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AI's Ethical Implications: Job Displacement

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Abstract

This paper explores the ethical implications of AI-induced job displacement. It analyzes existing sources on the topic and presents its findings in three main sections. It discusses the opportunities and risks of AI for employment, the challenges and solutions to mitigate its impact, and the role of cognitive biases in shaping public perception and response to AI. It argues for a cautiously optimistic approach to the potential of AI to revolutionize employment, provided that decision-makers and social partners take into account the special features of these new technologies. It also suggests some possible directions for further research and policy-making on this issue. The most important thing is to protect the interests of vulnerable groups such as elderly workers and female workers, and to gradually accept new technologies through relevant training measures launched by the government.

Keywords

AI-induced job displacement, ethics, solutions, opportunities, risks, cognitive biases

1. Introduction

Artificial Intelligence (AI) has the potential to revolutionize the way we live and work. With its ability to learn from data and make decisions based on complex algorithms, AI systems are becoming increasingly advanced and capable of performing tasks that were once thought to require human intelligence. However, with this potential comes a range of ethical implications that must be considered.

Among them, artificial intelligence is divided into weak artificial intelligence and strong artificial intelligence. Weak artificial intelligence can only play a role in specific domains, such as Deep Blue that defeated the world chess champion Garry Kasparov in six games in 1997 or AlphaGo that defeated the world Go champion. They are typical examples of weak artificial intelligence. Weak artificial intelligence can only show their "intelligence" in specific domains, but once they leave this domain, they will be useless. Just like you can't let AlphaGo play chess or let Deep Blue play Go. [1]. In contrast, there is strong artificial intelligence (AGI), which scientists believe will appear in the future. They are a kind of artificial intelligence that can behave and execute actions in the same way as humans. They can imitate human general intelligence, and can solve problems and learn new skills in a similar way to ourselves [1]. In other words, weak artificial intelligence is an expert in one aspect, while strong artificial intelligence is an all-rounder. In the past, people thought that strong artificial intelligence was impossible to be invented in the short term, but with the advent of gpt-4, an artificial intelligence with some characteristics of strong artificial intelligence, we need to start thinking about the ethical issues that gpt-4 or further artificial intelligence will cause.

One such implication is job displacement. As AI systems become more advanced and capable of performing tasks previously done by humans, there is a growing concern that many jobs will become obsolete. This could lead to widespread unemployment and economic disruption. While some argue that new jobs will be created to replace those lost to AI, others worry that the transition may not be smooth and that many workers will be left behind.

The ethical issues of AI-induced job displacement are complex and multifaceted. On one hand, the use of AI can

lead to increased efficiency and productivity, which can benefit society as a whole. On the other hand, it raises questions about fairness and justice for those whose jobs are displaced.

This paper will explore the ethical issues of AI-induced job displacement in depth. Ultimately, it is up to society as a whole to decide how best to navigate the challenges posed by AI-induced job displacement.

2. Result

2.1 Employment Revolution Brought by Weak Artificial Intelligence

In the early days of weak artificial intelligence, weak artificial intelligence has the potential to revolutionize employment by improving efficiency and productivity. However, its impact on the job market has been a topic of much debate and discussion. While some see weak artificial intelligence as a threat to job stability and fear widespread unemployment, others argue that it can bring great opportunities for economic growth and job creation.

One challenge in implementing weak artificial intelligence in organizations is the high cost and lack of expertise. This can hinder its adoption and limit its impact. To address this issue, government intervention may be needed to expand internet connectivity and basic literacy. According to Arunava Narayan Mukherjee's article "Application of artificial intelligence: benefits and limitations for human potential and labor-intensive economy – an empirical investigation into pandemic-ridden Indian industry," weak artificial intelligence has the potential to improve efficiency and productivity in modern organizations [3]. However, its adoption in Indian companies is still in its early stages due to a lack of expertise and high costs. The author suggests that government intervention is necessary to expand internet connectivity and basic literacy before weak artificial intelligence can have a larger impact.

Another challenge is the risk of exacerbating inequality. According to Ekkehardt Ernst (2018), in his article "Economics of Artificial Intelligence", he discusses the impact of weak artificial intelligence on future work [5]. The author argues that while increased productivity presents opportunities for growth and development, there are also risks associated with exacerbating inequality. This may require addressing issues such as social security, low wages, and lack of legal protection for workers in informal sectors.

