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AI-Curse and Blessing! Paradoxical perspective on employment

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Abstract - *Artificial Intelligence (AI), the marvel of human history, a technology that is reshaping the world in nearly every field, like Healthcare, Finance, Industry, Transportation, Robotics, etc. This paper explores every potential impact of increasing use of Artificial Intelligence in employment. How an AI is shifting the way industries operate by the automating tasks and streaming processes.*

AI is blessing or curse for human and job industries, this study is look at that paradox. It explores which industries face the most risk, which sector are growing, how public attitudes and skill needs are shifting, what other policies need to make the balance between AI and employment. By reviewing recent studies and datasets, the research compares projected job losses with emerging opportunities and provides guidance on the skills and policies needed to thrive in an AI-driven economy. The finding empathize that AI should not be view solely as threat to employment, but as a new opportunity towards more creativity, analytical and technical oriented role.

This research paper expected discover the key findings which are the major responsible for the difference between new job opportunity and job losses, and give some logical and practical solution, which can change the perspective on employment. The outcomes will help to prepare the workforce for AI-driven industry by providing some valuable insights for, educators policymakers, and industry-leaders. Ultimately, the study aims to provide latest ongoing discourse on sustainable collaboration between human and AI.

Key Words: Artificial Intelligence, Employment, Automation, AI-driven system, Job Displacement, Skill Gap, Technical Skill.

1. INTRODUCTION

1.1 Background

Artificial Intelligence (AI) is emerging as one of the most revolutionary technologies in 21st century. Originated from small research lab, where research is going on machine reasoning and symbolic logic. AI has evolved so sophisticated set of technique that are capable of perform tasks that requires human intelligence, which involves machine mimicking cognitive function like perception, reasoning, and language understanding. In the early 1950s with the Dartmouth workshop where Johnn McCarthy first coined the term "Artificial Intelligence" [1], developed in research lab to mimic human intelligence.

The continuous advancement of machine learning, deep-learning, data-driven system has acerated AI day-to-day business function. Large scale dataset analysis, administrative process automation, strategic decision assistance, and the replacement of repetitive cognitive task are now possible with modern AI systems. As a result, industries are achieving different level of efficiency, scalability, and cost reduction.

But this acceptance of AI also sparked a global discussion about how it will affect employment in long run. The replacement of daily routine task by automation raised serious concern about job displacement and workforce.

1.2 Rise of AI in Industry and Society

AI has been moved from research labs into everyday business industry at an extraordinary pace. What used to be simple, rule-based automation can now process huge amount of data, support complex decision making and perform task, previously reserved for professionals. Companies use AI to optimize supply chains, personalize customer experience, automate finance, and speed up product development.

The rapid adoption of AI has raised the concern about its potential impact on employment. According to McKinsey Global Institute "AI and automation could displace around 8000 million to 900 million till 2030" [2].

These advancements create major benefit, but they also raise big question:

- Will AI really replace human with automation?
- How many jobs AI will replace?
- Which job will survive or change?
- What new role will emerge?

Many enterprises are now adopting AI-driven tools to manage cost, and increase productivity, yet these developments reshape the future employment.

This dual impact of AI forms the paradox of the AI-driven economy.

1.3 AI Paradox: Curse and Blessing

AI is like double-edge sword (Curse and Blessing), contributing major benefits while parallelly creating risk.

Curse: Recently, Goldman Sachs research report that by the end of 2025, around 300 million full-time jobs will

replace by AI and machine learning [3]. Entry level jobs are more affected by AI compare then others. In 1997, one of the greatest chess players in history was lost By a Super computer-Deep Blue. He always says "Perhaps he was the first knowledge employee, whose job was haunted by an AI machine" [4]. According to google, no sector is remains completely untouched with AI and its pervasive transformative force. Industries adapting AI for cost cutting, which may be benefit for their business, but it ultimately affected the employees and freshers. Especially white collar and administrative roles, such as computer programmers, service representatives, accountants.

Blessing: There is a famous quote – Every disaster is an opportunity. AI may be the disaster which may bring unemployment, but it also brings some new opportunity, new categories beside traditional jobs. Jobs like AI developer, analyst, AI trainer, and many more. AI is projected to increase revenue with AI exposer in industries. The increasing of AI, the demand of skilled workers is also increasing with significant wage premium for those who possess AI skills. Recent report suggests that nearly 97 million new job roles may create by 2025. Similarly, NITI Aayog reports that, India could see up to 4 million new jobs in next 5 years in which around 2.3 million can be AI-related jobs [5].

