Forum: Economic and Social Council
Issue: Addressing job displacement due to automation and artificial intelligence.
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Introduction

AI, or artificial intelligence, is revolutionizing industries and job markets all over the world. Automation has been rising since the Industrial Revolution but has taken increasingly different faces that fundamentally change the nature of many jobs. On one hand, they are creating mass unemployment in particular fields; from the 2000s onward, automation systems have already eliminated around 1.7 million jobs. Moreover, according to a study by McKinsey Global Institute, around 800 million jobs can be displaced by automation by 2030. The rapid rate at which some jobs are being automated is because AI technologies excel at performing routine, repetitive tasks like data entry, basic analysis, and customer service. This creates great challenges for those affected, leading to unemployment and income insecurity. Specific industries are particularly vulnerable and have been disproportionately affected, as are uneducated, low-skilled workers. This polarization of jobs exacerbates income inequality, as disadvantaged workers lack the skills necessary to adapt to the changing job market, but the availability of such programs is limited in accessibility.

However, plenty of studies also argue that the impact of AI on jobs can be overwhelmingly positive. A second report from McKinsey & Company states that AI is likely to generate 20–50 million jobs globally in the next decade, with most positions being in health care, manufacturing and finance. These emerging positions demand critical thinking, problem solving and other skills that can be applied directly, in roles such as data analyst and human-machine teaming manager. Evidently, the development of AI also opens up new avenues for employment, creating demand in many fields and industries. Therefore, artificial intelligence's impact on job displacement is extremely complex and multi-faceted, requiring a comprehensive list of solutions.

Definition of Key Terms

Artificial Intelligence

This refers to the development of computer systems that can perform tasks that normally require human intelligence, such as decision-making and visual perception.

Automation

The use of largely automatic equipment in systems of manufacturing in order to complete production.

Job displacement

The involuntary loss of employment due to many factors like economic difficulties, technological advancements, offshoring and company restructuring. This affects many different workers across industries and nations and is a major consequence of AI development.

Reskilling

Reskilling involves helping workers acquire new skills in order to transition into different roles and/or occupations. This is a potential solution to AI's impact on job displacement and is something governments can attempt.

Upskilling

This involves learning new skills or teaching workers new skills in a specific area of knowledge, in order to enhance and improve their existing roles. Upskilling is especially important in response to AI developments and industry changes that require workers to adapt their skillsets, helping them stay relevant in the job market.

Job Transition Programs

Job transition programs are designed to help workers who were displaced from their jobs and reintegrate them back into the workforce, by providing them with tailored support services and resources. This may include career counselling, training in new technologies, and networking events with potential employers.

Workforce development

This refers to a comprehensive list of strategies and initiatives aimed at improving the skills, capabilities and knowledge of workers in the labor market. It aims to create a skilled workforce that meets employment needs.

Labor Market Adaptability

This refers to the ability of the labor market and stakeholders in it to adapt to different external factors such as technological changes and economic downturns. It is crucial to develop higher labor market adaptability when facing job displacement due to AI.

Universal Basic Income

Universal Basic Income is a social welfare system where all citizens receive an unconditional sum of money from the government regardless of their employment status. It is used to guarantee basic level financial security and alleviate poverty, ensuring that people have enough money to attain basic needs like food and shelter. UBI can be used as a short term, temporary solution to unemployment caused by job displacement.

Background

General development of artificial intelligence and automation

Automation

The Industrial Revolution quickened the rise of automation in many industries; business owners realized machines could perform many tasks originally performed by workers, without the additional safety risks and labor costs. Soon, locomotives and steam-powered mills gave manufacturers access to new methods of production, while World War I and World War II prompted later advancements in industrial machinery. In 1959, the first industrial robot was installed on a General Motors assembly line in New Jersey; later, the Programmable Logic Controller (PLC) and Computer Numerical Control (CNC) significantly advanced machining capabilities. Throughout the 1990s and early 2000s, machine learning meant that robots could perform more complex tasks such as object recognition. In the 21st century, companies have been able to sometimes automate entire branches of the production process, such as in the automotive industry.

