

A World Transformed: The Impact of Artificial Intelligence on Employment and Job Security

Harsh Bansal

2nd Year Student, B.TECH. Computer Science and Engineering, Amity University Punjab

Abstract

The rapid advancements in Artificial Intelligence (AI) have sparked discussions about the potential for AI to replace human intelligence in various industries. While AI has shown its effectiveness in completing tasks with greater speed and accuracy, its limitations in areas requiring creative thinking, strategic decision-making, and risk-taking among others, highlights the ongoing value of human intelligence. This paper aims to provide an overview of the recent developments in AI and its potential to replace human intelligence in various industries. It also explores the limitations of AI and the tasks that still require human intervention. The paper concludes by emphasizing the importance of maintaining a balanced approach to the integration of AI in various industries, and discussing how critical it is for humans to unleash the full potential of AI while also minimizing its capability to replace humans by exploring and implementing new strategies.

Keywords : Artificial Intelligence, Job Security, AI Revolution, Impact of AI Revolution, Rising Concerns related to AI Revolution

1. Introduction

In the past decade, the progress made in the field of Artificial Intelligence (AI) has clearly illustrated the immense potential of technology. AI has repeatedly proven its effectiveness in completing tasks with greater speed and accuracy compared to human capabilities, across diverse domains. The continual creation and release of new machine learning models for general use is testament to this. According to The Economist, there was a 26-fold increase in the number of mergers and acquisitions involving AI between 2015 and 2017^[3]. These rapid advancements in AI technicalities have stimulated and facilitated increased investment in the field. Previously, access to AI was restricted to a select few digital giants such as Google ^[2], Facebook, and Microsoft, for enhancing their own products. However, the trend is now moving towards open-source markets, allowing developers worldwide to harness these capabilities for creating applications aimed at improving our lives.

However, despite all these advancements, working professionals and laborers across a range of industries are gravely frightened that AI may replace them in their positions. As a demonstration, consider the synergistic relationship between several AI-based technologies, such as driverless vehicles, robotics, payment systems, visual recognition, and natural language processing, to illustrate their potential for collaboration. These technologies form a seamless continuum that has the capacity to render the traditional roles of valet, doorman, greeter, coat check, host, order taker, server, sommelier, manager, entertainer, cleaner, and cashier redundant in a single restaurant setting ^[4].

It is crucial to recognize that despite their potential, AI algorithms might yet fall short of producing groundbreaking outcomes that call for human ingenuity and critical thought. Since these jobs cannot be foreseen, algorithms cannot be used to complete them. This highlights the continuous value of human contribution and creates a large void for human cognition to fill. The creative and strategic qualities of a single person often

outweigh the combined efforts of many, as is evident in works of art. This is also true in fields that need entrepreneurship, risk-taking, and inventive thinking. This highlights the fact that human intelligence cannot currently be replaced and that this is unlikely to change anytime soon.

In conclusion, while AI has made remarkable advancements, it is crucial to understand its limitations and recognize the ongoing value of human intelligence. Tasks requiring creative thinking, strategic decision-making, and risk-taking, among others, continue to require human intervention, making it essential to maintain a balanced approach to the integration of AI in various industries.^[1]

2. Literature Review

The studies discussed in this section, which have been published over the years, examine the effects of artificial intelligence on various career levels and the probable dominance of AI-based companies in the next years.

A study by Professor Spyros Makridakis conducted in 2017 emphasized the trend at that time of using the Internet and AI technologies to gain competitive advantages in the business world. The study acknowledged the potential for these technologies to drive innovation and boost productivity, but also acknowledged the concerns regarding their potential to increase unemployment and widen wealth inequality. The study aimed to examine both the challenges and benefits of these technologies and their impact on society and businesses.^[1]

Muro *et al.* (2019) conducted a study that explored the differences in the impact of AI measures on the workforce compared to those from robotics and software. The study highlights that AI's unique capabilities are likely to have a significant impact on higher-wage occupations.^[5]

Huang *et al.* (2018) discussed a roadmap about the progression of AI in taking over tasks requiring different intelligences, how AI should be used for service tasks, and how workers should shift their skills for a mutually beneficial outcome between humans and machines. The paper concluded that the advancement of AI presents opportunities for innovation in human-machine integration for service, but also presents a significant threat to human employment.^[6]

3. The Need for Human Creativity and Innovation in the Age of AI

The topic of artificial intelligence is divisive. Some individuals consider AI will help us come up with novel answers to problems. A different school of thinking asserts that AI might ultimately turn against us. This more pessimistic school of thought is based on the hypothesis that computers would eventually outsmart humans in terms of intelligence, making us obsolete and perhaps even taking over as our masters. But when it comes to interaction and communication, context and general knowledge, common sense, inventiveness, and empathy, humans excel. Humans are naturally social beings. According to research, customers prefer to interact with people, particularly when dealing with sensitive subjects like when they encounter a problem and need assistance fixing it.