This research paper offers a structured, evidence-based loot, for AI and their net impact on employment. and aims to help policymakers, educators, and employers to make informed decision, by focusing on skills and sectoral impacts, that will be given in the future chapter.

1.4 Problem Context: Employment Vulnerability and Skill Gaps

The increasing adoption of AI presents several challenges:

- Many workers lack the digital competence required for AI-driven workplaces.
- Educational systems are not adequately aligned with AI-based industry demands.
- Companies often adopt AI for cost reduction, leading to sudden layoffs.
- Policymakers face difficulty predicting the scale of disruption.
- Public anxiety about AI replacing jobs continues to grow.

These gaps reveal the urgent need to study:

1. Which sectors are most at risk?
2. Which new sectors are expanding due to AI?
3. What types of skills are becoming essential?
4. What policies and strategies are needed to balance AI and employment?

The following graph (Fig 1.1) illustrates how many percent AI is going to influence by AI in upcoming years. As you can see almost every sector will going to influence by Artificial Intelligence.

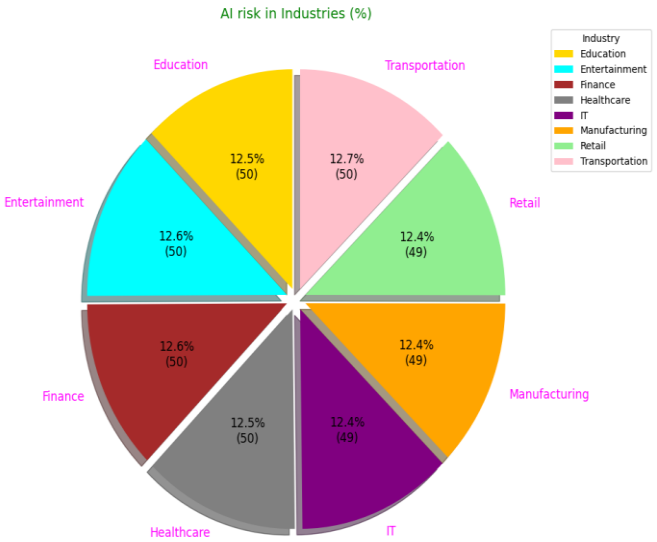

Fig 1.1 – Pie chart to show the risk of AI adoption in different industries.

2. REVIEW OF PAST WORK

2.1 Literature survey

Artificial Intelligence, a simple word but the impact is very large, and its history is even older. Before 1956, it was the era where, computing machine essentially functioned mostly as large-scale calculating machine, but in year 1956, a small group of researchers from various disciplines participated in a summer-long workshop in Dartmouth College, where Professor John McCarthy, founded the research on the field of Artificial Intelligence (AI).

Then after few major incidents happened like, ELIZA widely considered as first chatbot intended to simulate therapy by answering that is prompted to it. After few decades, a German scientist named Ernst Dickmanns, invented the first self-driving car in 1986, the major drawback of this AI is that, the vehicle could only drive on empty road and maybe it was beyond that time, people couldn't think about autonomous vehicle (AI-driven car).

But the major incident occurred in 1997 when Garry Kasparov, a famous world chess champion, was lost the game by an AI (Deep Blue), invented by IBM. He became the first ever human who lost by an Artificial Intelligence.

Thereafter, the growth in AI was significantly increases. And the major trend of AI became popular when in 2012, when Geoffrey Hinton, the computer scientist began the idea of Deep Learning and neural network, an AI built system that are able to mimic human thinking. He joined google and make a big boom in Artificial Intelligence field by making research on Deep Neural network. This was the time multiple industries are giving interest in Artificial Intelligence and machine Learning.

Then, in 2022, OpenAI releases the AI chatbot called ChatGPT, which can interact with their users far more realistic than ever, and became very popular. So popular, that in 2025 it becomes 4th most visited website globally behind Google, YouTube and Facebook [6]. From here the popularity of Artificial Intelligence became everyone's favourite, companies started exploring more potential of AI, integrating with other machines and developing new ideas. Year 2023, about 3900 layoffs, due to AI. it was the first time when so many employees are lost their job due to Artificial Intelligence and then the balance between AI and job became unbalance.

Table -1: Order of events, related to AI.

