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Evolving Trend of Artificial Intelligence and its Impact on Employment

Jayant Gondane

Assistant Professor, Dr. Ambedkar Institute of Management Studies and Research, Nagpur-440017

Email: Jayantgondane27@gmail.com

Abstract:
Advancements in Artificial intelligence (AI) and Machine Learning (ML) technology not only promote the automation of a wide range of works but also lead to the automation of the decision-making process. Advanced technologies create opportunities for new jobs with specific technical skills as well as decimating conventional jobs in the employment sector all over the world. In the present scenario, incessant and rapid development in the field of AI and ML technology is bothering people all over the world regarding their job displacement. AI has completely changed how we communicate with machines and has affected many industries. Recently, OpenAI has developed an advanced NLP tool based on AI technology called ChatGPT (Generative Pre-trained Transformer), which became very popular within a short span of time. Today a wide range of industries using AI or preparing to adopt AI technology in one or another form. Although, AI has many applications and advantages for industry, experts from all over the world expressed serious concern that it will decimate many white-collar jobs, which consequently results in an upsurge in unemployment. The main objective of this review article is to explore the impact of AI technologies such as ML, AI, and ChatGPT on the employment market and the evolution of the future job market. This paper will also explore the probable displacement of jobs and skills requirements for future jobs.

Keywords: Artificial Intelligence, Machine Learning, ChatGPT, Employment.

Research Objectives

- To evaluate the need of Artificial Intelligence in industries.
- To determine the advantages and challenges related to AI
- To uncover the job areas which might be decimate by AI
- To review the future skills requirement related to AI
- To examine the impact of AI and ChatGPT on current employees.

1. INTRODUCTION

Many of the world's leading industries, including retail, manufacturing, hospitality, medical, teaching, and entertainment, are already using AI to improve their scope and efficiency.
At present time, Artificial intelligence driving global robotization in different areas and parallel progress in machine learning making the machine smarter in order to carry out mundane and repetitive jobs with greater efficiency. For example, AI-enabled machines increase the efficacy of e-commerce projects or handle queues of manufacturing in automobile and other heavy industries.

Artificial intelligence (AI) developments have revived discussions about how technology will affect jobs in the future, raising worries about significant job losses and increasing unemployment. As some job tasks become automated, the use of AI technologies will have an impact on

employment in the near future. It is anticipated that humans and robots will collaborate in previously unthinkable ways. It's expected that employability skills will change.

AI has radically changed how we communicate with machines and has altered working in a variety of industries. A recently launched public tool by OpenAI called ChatGPT (Generative Pre-trained Transformer) is based on the GPT language model technology. It has become a strong and adaptable tool for handling natural language. ChatGPT is a useful tool in our daily lives because it has been successfully used in a number of real-world applications.

Numerous applications of ChatGPT have been successful, such as chatbots, content creation, language translation, individualized recommendations, and even medical diagnosis and treatment. Because of the capacity of ChatGPT to produce human-like responses, comprehend natural language, and adjust to various contexts, it has found success in these applications. It is an effective tool for natural language processing (NLP) due to its adaptability and precision. ChatGPT does have some drawbacks, though, like the propensity for biased responses and the potential to maintain harmful linguistic patterns.

Literature Review

The way we communicate with machines and one another has completely changed thanks to ChatGPT. Its scalability, customizability, and efficiency make it the perfect tool for a variety of applications, and its natural language processing skills allow it to produce responses to user inquiries that are human-like. Although ChatGPT has several drawbacks, such as the possibility for prejudice, a lack of emotional intelligence, and a small knowledge base, these can be minimised with proper training data selection and additional programming. In conclusion, ChatGPT has had a substantial impact on a variety of industries, including academia, cyber security, customer service, and software development. It has enormous potential to increase output, effectiveness, and user pleasure, and researchers are only now starting to look at its prospective uses. (Kalla Dinesh and Smith Nathan March 2023)

There is no denying that the integration of artificial intelligence-driven solutions, like those offered by Chat GPT, into a variety of business sectors, has fundamentally changed how businesses function in the modern day. These technologies offer significant competitive advantages over conventional methods, which may soon become obsolete if not already due to their poor performance in comparison to what current AIs can do now. They do this by giving them access to potent automation tools that enable faster processing times as well as improved efficiency levels across all departments. The employment of this type of technology in day-to-day operations provides a number of potential financial and operational advantages, which makes it simple to understand why so many organizations do so. AI that is dependable, accurate, and useful for many applications can be created with the help of human input and software such as web browsers. Even if the system struggles in challenging or unusual circumstances, it has made great progress in this area. Since the chat GPT may still need to locate more recent occurrences, the bot was mostly trained on data up to 2021. It lacks contextual knowledge, making it unable to respond to straightforward inquiries like those about the date and time. (Shaji George et. al 2022)

The non-routine, cognitive jobs that are frequently carried out by medium- to high-skilled, white collar workers are those where AI is currently making the most progress. These workers rely more than other workers, though, on skills that AI does not yet have, such social intelligence or inductive reasoning. Additionally, because they are more likely to have experience with digital technologies and to take part in training, highly educated people frequently find it simpler to adapt to new technologies. This puts them in a better position than less educated workers to profit from AI's potential advantages. However, better educated individuals also typically own more human capital4 that is task-specific, which could make adaptation more expensive for them (Fossen and Sorgner, 2019).

