



Effect of AI on Employment

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Abstract: AI has now been around for over half a century. The term AI was officially coined in 1956, courtesy of Dr. John McCarthy, and has undeniably evolved since. India is the 3rd largest country in terms of AI research and development, following China and the USA. We as a workforce have recently experienced layoffs due to AI taking over various roles in companies and corporations. While AI didn't significantly affect jobs over the past years, work demand is and will continue changing. This spells a threat to us all as the usability of AI spreads over multiple sectors such as Engineering, Healthcare, Finance, Defense, Manufacturing, Aviation, Transportation and even Entertainment! Our study aims to interpret and analyze how AI has affected employment, try to provide solutions to alleviate the threat to employment and determine whether the switch to AI will be for the better or worse.

Index Terms – AI, Artificial Intelligence, Computational intelligence

I. INTRODUCTION

AI is a transformative technology that has the potential to revolutionize various industries and sectors. While AI can bring innovation and efficiency gains, there is an ongoing debate about its impact on employment. AI has made significant progress in areas like information ordering, memorization, perceptual speed, and deductive reasoning, which are related to non-routine, cognitive tasks. As a result, the occupations that have been most exposed to advances in AI have tended to be high-skilled, white-collar ones, including business professionals, managers, science and engineering professionals, and legal, social, and cultural professionals. This contrasts with the impact of previous automating technologies that have tended to take over primarily routine tasks performed by lower-skilled workers.

MAJOR IMPACTS OF AI ON EMPLOYMENT:

- Automation and Job Displacement
- Job Transformation and Skill Shifts
- Economic Growth and New Opportunities
- Reskilling and Upskilling
- Inequality and Workforce Diversity
- Ethical Considerations

Artificial Intelligence is a branch of computer science which focuses on building a machine or software, up to an extent which is certainly capable of doing tasks which typically require human intelligence.



AUTOMATION AND JOB DISPLACEMENT

Now, the very basic thing AI solves is, tasks done by humans. AI just automates the tasks that were performed by humans or labour, leading to job insecurity for many. Advanced AI systems built in future can easily take over other jobs too. If there is a specific predictable or repetitive task, like fast food online ordering or the renewal of subscription services, these tasks can be done completely by an AI, hence eliminating complete human intervention.

Following are some more jobs that can be done by an AI, which certainly acts as a huge impact on employment:

1. Manufacturing: Since this is a repetitive, predictable, and routine task for major industries it can be easily done by an AI. From the making of electronics to driverless vehicles, AI finds its applications everywhere in this very world, making manufacturing efficient and greatly optimized.

2. Customer Service: Chatbots can be literally seen very frequently on almost every big website of a certified enterprise or brand, which is nothing, but a smart assistant built using AI.

3. Data Analysis: Data of almost every industry like data related to resources needed, planning of resources, making of product, sales of product, market factors affecting its sale and factors related to development of resources can be fed into an AI, which can definitely give some very efficient ways of making and sales of that product, hence taking away the jobs of analysts.

With the coming of AI, the livelihoods of many individuals will be snatched from their hands, leading to unemployment of many. The individuals will need to find something new for them to survive in the world where AI is the only power. Some will try to reskill themselves and others will just shift their profession for their own survival needs.

We can say that people in these jobs would face short term or even long-term job losses for sure with the increasing advancement and usage of AI.

Also, if major care will be taken by the government and enterprises which are embracing AI in their systems, then this won't happen. If we will take a leap into the AI world very slowly than we need, then individuals will be having some more time to enhance their decisions about their future occupations.

This will also help the individuals who are already working manually without AI for an enterprise by giving them ample time to learn something new to survive in their corporate life or find some more alternative methods of earning.

JOB DISPLACEMENTS AND SKILL SHIFTS

Due to Artificial Intelligence many jobs have been eliminated and drastically changed, but also many of the new jobs have been created. The technologies which are being used up in artificial intelligence require skilled professionals which can maintain, optimize, and develop rather we can say that the one who can add value in the technology.

In the recent past years there has been growing demand for many such professionals such as AI specialists, machine learning engineers, Data scientists and AI ethicists. The more the development in the field of AI technology, the greater the employees or professionals with specific skills need to be shifted to new roles or have their roles which are redefined to serve the company better. According to the World Economic Forum's "The Future of jobs report 2020" predicts that by the end of 2025, 85 million jobs would be replaced by the AI technology globally and the same report also indicates that AI has a potential to generate 97 million new jobs. However, the types of job created by AI would differ from those which are being lost.

Additionally, AI can increase human capabilities, which would lead to creation of hybrid technology wherein humans work alongside AI systems, leveraging their qualities and compensating for their confinements.

ECONOMIC GROWTH AND NEW OPPORTUNITIES

AI has many effects on the economy and employment, some are good, and some are not.