Despite these challenges, there is reason for cautious optimism about the potential of weak artificial intelligence to revolutionize employment. For Дэвид, in his article, he mentioned that in 1900, nearly 50% of the adult working population were engaged in agricultural work, but now only 2% are engaged in agricultural work due to mechanization [6]. With careful planning and consideration of the unique characteristics of weak artificial intelligence technology, it may be possible to harness its potential for positive change.

weak artificial intelligence has the potential to automate many routine and repetitive tasks. This means that jobs that involve such tasks may be more easily replaced by weak artificial intelligence technology. For example, jobs in manufacturing and assembly lines may be at risk as robots become more advanced and capable [8].

On the other hand, jobs that require creativity, critical thinking, and human interaction may be more difficult to replace. For example, jobs in healthcare, education, and the arts may be less susceptible to automation.

It is important to note that the impact of weak artificial intelligence on employment will vary across industries and job roles. While some jobs may be replaced by weak artificial intelligence technology, others may be transformed or enhanced by it. The key is to ensure that workers have access to training and education so they can adapt to these changes [8].

Jobs that may be more easily replaced by weak artificial intelligence technology include those in manufacturing and assembly lines. For example, car manufacturing plants have already begun to use robots to perform tasks such as welding and painting. Similarly, jobs in data entry and analysis may also be at risk as weak artificial intelligence becomes more capable of processing large amounts of data [8].

On the other hand, jobs that require creativity and human interaction may be more difficult to replace. For example, doctors and nurses who provide medical care to patients rely on their ability to communicate effectively and empathize with their patients. Similarly, teachers who educate students need to be able to engage with them on a personal level and adapt their teaching methods to meet individual needs.

However, it is important to note that while weak artificial intelligence may replace certain tasks within a job, it is unlikely to replace entire jobs. Instead, it is more likely to transform them by automating routine tasks and allowing workers to focus on higher-level tasks that require human skills such as creativity and critical thinking [3].

To prepare for these changes, workers can take steps such as learning new skills and staying informed about developments in their industry. Governments can also play a role by providing access to education and training programs to help workers adapt to these changes.

2.2 The Unemployment Difference between AGI and Other Technology Development

When we talk about technology and unemployment, we inevitably encounter the Luddites. The Luddites were a secret oath-based organization of English textile workers in the 19th century who formed a radical faction which destroyed textile machinery. They believed that these machines would take away their jobs and lower their wages [9].

However, Дэвид Пауэлл's research shows that what the Luddites feared did not happen in the 19th and 20th centuries [6]. Mass starvation did not occur because workers were able to find jobs in other industries. Meanwhile, Alexandra's research tells us that during the first industrial revolution, as technology advanced, the number of trained workers increased, although the number of people who received basic education decreased [10].

This is due to the technological change that increased the demand for skilled workers, which may have led people to value practical skills more than formal education. But back to the main topic, although technology advanced, unemployment declined [6]. This is the rule that past technological progress has brought us. But does this rule also apply to AGI? This is the part that this paper needs to discuss.

In the past, when a new technology emerged, while old professions disappeared, new professions also emerged [11]. When cars were first invented, people raced them against horse carriages. When cars far surpassed horse carriages, horse carriages were gradually eliminated and replaced by widespread use of cars. When mobile phones and computers were developed, who did they compare with? They compared with traditional envelopes and notebooks. Obviously, we all chose the more advanced mobile phones and computers in the end. But who is AGI comparing with? Artificial intelligence is comparing with workers, with employees. Looking back at OpenAI's research on GPT-4, they used GPT-4 to take a simulated US bar exam, and it scored higher than 90% of the test takers [4]. And for other technological advances, while some industries lose jobs, new alternative industries emerge: such as coachmen disappeared, drivers appeared; mail carriers decreased, programmers increased. But the emergence of AGI did not bring new professions at the same time, which is very scary. Similarly, some people believe that the development of the AGI industry also promotes the increase in demand for programmers. However, regardless of whether basic programmers have gradually been replaced by AGI, with the exposure of OpenAI's corporate structure, people have discovered that a company that has developed such a cross-era development is composed of only 375 employees [12]. That is to say, the research results of these 375 people will replace the work of tens of thousands of relevant document workers in the world. So we can say that other technological advances have brought us a new tool, while AGI has brought capitalists and entrepreneurs a new worker.