Sr. No.	Year	Key points
1.	1956	The field of AI research was founded in Darthmouth Workshop
2.	1965	The first "expert system," DENDRAL, is developed to analyze chemical compounds
3.	1986	a German scientist named Ernst Dickmanns, invented the first self-driving car
4.	1997	World chess champion Garry Kasparov, the first person who was defeated by AI (IBM's Deep Blue)
5.	2012	Big boom in AI field, Researchers at Stanford and Google advance deep neural network research
6.	2022	OpenAI releases the AI chatbot called ChatGPT
7.	2023	About 3900 layoffs, due to AI for the first time

2.2 Review of past work

Some of the past research of AI and employment gives a complex interaction between advancement of technologies, employees demand and job transformation. Most of the previous studies highlighted the risk of automation that displacing the routine and manual jobs. An estimation by Frey and Osborne report that, around 47% of U.S. occupations is at high risk by AI, which sparks the global concern about job loss and AI-driven system [7].

Later research paper, underlined that AI not just only replaces human labor, often complements them. In a study by Brynjolfsson and McAfee argued that AI boost productivity by enabling workers to focus on analytical, creative and interpersonal responsibility by taking cognitive task [8].

Some experimental studies also shown that companies adopting AI, experiences both job displacement and job creation. Arntz, M., T. Gregory and U. Zierahn argued that the true impact of automation is often fewer than early prediction, he suggests that AI automated tasks, not the entire job, leaving space for human interaction [9]. Recent research further giving warning about skill polarization, wage inequality, in short, low-skilled workers are more vulnerable to displace from increasing demand in AI industries.

Overall, the research paper agrees that, AI will neither cause major job loss not it guarantees employment growth. Instead, the impact depends upon workforce skills, industries adoption plan, and government-led upskilling initiatives.

Job Displacement and Automation

Many researchers argue that AI is a major driver of structural unemployment.

- Frey and Osborne (2013) estimated that 47% of U.S. jobs were at high risk of automation based on occupational susceptibility to computerization. Their study is widely cited as one of the earliest warnings of large-scale job loss.
- Brynjolfsson and McAfee (2014) induced the concept of the "Second Machine Age", arguing that AI would replace middle-skill jobs while expanding high-skill demand.
- McKinsey Global institute (2017 – 2023) published several reports predicting 800 million – 900 million jobs could be automated by 2030.
- Goldman Sachs (2023) predicted that around 300 million full-time jobs may be replaced by AI.

These studies highlight a consistent prediction, that traditional routine jobs and administrative roles are highly vulnerable.

Job Creation and Skill Transformation

Beside from the fear of mass unemployment, there are many researchers highlight positive employment effects:

- The World Economic Forum (WEF) forecast nearly 97 million new job roles are emerging, especially in data-centric and creative domains.
- The report from PwC reports that around AI may contribute $15.7 trillion to the global economy by year 2030, which can create new jobs across technology, finance, services and other sectors.

- OECD suggests that AI augments human capabilities rather than, displacing them entirely.

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Fig 2.1 shows the graphical representation how AI can create new opportunities not even in IT sector but also in different sectors as well.

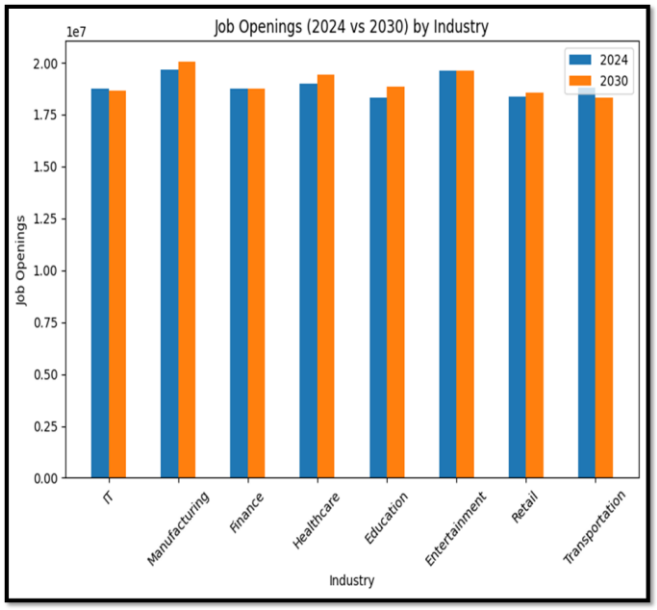

Fig 2.1 – Job opportunity by AI (2024 Vs 2030).

These key findings suggest that AI does not eliminate work, rather it transforms it.

3. PROBLEM FORMULATION

With rapidly acquiring industries through automation, decision-making and process optimization. AI raises critical concern regarding employment displacement and skill transformation. Companies laying off their employees with huge amount, just because of AI, this creates increased rate of employment by 6-7%, and people don't have enough skills required to adapt the current trend.

