 February 2021

[9] Sheehan, L. (2020). "The Vanguard in AI: Top 20 Startups in Silicon Valley" https://equalocean.com/analysis/2020030213739 Accessed 5 February 2021

[10] Abramovich, G. (2020). "5 Examples Of AI In Our Everyday Lives" https://blog.adobe.com/en/publish/2018/01/07/5-examples-of-ai-in-our-everyday-lives.html#gs.sbjaqs Accesses 7 February 2021

[11] Turner, A. (2021). "How Many Smartphones Are In The World?" https://www.bankmycell.com/blog/how-many-phones-are-in-the-world Accessed 7 February 2021

[12] Teich, D.A. (2020). "Artificial Intelligence And Data Privacy – Turning A Risk Into A Benefit" https://www.forbes.com/sites/davidteich/2020/08/10/artificial-intelligence-and-data-privacy--turning-a-risk-into-a-benefit/?sh=25d959546a95 Accessed 8 February 2021

[13] Kostka, G. (2019). "What do people in China think about 'social credit' monitoring?"https://www.washingtonpost.com/politics/2019/03/21/what-do-people-china-think-about-social-credit-monitoring/ Accessed 8 February 2021

[14] Deane, M. (2018). "AI and the Future of Privacy" https://towardsdatascience.com/ai-and-the-future-of-privacy-3d5f6552a7c4 Accessed 8 February 2021

[15] Medairy, B. (N.D). "4 ways to preserve privacy in artificial intelligence" https://www.boozallen.com/s/solution/four-ways-to-preserve-privacy-in-ai.html Accessed 8 February 2021

[16] Marr, B. (2018). "Is Artificial Intelligence Dangerous? 6 AI Risks Everyone Should Know About" https://www.forbes.com/sites/bernardmarr/2018/11/19/is-artificial-intelligence-dangerous-6-ai-risks-everyone-should-know-about/?sh=666693d92404 Accessed 10 February 2021

[17] Hadley, J. (2020). "Artificial Intelligence and Rising Inequality" https://sites.rutgers.edu/nb-senior-exhibits/wp-content/uploads/sites/442/2020/08/James-Hadley-final-pdf.pdf Accessed 10 February 2021

[18] Daws, R. (2018). "AI will increase the wealth inequality between the rich and poor" https://artificialintelligence-news.com/2018/01/11/ai-wealth-inequality/
Accessed 11 February 2021

[19] Marr, B. (2019). "The 10 Best Examples Of How Companies Use Artificial Intelligence In Practice"
https://www.forbes.com/sites/bernardmarr/2019/12/09/the-10-best-examples-of-how-companies-use-artificial-intelligence-in-practice/?sh=2203ce8b7978 Accessed 13 February 2021

[20] Balochistan Voices. (2020). "60 percent of Balochistan Does not Have Internet Coverage: Report"
https://balochistanvoices.com/2020/12/60-percent-of-balochistan-does-not-have-internet-coverage-report/ Accessed 13 February 2021

[21] Nadeem, F. (2018). "Illiteracy in Balochistan"
https://voiceofbalochistan.pk/opinions-and-articles/social-development/illiteracy-in-balochistan/ Accessed 13 February 2021

[22] Brown, E. (2017). "Two out of three consumers don't realize they're using AI."https://www.zdnet.com/article/63-percent-of-people-do-not-realize-theyre-using-ai-according-to-new-research/ Accessed 13 February 2021

[23] West, D.M. (2015). "What happens if robots take the jobs? The impact of emerging technologies on employment and public policies", Brookings.
https://www.brookings.edu/wp-content/uploads/2016/06/robotwork.pdf
Accessed 14 February 2021

[24] Lee, A. (2020). "What is China's social credit system and why is it controversial?"https://www.scmp.com/economy/china-economy/article/3096090/what-chinas-social-credit-system-and-why-it-controversial Accessed 15 February 2021.

[25] UNESCO. (2018). "The fourth Revolution."
https://en.unesco.org/courier/2018-3/fourth-revolution Accessed 24 April 2021

[26] Mueller, J. (2019). "Pakistan's Artificial Intelligence & Automated Future"
https://blog.rebellionresearch.com/blog/pakistan-s-artificial-intelligence-automated-future
Accessed 25 April 2021