Of course, how can AGI directly and completely replace a position such as a lawyer? Of course, its powerful computing power alone is not enough. One of the most important advantages of AGI is that the threshold for use is extremely low [4], and AGI can read the meaning you want to express. The user does not need to undergo any formal training, nor does he need to master very skilled programming skills. All he needs is to write his own needs into AGI, and then watch AGI generate the word or ppt he needs in a very short time. Therefore, AGI can quickly understand and respond to the opposing lawyer's words in court, which is a powerful prerequisite for its ability to replace the work of a real lawyer. At the same time, due to the extremely fast computing speed of AGI and its almost error-free characteristics, and it will not be disturbed by any emotions, these characteristics should be possessed by a good lawyer. It can be seen that AGI will have a strong impact on many industries, including lawyers. Of course, these situations will be verified in the future.

2.3 The Potential Threat of AI Unemployment: The Role of Cognitive Biases

The fear of AI unemployment is not solely driven by the actual threat of AI taking over jobs, but rather the cognitive biases and fears of the public towards new technology. The study by Paul K. McClure shows that a significant number of people suffer from technophobia, fearing technology they do not understand, including robots and AI [13]. This fear is often more prevalent in low-skilled workers, particularly women over 52 years of age and African Americans, who are more likely to report anxiety-related mental health issues and concerns about job loss and financial insecurity.

These individuals are often working in jobs that are simple and repetitive, such as cashiers or accountants, and are therefore more susceptible to being replaced by AI. However, their low educational background and lack of exposure to emerging technologies make them resistant to learning about AI and its benefits, and instead, they focus solely on the potential threat to their job security. For older individuals, job stability is especially important as they approach retirement, and they may not be interested in exploring new opportunities or learning new skills.

Therefore, it is crucial to address these cognitive biases and fears by providing education and training to these

groups to help them understand the potential benefits of AI and how it can help enhance their job roles, rather than replace them. This will help to reduce their anxiety-related mental health issues and increase their confidence in the future job market. Additionally, creating new job opportunities and investing in social welfare programs can also help mitigate the negative impact of AI unemployment on the affected individuals and the wider community.

The potential threat of AI unemployment is a growing concern, as advancements in technology continue to accelerate. However, as evidenced by the research of Pallavi Upadhyaya and Wanyu Xi, cognitive biases such as technophobia and fear of new technology can hinder individuals' acceptance and understanding of AI [14, 15].

This is especially important in the context of potential job displacement due to automation, as it is essential to consider the impact on individuals who may be closer to retirement age and require stability in their employment.

Wanyu Xi's research highlights the importance of framing new technologies in a relatable context, particularly for older adults [15]. By emphasizing the similarities between new and old technologies and gradually introducing new features, rather than overwhelming individuals with advanced capabilities, we can avoid triggering technophobia and instead promote acceptance and understanding.

Overall, it is important to recognize the role of cognitive biases in shaping individuals' perceptions and responses to AI, and to take steps to address and overcome these biases through education and outreach efforts.

3. Discussion

AI-induced job displacement is a complex and multifaceted ethical issue that requires careful consideration and planning. This paper discusses how AI can revolutionize employment by improving efficiency and productivity, but also poses risks of exacerbating inequality and unemployment. It also suggests some possible solutions to mitigate these risks, such as retraining programs for displaced workers and policies to support a just transition to an AI-driven economy.

However, these solutions are not without challenges and limitations. There is still much uncertainty about how AI will impact different industries and job roles in the future, and what skills and competencies will be needed to adapt to these changes. Moreover, there are ethical dilemmas involved in deciding who should bear the costs and benefits of AI development and deployment, and how to ensure that human dignity and rights are respected in an increasingly automated world.

Therefore, further research is needed to explore these issues in more depth and provide evidence-based recommendations for policy-makers, employers, educators, and workers. Additionally, more dialogue and collaboration among different stakeholders is necessary to foster a shared vision of how AI can be used for good rather than evil. Ultimately, it is up to society as a whole to decide how best to navigate the challenges posed by AI-induced job displacement.

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