Nowadays we are seeing that the new technologies which are coming are due to AI, like in phones such as Google assistant, Alexa, Siri etc. Work becomes easy with the help of AI, long or time-consuming work can be done very fast with the help of AI. Big-Big industries are now dependent on AI for their economic stability and growth. Big factories and industries which have many labor for some repetitive work, are using AI which does the work more efficiently, due to this the industries don't have to pay labor wages because the labor work is replaced by AI. Due to this the industries become economically stable. AI has some positive effects and some negative effects; it will create new jobs and opportunities, but it would also be responsible for unemployment to labor and many people who are not well-educated. This will lead to inequality and discrimination against workers and generate a wide economic gap between them.

RESKILLING AND UPSKILLING

Now, with the increasing demand of automation and AI in the future, the need for the ones who can easily maintain, optimize and upgrade the AI according to varying needs at any point of time, also increases. Skilled individuals having the aptitudes such as problem solving, creativity, communication, and computer vision along with an upper and in major programming languages. AI maintenance will need people who have a computer vision and who can understand AI way better than anyone else. We can say that AI needs individuals who are great at problem solving and creativity and many other aptitudes in which AI lags humans. Also, the ones who understand the specific enterprise in which they are working and the requirements of their respective enterprises.

If in coming times, we can integrate or update those required aptitudes in our human resource or workforce to erase the negative impact of job displacement caused by the coming of AI. The best way is to just train them accordingly.

This can be done by Governments of the respective countries, just by updating the syllabus or by completely change the nation's whole education policy. Now, we know recently India has changed its education policy and has added technical subjects in the schooling curriculum as well. Hence, the universities and colleges that are identified by the government would need to introduce a new branch AI in their curriculum. Due to this, the interest of individuals who want to pursue engineering would shift towards the new branch AI. Accordingly, syllabus and books will be introduced which will help their market to flourish. Also, many private colleges would also need to introduce a new technical branch in engineering, under the name of AI. To avoid the hustle and disappointment of their existing employees who are skilled in some of the aptitudes mentioned, many companies would likely invest in training programs for them, for smooth working, if they need to shift to AI in the upcoming AI ecosystem.

These training programs would not be limited to only working individuals but to the students who are pursuing a degree for the same. The college and company would jointly venture and invest in this to increase human skilling for their mutual benefit.

Certainly, the individual who will be comprised of the skills needed for AI development would make more money than anyone else in the future in an AI-driven world.

INEQUALITY AND WORKFORCE DIVERSITY

Artificial Intelligence (AI) systems are designed in such a way that they would assist and boost human behavior, such as problem-solving, memorizing and planning. The tech industry is rapidly adopting AI which enhances performance for many of the companies – from data classification to predictive analytics.

In fact, overall investment in AI is expected to grow more than 190 billion dollars by the end of 2025.

AI has added value to people's lives but more than that it has affected life of people in many fields. The impact of Ai on employment may compound existing imbalances and workforce disparities. Advancement in technology had widened the skill gap and had also created many new forms of inequality.

We believe that AI can help with majorly two critical components within the evolution of workplace equality that is **transparency and accountability**.

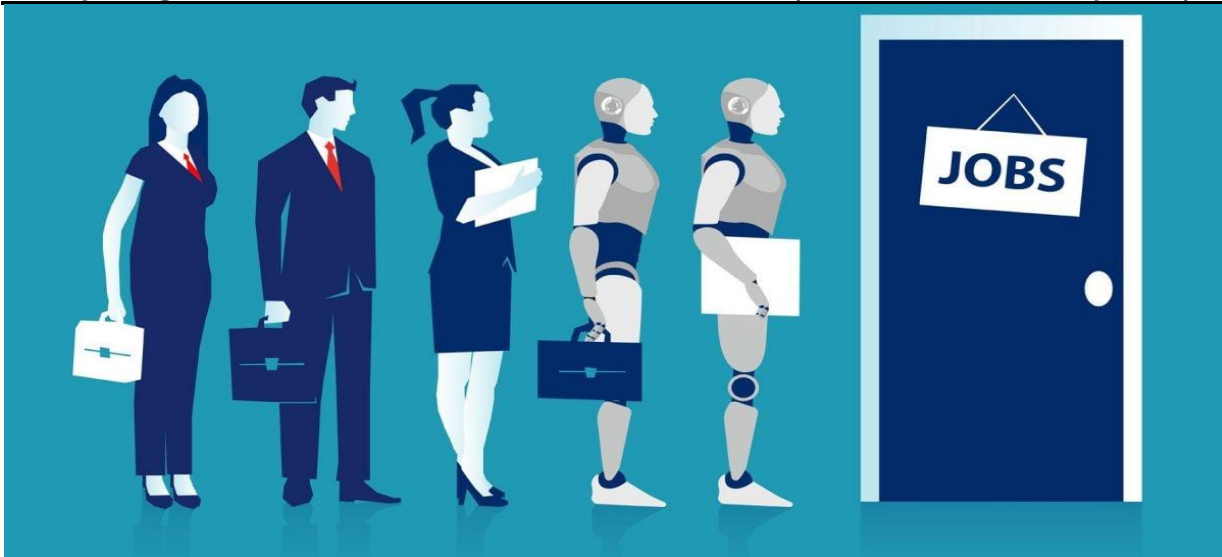
Innovative development can excessively influence certain socioeconomics, businesses, and regions. There is a huge need to address these challenges which are being faced by everyone by advancing and promoting inclusive policies, by ensuring access to the training opportunities for all the people and cultivating different interest within the AI ecosystem.

