

The A.I Revolution and its Impact on Women's Life

Ms Sukhpreet Kaur

Asst. Professor of Law, Bohan, Hoshiarpur

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ABSTRACT

One cannot imagine the pace at which the artificial intelligence is growing in present times. AI tools and technologies are being welcomed in every sector of the society. It has grown as a powerful tool to transform various aspects of life like employment, education, public services etc. AI is becoming a superpower with disastrous effects on not only women but humanity as a whole. Women who contribute in almost every sphere of life like giving birth to raising a child, running a household to working and earning for a family have always been the most sensitive section of the society and always as a risk of abuse. They are worried that to a great extent this AI would be affecting their personal and work life. As we are approaching globally towards this frontier, it has become very difficult to get back from it. AI can have both positive and negative effects on women. The growth of AI is not only presenting challenges but opportunities for women in the employment. The quick advancement raises an alarm that we must take urgent action to govern the development and use of AI. Time has come to ensure that AI adoption would lead to peaceful and sustainable development without harming any sector¹. Change is necessary and its adaptation is equally important. Women must be encouraged to represent themselves in every facet while actively using technologies.

¹ World Economic Forum. (2021). *AI and gender: A new frontier in artificial intelligence*.

In return they must be appreciated and promoted by the companies with equal pay as to men, flexible work arrangements and other incentives. This research paper aims to explore the impact that AI has on the lives of women, to understand the potential, threats, challenges and risks that AI has for women empowerment and to reduce gender bias and the effective role of government in adopting AI.

Introduction

In recent years artificial intelligence as evolved from a futuristic concept to a transformative force that is reshaping nearly every aspect of human life. From business and health care to education and government services. AI technologies are now integral to many industries and sectors². As AI continues to advance at an unprecedented pace, it brings with it both opportunities and challenges, particularly when it come to its impact on women. Historically, women have been the backbone of society, contributing significantly in areas like family like, the workforce, education and care giving. However despite their Central rule women continue to phase systematic challenges such as gender bias, unequal pay and limited representation in leadership positions.

The rapid development and integration of AI technology is average significant concerns about the potential for both positive and negative effects on women. I could either exacerbate existing gender in equalities or solved as a powerful tool for empowering women, providing them with greater access to opportunities, independence and financial security. As society's globally begin to adopt AI, it is crucial to understand the nuanced ways in which AI food impact women and how governance structures must evolved to ensure that adoption contributes to equitable and inclusive development.

This article explores the intersection of AI and gender equality, highlighting both the opportunities and risk AI presents for women. It also examination how the role of governments and corporations along with policy makers can help mitigate the potential negative effects of AI why maximizing its positive impact on women's compound.

Positive potential of AI for women

The artificial intelligence technology has a number of positive potentials for women also which of them includes

Empowering women in workforce

1. AI in healthcare improving women's health outcomes
2. Education and learning bridging the gender

These are some of the major positive potential aspects of AI for women

Empowering Women in Workforce

AI has the potential to revolutionize the work place in waves that can directly benefit from the automation of repetitive and daily tasks, for example could free up time for women to engage in more strategic creative or leadership roles³. In industries traditionally dominated by man AI could enable women to participate more equally in areas such as engineering technology and data where women have historical event unrepresented. With the rise of remote work facilitated by AI tools women also have more opportunities to balance work with family responsibility which can be particularly beneficial in society where women are still expected to be primary caregivers.

AI in Healthcare

AI Technology has potential to enhance women's healthcare by improving diagnosis offering personalised treatment and addressing gender specific health issues. And in the medical field AI is already being used to analyse medical data, protect diseases and create personalised treatment plans. These innovations could significantly improve outcomes for women especially in area such as reproductive health, breast cancer detection, and mental health. AI can also help in addressing the gender disparities in medical Research by focusing on health conditions that this proportionately affects women.