Therefore, a critical message for policymakers is to keep a careful eye on future trends through increased monitoring and research of the employment market. Investing in digital skills, for example, is one proactive step that policymakers might take, especially given that earlier studies have indicated that a sizable portion of adults in OECD countries lack such abilities. (OECD 2016) Computers can now do a much wider range of jobs than in earlier rounds of digitalization thanks to AI, improved data availability, and increased processing capacity. (Brynjolfsson and McAfee, 2014).

2. METHODOLOGY

The methodology adopted in this research is a systematic literature review. The researcher carefully selected the papers related to the topic. The researcher decided on the domains and subfields of knowledge, defined the interest period, and chose several databases and research descriptors (keywords). Google Scholar, Scopus, and Web of Science are the chosen databases. The literature review itself is completed in the third step when the author chooses and examines the articles that fit the situation the best, recognizes the research directions, and creates the evidence-based validation and integration model, which compares the many sources in the end. The findings of this research paper were obtained from secondary data from referenced research papers.

Need for AI in the present time

The usage of AI can automate a myriad of jobs that are carried out by human workers in every aspect of human life. It also improves the accuracy, productivity, and profitability of companies. Applications of AI can be found in commonplace situations like effective online customer care conversations, retail purchase forecasts, and fraud detection in financial services.

Customers do not need to wait around in customer service areas for hours. AI is assisting in the 24/7 customer service call center and in Chabot customer support. Robotic surgery and delivery, autonomous vehicles, face and speech recognition, surveillance, and many other technologies.

What will be the impact of AI and ChatGPT on the Employment Sector?

1. Automation of Customer Service

ChatGPT can create chatbots capable of handling customer inquiries and support requests, potentially reducing the need for human customer service representatives in certain industries, leading to reduced dependence on people.

2. Decreased reliance on translators

As a multilingual Chabot that can translate languages, ChatGPT somewhat lessens the need for human translators. Here, it cannot take the place of the human element and might need human inspection to be accurate.

3. Increasing Need for AI Experts

Software engineering, natural language processing, and machine learning capabilities are needed for the creation and implementation of AI language models like ChatGPT. This will consequently result in a rise in the need for experts with these talents.

4. Better Recruitment Processes

To assist businesses in finding the best candidates for open positions, ChatGPT can be used during the recruitment process. With the aid of its natural language processing capabilities, candidates can be matched in accordance with the knowledge and expertise necessary for a certain position. This might result in quicker and more effective hiring procedures, saving time and money on the search for qualified applicants.

5. Opportunities for New Jobs

As AI technology develops, there will be room for new jobs and opportunities in fields like software development, data analysis, programming, and content creation. Artificial intelligence has the potential to streamline processes, cut costs, and create new job opportunities.
Employment in "information processing industries," such as IT, is most susceptible to generative AI, whereas employment in "manufacturing, agriculture, and mining" is least susceptible. The reason for this is that jobs requiring "programming and writing skills" are most compatible with GPT's abilities.
The occupations having the highest risk include tech positions like blockchain engineers, data-intensive positions like mathematicians, financial analysts, accountants, and tax preparers as well as communication jobs like writers, public relations professionals, interpreters and translators, poets, lyricists, teachers, etc.
People with professional degrees are at increased risk of exposure to AI because these white-collar positions demand advanced abilities. The contrary was also true: occupations that require comparatively low education such as those in food preparation, electrical work, barbering, and medical assisting, may not be significantly impacted by AI.

Jobs Most Impacted by ChatGPT and Similar AI Models

By releasing ChatGPT, OpenAI ushered in a new age of artificial intelligence. Users were astounded by the AI Chabot's human-like and detailed responses. ChatGPT could understand and respond to a wide range of inquiries, offer advice, conduct research, create essays and reports, and even provide entertainment.
Many of these abilities are employed by employees in their employment all over the world, therefore it is unclear whether occupations will be altered or eliminated by generative AI in the near future. However, AI can impact numerous jobs some of them are Data Entry Clerk, Customer Service Representatives, Proof-readers, Translators, Copywriters, Market Research Analysts, Social Media Managers, Appointment Scheduler, Telemarketer, Transcriptionist, News Reporter, Travel Agent, Tutor, Technical Support Analyst, Email Marketer, Content Moderator, Recruiter and many more. However, the jobs which require physical presence and are done physically will be less impacted by AI for example waiters, barbers, mechanics, civil engineer, dishwashers, bartenders, cook, Masons, carpenters, Plumbers, painters, baby sitter, and other non-digital labor-intensive jobs involved in repairing works.