Measures and Preventive strategy:

- Adapt and integrate – People are trying to resist AI and automation, but it very difficult to stand against AI, instead they should learn to use Artificial Intelligence skill to enhance their productivity, adapt the new trend.
- Constant skill development – AI continuously evolving with time to time, and so, employee also need to develop their skills with this technology. They need to focus on digital literacy, analytical thinking, increase problem-solving skill, and creativity, so that they are stay relevant.
- AI in education – AI is everywhere, it can be in Healthcare, Finance, Transportation, and so on, and people are now adapting it in their life, so why not they learn from the beginning. In a survey by Stanford University, suggest that nearly two-third of the country offering k-12 education in 2019. But less than half qualified to teach it [10]. An article available that review and tells full detail how educators and institutes need to teach and train them for AI [11].
- Government support and reskilling program – Government needs to make some rules. Rules like; policymakers must invest in training schemes, apprenticeships, and workforce transition support.

4. METHODOLOGY

4.1 Data Collection and Sampling technique

The data is collected through:

1. Research articles from IEEE, Mendeley, springs, SCM.
2. Reports from organizations such as WEF, OECD, NITI Aayog
3. Public employment datasets
4. Policy documents and government publications.

These are some sources provide the insights of global employment trend and AI-driven changes.
A targeted sampling technique is employed for expert interviews, concentrating on people directly engaged in AI implementation and workforce strategy.
Random sampling is utilized for questionnaire responses to guarantee varied representation across sectors like IT, manufacturing, education, and services.
The size of the sample is established using statistical confidence metrics to guarantee validity.

4.2 Tools and Technology

Tools like Mendeley, MS-word, IEEE Xplore, and some other third-party resourcing tools are used. The use of Mendeley software in this paper used as access and easy to reference

different research papers and articles, where MS-Word is used to write and organize these research paper content in a proper form, and IEEE Xplore and other third-party tools were used to provide content and help me to make research on different researches, articles.
In the last, but not least Google, and ChatGPT also be used to provide clarification of my doubts. These tools ensure me a structured and review of the topics.

4.2 Research Design

This paper follows a mixed-method research design, meaning it integrated both qualitative and quantitative approach to provide complete understanding of AI and AI-driven employment dynamics. This mixed approach allows triangulation of data, decreasing bias and increasing the robustness of AI and its adoption.

- Qualitative Component:

Research review, expert's opinions, and case studies are evaluated to understand the AI trends, pattern of job displacement, and adaption of workforce.

- Quantitative Component:

Another dataset from industry reports, surveys on employment, and research institutions are examined to identify evidence of moves in employment by AI adoption.

5. RESULT AND DISCUSSION

5.1 Findings

The data from global employment reports reveals some key trends:
Industries such as manufacturing, retail, and customer service show a significant reduction in routine manual and clerical roles dur to AI-enabled automation.
Roles related to data science, AI development, cybersecurity, and cloud computing have shown a consistent rise from 2018 to 2024.
The share of jobs requiring advanced digital skills has increased by approximately 25% in the last five years. This supports prediction made by global institutions regarding AI-driven upskilling need [12].
A survey from employees and students indicate that 65% are concerned about job loss due to AI automation; around 72% believe AI will create new job opportunity to advanced technical sectors. While, 50% to 60% feel unprepared for AI-driven roles due to limited training resources, and approximately 80% people are agreeing that companies should invest more in digital literacy and reskilling programs.
These Quantitative results illustrate a dual perception: fear of job displacement yet optimism about future opportunities.
Another qualitative finding from expert interviews highlights several key themes:
AI augments rather than replaces, meaning, most experts agree that AI complements human work rather than fully replacing workers in most sectors, companies struggle to find talent skilled in machine learning (ML), cloud computing, data analytics, etc.
Future workplace will rely on hybrid systems where humans handle judgment-based tasks and AI manages repetitive operations.
These qualitative findings align with reports by the World Economic Forum (WEF) and OECD.
The above findings are from either experts or nonexperts like students, and public. This paper also conducted some industry level case study from IT, manufacturing, and finance sectors. And they reveal that, Finance sector: AI chatbot and automated risk analysis systems have reduced administrative workloads but increase demand for analyst and cybersecurity experts. Manufacturing sector: Robotics has automated assembly lines, but new roles have emerged in robot maintenance, automation engineering, and system monitoring. Education sector: AI-powered platforms assist teachers in content personalization but do not replace teaching roles.