Artificial intelligence

In 1943, Warren McCulloch and Walter Pitts presented a model of artificial neurons, which was considered the first artificial intelligence. Alan Turing later proposed the Turing Test, which could theoretically determine whether a machine had intelligent behavior similar to humans. In 1956, John McCarthy coined the term "artificial intelligence," driving the development of LISP—the first AI programming language in the 1960s. Most early AI systems were rule centric, and throughout the 1970s and 1980s, researchers lay the foundation for modern AI through machine learning and algorithms. In 2018, the company OpenAI released its first GPT-1, which was able to answer questions and generate text. Two years later, Google DeepMind released AlphaFold, which could access a database of 170,000 protein sequences to predict protein structure at an accuracy comparable to a lab. In 2023, GPT-4—an improvement on the previous models—was developed with some major advancements, forever revolutionizing AI.

Impact of Artificial Intelligence and Automation on Different Industries

Manufacturing Industry

According to TeamStage, around 1.7 million manufacturing jobs have been lost to automation, a trend which is likely to continue. At the same time, the number of industrial robots has tripled to 2.25 million globally, further contributing to job displacement. Similar sectors like retail and logistics also face high levels of job insecurity. Manufacturing is disproportionately affected because most workers are low skilled and relatively uneducated, the nature of their work repetitive. Therefore, they are an extremely vulnerable group, and are predicted to suffer more job loss due to AI.

Retail Industry

Studies predict that retail industries across the world will also suffer disproportionate job displacement as a result of AI. For instance, in the United Kingdom, retailers are set to lose over half a million jobs to automation and artificial intelligence. Many routine tasks in retail, such as inventory management, can be automated using AI technologies that replace human labor. At the same time, with the rise of online shopping platforms and E-commerce, there has been declines in shoppers visiting physical stores, lowering demand for on-site staff. Still, others argue that AI can improve jobs in retail; by automating routine tasks, AI allows employees to focus on the most meaningful aspects of their roles, improving their efficiency and standard of operation.

Finance Industry

According to a study by Citigroup, over half of the jobs in banking are at risk to be replaced by AI, whereas 48% of insurance roles are also vulnerable. Capital markets are disproportionately affected, with an estimate of 40% of jobs that could be affected. Some highly automatable positions include customer service, trend analysis, and reporting. Furthermore, the growth of algorithmic trading means that less human intervention is needed in transactions, reducing employment for traders. However, jobs that require creativity and problem solving, such as sales and marketing, are less likely to be affected.

Agriculture Industry

While AI contains inherent risks, including job displacement and ethical concerns, it also has numerous benefits for agriculture and is revolutionizing the field. For example, CropX's platform specializing in soil health monitors crop performance through real-time data. This ensures that farmers can have efficient, speedy access to vital information, gaining insights into vegetation growth and soil type. Thus, AI enables farmers to focus on strategic activities by automating repetitive tasks.

Education

On one hand, AI and automation may enhance educational outcomes by providing more resources and enabling higher efficiencies in administration. As a result, the educational workforce can be better prepared to meet current and future demands. However, on the other hand, AI may also lead to job displacement in education; newly developed adaptive learning platforms can replace tasks such as grading and tutoring, making certain educators redundant.

Diverse impacts for different stakeholders

Individuals

Low income, low skilled individuals are more likely to be harmed by job displacement due to automation and artificial intelligence, as most of their jobs are repetitive and easily automated. This can create unemployment, especially for the middle and lower classes, leading to a lower standard of living and quality of life. Economic instability among low-wage workers can also force them to rely on social welfare programs, exacerbating poverty levels, and housing and food insecurity. Thus, job displacement from AI affects low-income workers disproportionately, giving rise to greater wealth inequality within countries. It is crucial to create comprehensive social safety nets and retraining programs for affected workers. At the same time, research has shown how younger workers find it easier to exploit opportunities related to AI, whereas older workers struggle to adapt. This may also lead to discrepancies and inequality between different age groups.