ETHICAL CONSIDERATIONS

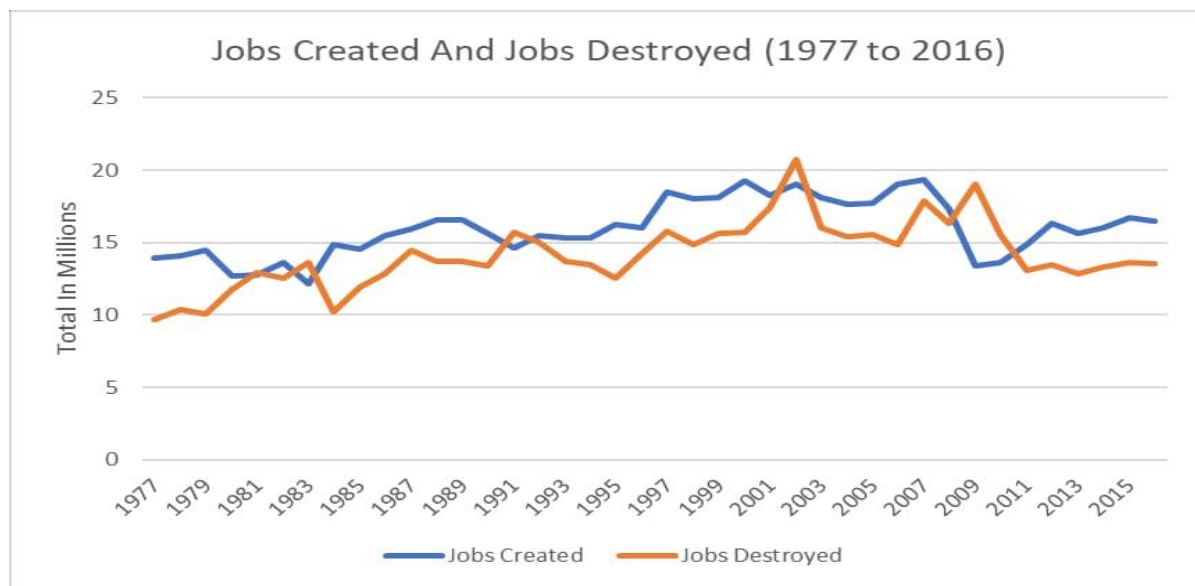
As we know that AI can do all types of work which we want, we must give the data to the AI and all the permissions required.

This will lead to an increase in the problem related to privacy and data security. We must give our personal data to the AI at our own risk, like in big companies and institutions their data and records are very important to them and their employees.

Data such as sales, expenditure, taxes are very crucial so a proper framework should be established with AI to protect these data. Some rules and regulations are also needed to manage and protect individual information while working with AI.



SURVEY BY AMERICAN ACTION FORUM:



NEWS BY INDIA TODAY:

A Business Insider report originally attributed to a monthly report from Challenger, Gray, and Christmas revealed that in May this year, around 4,000 people lost their jobs to artificial intelligence. The report added that in total, around 80,000 people were laid off of their jobs last month. From these, 3,900 job cuts were because of AI. The reasons behind other job cuts could be economic conditions, cost cutting, restructuring at the company, or mergers and acquisitions.

The report also shared insights on total job cuts in 2023 till now. From January to May, around 4 lakh people lost their jobs.

CONCLUSION

Like every other thing on this planet AI also gives rise to its advantages and disadvantages.

Impact of AI on unemployment is a complex and very different issue having many faces full of pros and cons.

Advantages:

1. Creates new opportunities for technical individuals.
2. Drives the economic growth of a country.
3. Gives new meaning to the idea of sustainable development.
4. Creates a new world full of easy-going processes and society friendly on the grounds of convenience and better experience.
5. Helps in major explorations which cannot be done by humans.
6. Efficiency of doing tasks.
7. Increase in job opportunities when established firmly.

Disadvantages:

1. Unemployment.
2. Reskilling and training of human resources.
3. Sudden changes in the syllabus and education policy.
4. New forms of inequality.
5. Ethical considerations concerning privacy and data security of individuals.
6. Potential threat to the economy of poor countries.

SOLUTIONS

If proper methods and ample amount of time were provided to individuals and the whole world to understand this revolutionary thing named AI perfectly, then according to us, most of the disadvantages listed above would be easily prevented.

Probable solutions in brief can be:

- ❖ Awareness about a new branch of technical education that is AI.
- ❖ AI built Job finding platforms.
- ❖ Giving the world ample time to decide about their future occupations.
- ❖ Educating people on AI.
- ❖ Positive attitude towards AI.
- ❖ Encouraging Entrepreneurship and Startups.

We would conclude with the line that “Change is the rule of life, the rule of nature, the rule of environment, but a revolutionary change must be given time to occur, propagate and flourish in the world.”

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