3.1. Discussing Narrow Artificial Intelligence Systems

The development of Artificial Intelligence technology has allowed for the creation of narrow AI systems, capable of performing specific tasks in controlled conditions. These systems are designed to perform a single, well-defined task and do not possess general knowledge, common sense, or an understanding of right and wrong. Additionally, narrow AI systems lack the capability to self-evaluate or recognize their own errors. As such, they should only be utilized for the specific task for which they were trained, similar to a sausage machine. The use of narrow AI systems has enabled a more efficient allocation of human resources, freeing individuals from repetitive, mundane tasks. For example, the use of calculators, once seen as a threat to traditional mathematics education, has allowed for a more efficient and streamlined method of calculation. The utilization of narrow AI systems will continue to play a crucial role in streamlining various industries and tasks.^[8]

3.2. The Continuing Importance of Human Emotional Intelligence

A smart machine might be able to identify complicated business issues and suggest solutions to help an organization. However, human beings are still best equipped for tasks like motivating the leadership team to action, avoiding sensitive political issues, and selecting astute individuals to spearhead change. Over the next ten years, these human qualities will be increasingly valued. Artificial Intelligence still has trouble replicating qualities like being understanding, motivating, or interacting in a wholesome way with other human beings. Through adequate interaction and a comprehension of the tone, the feelings, and the surrounding circumstances, human people can determine how serious the situation is, something that AI may be unable to achieve. As artificial intelligence and machine learning replace our other tasks, abilities like persuasion, social awareness, and empathy are going to become the differentiators.^[7]

4. Conclusion

Dealing with this difficulty entails two things. First, it is clear what the risks are, and second, there is plenty of time to discuss them and decide how best to respond.^[1] Even though some argue that the widespread adoption of AI technologies will result in significant job losses and move us closer to dystopian society, increased unemployment and greater wealth inequality are debatable given that unemployment declined rather than increased during the Industrial and Digital Revolutions.^[11] However, scientists like *Etzioni (2016)*^[12] contend that AI is not dangerous to humans and that it would be a great loss to forgo its numerous advantages out of misplaced concern that it would become uncontrollably powerful.

As we head towards uncharted waters and uncertain choices, the obvious challenge is what can be done to maximize the chances of exploiting the benefits while avoiding the negative consequences of AI technologies?^[1] In conclusion, to seize the opportunities and sidestep the pitfalls of AI advancements, it is crucial for humans to explore and implement strategies that maximize its potential benefits while minimizing the potential harm that could be caused by it.

References

- [1] Makridakis, S. (2017). The forthcoming Artificial Intelligence (AI) revolution: Its impact on society and firms. *Futures*, 90, 46–60. <https://doi.org/https://doi.org/10.1016/j.futures.2017.03.006>
- [2] Yu, B. T., & Ulukok, E. (2021). Google's Use of Artificial Intelligence in a Two-Sided Advertising Market Causing Trust Loss, and Data Monopolization. In A. M. A. Musleh Al-Sartawi, A. Razzaque, & M. M. Kamal (Eds.), *Artificial Intelligence Systems and the Internet of Things in the Digital Era* (pp. 383–397). Springer International Publishing.
- [3] The workplace of the future (2018) *The Economist*. Available at: <https://www.economist.com/news/leaders/21739658-artificial-intelligence-pushes-beyond-tech-industry-work-could-become-fairer-or-more> (Accessed: February 13, 2023).
- [4] Job Loss From AI? There's More To Fear! (2018) *Forbes*. Available at: <https://www.forbes.com/sites/cognitiveworld/2018/08/07/job-loss-from-ai-theres-more-to-fear/?sh=224431eb23eb>.
- [5] Muro, M, Whiton, J & Maxim, R 2019, What jobs are affected by AI? <http://hdl.voced.edu.au/10707/531845>
- [6] Huang, M.-H., & Rust, R. T. (2018). Artificial Intelligence in Service. <https://doi.org/10.1177/1094670517752459>
- [7] M. Beck, B. Libert, The rise of AI makes emotional intelligence more important, *Harvard Business Review*. 15 (2017) 1–5.
- [8] Priest, C. (2021) Humans and AI: Why AI Won't Take Your Job, *DataRobot*. Available at: <https://www.datarobot.com/blog/humans-and-ai-why-ai-wont-take-your-job/> (Accessed: February 13, 2023)
- [9] Dialani, P. (2021) The Fear of Artificial Intelligence in Job Loss, *Analytics Insight*. Available at: <https://www.analyticsinsight.net/the-fear-of-artificial-intelligence-in-job-loss/> (Accessed: February 13, 2023).
- [10] Furman, J., & Seamans, R. (2019). AI and the Economy. *Innovation Policy and the Economy*, 19, 161–191. <https://doi.org/10.1086/699936>
- [11] Stewart, I, Debapratim, D., & Cole, A. (2015). Deloitte <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/finance/deloitte-uk-technology-and-people.pdf>
- [12] Etzioni, O. (2016). No, the experts don't think super intelligent AI is a threat to humanity. *MIT Technology Review* <https://www.technologyreview.com/s/602410/no-the-experts-dont-think-superintelligent-ai-is-a-threat-to-humanity/>.