Nations

In developed nations with advanced economies, around 60% of jobs may be impacted by AI. However, out of this 60%, around half would benefit from the introduction of AI, whereas the other half would suffer lower labor demand, causing lower wages and reduced hirings. On the other hand, in developing nations, AI exposure is estimated at around 40%. In low-income nations, it is estimated to be 26%. This shows how developing economies currently face fewer disruptions from AI, since many of these nations lack the sufficient technological infrastructure and skilled workforces to fully employ AI to its greatest potential. As a result, technological inequality between nations may rise.

Governments

In the United States, state lawmakers have passed legislation to protect workers from job losses due to artificial intelligence and automation, most notably in Illinois and Tennessee. However, more ambitious proposals to curb AI usage have failed to advance, partly due to the technology industry's complaints and public worries that strict regulations would curb innovation. Therefore, governments have approached this issue with caution, recognizing its extremely complex nature. At the same time, governments can investigate creating stronger welfare programs to help those affected in the short term, while building upskilling and vocational training initiatives to foster long-term resilience in the labor market.

Major Parties Involved

International Labor Organization (ILO)

The ILO has recognized the impact of AI and automation on job displacement and is actively seeking solutions. Because its core mission is to promote social justice and fair labor practices around the world, it views job displacement as an extremely serious issue. The ILO has conducted extensive research and analysis on the impacts of AI, which it publishes in reports. At the same time, it provides member states with policy frameworks and recommendations, while facilitating discussions among organizations, governments and trade unions.

World Economic Forum (WEF)

The WEF is concerned about job displacement due to artificial intelligence because it recognizes that job loss can cause economic instability, thus affecting global markets and harming economic growth. It has acted by publishing its annual "The Future of Jobs Report," which provides crucial insight into how technology trends will reshape workplaces. In 2020, it launched a "Reskilling Revolution," where it aims to upskill one billion people globally over the next ten years through partnering with different organizations. Evidently, the WEF has been a major source of helping workers adjust to an age of AI.

European Commission

The European Commission's main aim is to maintain Europe's competitiveness in the global economy, therefore requiring a strong workforce that can adapt to technological changes. In 2020, it launched "Shaping Europe's Digital Future," which aimed to ensure digital transformations benefit all citizens, while also promoting necessary skills to adapt labor markets. The commission also introduced an agenda focused on reskilling and equipping workers with relevant skills.

International Business Machines Corporation

The IBM is actively engaged in addressing the consequences of job loss due to automation. As a leader in technology, it has launched programs such as "SkillsBuild," which provides free resources to strengthen AI and cloud computing skills. This prepares workers for future job opportunities. At the same time, it has partnered with educational institutions to equip students with the training and credentials they need to succeed in various industries. While the IBM is committed to developing more technologies, it is also working to ensure workers can adapt to artificial intelligence without facing displacement.

Timeline of Events

Date	Description of event
September 17th, 2013	Oxford researchers Carl Benedikt Frey and Michael A. Osborne published a study estimating that 47% of U.S. jobs were at risk due to automation and artificial intelligence, spreading concerns among workers.
January 18th, 2018	The WEF released a report predicting that by 2020, technological advancements could displace over 5 million jobs globally.
December 2019 (month unknown)	The COVID-19 pandemic began, marking a significant global shift to remote work. As businesses adapted during lockdowns, many companies quickened their digital transformation and increasingly relied on automation tools. Therefore, reports indicate that there were millions of jobs lost, while some new jobs focused on technological management emerged.
April 21st, 2021	The European Union proposed an ethical framework surrounding AI development. This framework emphasized transparency, while also addressing its impacts on the labor market.
November 30th, 2022	ChatGPT was officially released to the public. Its algorithm showcased advanced natural language processing skills and prompted discussions regarding AI's impact on content creation and many other professions.