Benefits of ChatGPT

ChatGPT has huge potential for providing a myriad of benefits to diverse industry all over the world. Some of the most explicit benefits that AI and related technology can provide is as follows -

1. Accuracy

With its capacity to accurately and swiftly process enormous amounts of data, the automated AI Chabot stands out. As a result, you can ask any of a wide range of queries and receive insightful, accurate, and unique answers in a matter of seconds.

2. Language Independent

The capability of ChatGPT to assist individuals in their preferred language is one feature that makes it shine. As a multilingual Chabot, it is a valuable tool for anyone wanting to learn foreign languages as well as other things.

3. Unbiased

The fact that a chatbot offers automatic responses and is immune to personal, emotional, or biased influence is one of its most notable benefits. ChatGPT will be more likely to be accurate and authentic because it is an AI-language model.

4. Personalized content generation
Using input, ChatGPT may determine the user's wants and preferences and provide personalized, user-specific material to match the search command.
5. Constantly evolving technology
ChatGPT is still in its infancy and is constantly changing in order to use machine learning algorithms to learn new things. This may enhance its capacity to gather up new information and deliver precise, pertinent responses.

Limitations of ChatGPT?
Every technology that has several advantages also has certain drawbacks, and ChatGPT is no exception. The following are some ChatGPT drawbacks: -
1. Dependent on user and data
The quality of the search query and the training data for ChatGPT have a significant impact on the quality of the responses. Poor answers would be produced by biased, out-of-date, and poor-quality data. In the same way, if a user doesn't create a high-quality query, the response will also be subpar.
2. Cannot Generate Original Content
Although ChatGPT can provide pertinent, useful information, it cannot come up with creative ideas. It can compile accurate information from several online sources, but it won't be original.
3. Limited context
Although ChatGPT can identify and react to a variety of questions and prompts, it lacks an exhaustive understanding of the context of the questions, which causes it to produce inaccurate and non-relevant responses.
4. Lack of emotional intelligence
ChatGPT struggles to comprehend human emotions, which results in a lack of empathy, emotions, and perspective. As a result, the chatbot finds it challenging to offer insightful responses to certain questions despite its capacity to examine and evaluate data.
5. Lacks opinion and common sense
The only factor that distinguishes humans from chatbots is our capacity for thought. Although ChatGPT has the ability to evaluate and produce high-quality content, it suffers from originality, won't offer subjective comments or suggestions, and might not be able to pick up on cultural, political, or social indications.

Challenge
The significant challenges of increasing usage of AI and Machine Learning for government and policymakers are to establish a work environment that will support strategic organizational goals, ensure compliance with labor and employment legislation, and enable collaboration between sophisticated digital agents and human workers.
The impact of GPTs on the economy will probably remain and grow as skills develop, making it difficult for policymakers to foresee and control their trajectory, according to academics. "More research is required to examine the larger implications of GPT improvements, including their ability to supplement or replace human labor, their effect on job quality, their effects on inequality, skill development, and a variety of other consequences.

3. CONCLUSION

The field of employment will be significantly impacted by ChatGPT. It has the ability to automate some operations, which could result in job displacement in some sectors, but it also has the capacity to boost productivity and efficiency in enterprises and will open new avenues for AI related jobs. Businesses and individuals should think about how ChatGPT might affect the labour market and

be ready for any changes that could result from this. It is anticipated that humans and robots will collaborate in unthinkable ways. Changes in employability skills are expected. Human resource which is engaged in AI-exposed jobs must acquire new skills that will help in the further improvement of AI technologies and help them to sustain their job in changing environment.
AI-based technology advancements in the workplace have raised fears that an increasing number of jobs face the threat of being replaced by technology, which would lead to widespread unemployment. The biggest risk of exposure was found to be in positions that require repetitive tasks, some amount of data analysis, and regular decision-making. Unsurprisingly, "information processing industries" that need writing, calculation, and in-depth analysis are more likely to use Logic Learning Machine-based AI. However, employment requiring critical thinking and science within those sectors are inversely related to exposure to AI. Naturally, physically demanding professions like manufacturing, mining, and agriculture were better protected, but information processing occupations are still in danger.

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