5.2 Result from discussion and Findings

The result shows that AI primarily transforms jobs rather than eliminating them entirely. Low-skill jobs face a higher displacement risk, while high-skill digital roles are expanding rapidly. This finding supports global predictions on future employment [13]. The majority of survey participants believe that reskilling programs are crucial. Without proper training, the workforce may face severe adaptability challenges. From the socio-economic impact, it identifies potential widening of the skill gap, which may lead to socio-economic disparities if proactive measures are not taken.

Thus, the research supports the ongoing shift towards a knowledge-driven economy. The results clearly indicate that AI has a mixed impact on employment. it is like a paradox; some find AI a threat and some find it as new opportunity. These findings establish a foundation for the conclusions and recommendations which are presented in the future chapter.

6. CONCLUSIONS

After findings and surveys from different sources, this research paper makes conclusion that. The integration of Artificial Intelligence into various sectors has initiated a major transformation in global employment patterns. The findings reveals that AI act as both dual-impact force: disruptor (Curse) and enabler (Blessing), it disrupts the low skilled and repetitive job role through automation, whereas, it also enables the creation of high demand roles in AI development, like data analytics, robotics, cybersecurity, cloud computing, etc. Thus, instead of narrating that "Ai

destroys jobs" is incomplete: instead, AI reshapes and reallocates jobs within the economy, end employment sector. The study conclude that the future workforce must possess some new skills, which are demanding in the market, skills like:

- Digital literacy
- Analytical and critical thinking
- Creativity and problem-solving
- AI-assisted decision-making skills
-

The finding of this study highlight that Artificial intelligence is not merely a technology shit but a transformational force reshaping how individuals work, learn and grow. Industries continue to integrate AI-driven systems; the most effective strategy for minimizing job displacement is to empower individuals with the practical ability to use AI meaningfully in their daily tasks. The following insights illustrate how both office employees and students can adapt proactively and convert AI into an advantage rather than a threat.

As an Office Employees AI enables employees to reduce the burden of repetitive work such as data entry, meeting coordination, form processing, and email classification. By automating these routine activities, workers can focus more on strategic and value-driven responsibilities.

Example: An HR professional can deploy AI-based resume screening tools to filter thousands of applications in minutes, allowing them to dedicate more time to interviewing, employee engagement, and decision-making.

- Enhancing Data Analysis and Decision-Making

Modern analytical platforms such as Power BI, Tableau, and Excel now include AI-based predictive modelling features. These tools help employees understand complex datasets, identify trends, and make evidence-based decisions much faster than manual analysis alone.
Example: A marketing analyst can use AI predictions to understand customer behavior, forecast sales, or identify which campaigns are likely to succeed, ultimately improving productivity and accuracy.

- Improving Content Creation and Documentation

AI-driven writing tools assist employees in drafting emails, preparing presentations, generating reports, and creating summaries more efficiently. Instead of starting from scratch, employees can use AI to create initial drafts and then refine them.

Example: A project manager can use an AI assistant to generate a structured outline for a client proposal and then personalize the content based on specific requirements
As a student

AI as a Research Partner Students can use AI toolto enhance their learning and research process. AI can summarize academic papers, help understand difficult topics, and generate research outlines, enabling students to focus on deeper understanding rather than spending excessive time collecting information.
Example: Instead of reading multiple lengthy research papers one by one, a student can ask AI to summarize the key findings and then study those points to gain clarity.

- Writing, Editing, and Presentation Improvement

AI-powered writing assistants help students write better by correcting grammar, suggesting improved phrasing, and helping maintain academic tone. This not only improves writing quality but also teaches students how to express ideas more effectively.
Example: A student can draft a seminar report and use AI to refine it into a more formal, structured, and concise academic document.

- AI Support for Coding and Technical Learning

For students in computer science and IT fields, AI-based coding assistants such as GitHub Copilot, Google Gemini Code Assist, or ChatGPT Code Interpreter serve as real-time programming tutors. They help with writing functions, debugging, and explaining complex algorithms in simpler terms.
Example: While writing a Python program, a student can use Copilot to suggest logical improvements, detect errors, or auto-generate repetitive code blocks.

6.2 Limitation of the study

Despite the comprehensive analysis, the study has certain limits:

1 Dependence on Secondary Data: Some employment statistics and AI adoption rates rely on public datasets that may have reporting delays.
2 Limited Sample Size: The survey sample may not fully represent global workforce demographics.
3 Rapid Technological Changes:
AI evolves quickly; therefore, employment patterns may shift faster than current predictions suggest.
4 Industry-Specific Variations: Impacts differ by sector, and this study focuses on general trends rather than deep domain-specific analysis.

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