Previous Attempts to Resolve the Issue

In the past, governments and organizations had taken action to mitigate the negative consequence of job displacement due to automation and AI. For instance, in July of 2020, the European Union established its "European Skills Agenda," followed by the "Pact for Skills." Both were initiatives aimed at upskilling workers by offering training in digital skills. A later survey found that over 160 million euros were invested in skills initiatives, and over 15500 training programs were either updated or developed. This resulted in 2 million people benefiting from such activities, proving its success to an extent. Specific member nations have also taken action to combat job displacement. Germany established its "Industry 4.0 Development Strategy" initiative, with a focus on economic, technological and social policies. The initiative supported the use of technological systems such as cyber physical systems (CPS) to enhance production and promote economic growth. Similarly, Singapore has been implementing workforce development programs since April of 2005, which aims to help displaced workers transition into new jobs after completing skills courses. These initiatives were all successful to an extent.

Possible Solutions

- Delegates should consider both short term mitigation methods and long-term solutions to the innate causes of job displacement due to AI. This ensures a range of comprehensive, effective approaches that not only address present needs, but also helps countries in the long run.
- With all potential solutions, it is important to note that job displacement due to technological advancements is an extremely complex and multi-faceted issue, with both positive and negative aspects. Delegates are encouraged to treat this issue as such, and not simply think of one side.
- Potential short-term solutions include providing financial assistance to displaced workers to ensure they maintain a basic standard of living and can afford necessities. This can take the form of minimum wage legislation, universal basic income, and other social security measures. Such efforts can be carried out or overseen by relevant UN organizations and bodies.
- Regarding the long term, delegates can seek to provide training and upskilling initiatives aimed at helping affected workers, particularly low-income ones, develop new skills. These skills include technical proficiency, critical thinking, and management, which are less likely to be affected by AI. Related initiatives and programs should be affordable, potentially government provided and funded through taxation. The United Nations should play a part in monitoring progress to ensure that workers successfully transition to new occupations.
- When creating solutions to mitigate job loss, delegates should put a particular focus on low-income groups, who are the most affected by artificial intelligence and automation. This can be done through creating affordable or free targeted training programs specifically designed for low-income workers, such as community-based workshops and online courses with local organizations. The UN can also work with governments to provide financial assistance, including scholarships and stipends, to help workers cover costs during the retraining period, thus enabling them to effectively learn new skills without being burdened by their immediate economic situation. Furthermore, there can be partnerships with businesses that wish to invest in workforce development. Such businesses can provide internships, apprenticeships and mentorship networks, helping guide low-income workers through their career transitions and offering practical advice.
- Even though there are already numerous studies and surveys done on AI's impact on employment, more specific and time-relevant research is always recommended. Delegates can create UN committees to dive deeper into the factors contributing to job displacement, especially concerning different demographics and countries. More detailed research can provide insights into clearer trends, allowing for more targeted and effective solutions.
- Cooperation between member states in terms of policies and initiatives are encouraged. However, it is important to balance between national privacy concerns and the facilitation of necessary data sharing and transfers. Clear international frameworks need to be set, and all standards for data exchanges should be agreed on beforehand. Nations can also make use of bilateral agreements, fostering trust and transparency. Other measures include regular checks by both nations, the UN, or another neutral third party, to ensure compliance with the commitments set forth. The UN can be used as an international regulatory body to

oversee the implementation of data sharing related to job displacement, giving advice and mitigating potential conflicts between member states.

- When considering potential legislation and regulations regarding AI and automation, delegates are encouraged to consider the potential impacts of such laws. It is important to weigh the need to protect workers' jobs against the importance of promoting technological innovation and growth. Well-balanced approaches carefully achieve both aims without being too restrictive. Possible solutions include conducting impact assessments before implementing new regulations and identifying their consequences on different stakeholders. Governments are encouraged to promote stakeholder engagement and seek input in discussions about legislative proposals. Any regulations agreed upon and implemented should have an adequate degree of flexibility.

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