A recent case study in which new post was most circulated on social media platform that and AI was successful in identifying breast cancer to a woman 5 years prior then its stage of knowledge. Doctor clarified that it would took 5 years to get knowledge about breast cancer from diagnosis of symptoms but in a scan AI detected the breast cancer five years prior then that stage which help a lot to medical

³ United Nations. (2022). *Artificial intelligence and gender equality: A global perspective*. Retrieved December 15, 2024, from <https://www.un.org/>

practitioners and the patient to get early medical treatments and get out of the danger of breast cancer so here AI shows its efficiency quite professionally.

Education and Learning

AI can play a vital board in reducing gender disparities in education full stop particularly in STEM (science, technology, engineering and mathematics) fields. AI based learning platform scan of a personalized education experience is. Providing women with the flexibility to learn at their own base and according to their leaves to stop AI to scan also help eliminate biases in the educational traditional mail dominant subject. Buy offering tailored tutoring and learning resources, AI can promote greater gender equality in education, helping woman also careers in fear that were once in accessible.

A major features of AI the chat GPT which is majorly at mostly used feature of a in today's work as in our society students uses this device of technology for their academic purposes which include researches on various issue chat GPT is a platform which provide easy and core knowledge regarding a topic from other various sources available on search engine it made that are white easy effective and understanding because of its efficient understandable language.

Challenges and risk the darker side of AI for women

As we discussed about the positive impact of AI on women but we should not forget that a coin also have two sides if a I have positive impacts it also brings with the negative impact which carry more weightage to be discussed as currently women are out of those categories of the society which are very sensitive and a depressed kind of group. As the challenges work earlier major problems for a woman to overcome but with the help of AI it becomes more powerful and intense that could not be dealt with by a sole woman.

Some of the major challenges are

1. Gender bias and AI algorithms
2. Job displacement and the gender gap in AI adoption
3. Lack of representation in AI development

These are some of the leading challenges that are developed by AI which for the includes a number of problems among them these three problems must be discussed analysed and Research theory because feeling in this leads to more depression on women.

Gender bias in AI algorithms

One of the most significant challenge AI presence for women in the rest of reinforcing and amplifying existing gender biases. AI algorithms are often trend on large database which can inadvertently reflect the biases of the data's creators. If the data used to train the system is buyers weather because of historical gender discrimination or under representation of women the resulting AI systems can prepared these biases in their outcomes. For example AI tool used in hiring processor could favour male candidate over equally qualified female candidates if the system has been trained on biased data. This issue is exacerbated in areaslike facial recognition technology, where women especially women of colour are often missing identified at higher rates than men⁴.

It is a fact that the online data basis have more weight age of the data's articles and researchers on the women depression then woman operation because this situation of women was identified as a major challenge in society so in order to overcome them policies were made and are online data sourcing engine have same set of information which is used by AI tools to answer the questions of users rather to create a new compiled data the AI tools pick up the same set of relevant data and offered to the users which is most of the time seen and rejected by the user or researcher because the data used by AI tools was of very long past events moreover AI tools never understood the human mind set and the situations of the problem they just algorithm calculate compile and produce the source data from the website so believing and totally Reliance on AI tools will never be considered right because a computer can never compete with the human because the computer system was itself created by humans. The AI tools can never understand the human feelings so it can be used as a tool for collecting material for a research but can never be total relied upon.

Job displacement and gender gap in AI adoption

AI's role in automation raises concerns about job displacements, particularly in sectors where women are heavily employed. For instance in industries such as healthcare customer service and retail many women are employed in roles that are at highest risk of being automated by AI technology⁵. Women are also less likely than men to be represented in the AI development work force itself, leading to a gender

⁴ Future of Humanity Institute. (2019). *The ethics of AI*. Retrieved December 15, 2024, from <https://www.fhi.ox.ac.uk/>

⁵ McKinsey & Company. (2020). *The future of work: How artificial intelligence is changing the job market*.

gap in a design and development of AI tools. As a result women maybe disproportionately affected by job displacement and may have fewer opportunities to participate in AI driven economy⁶.

It is most widely seen that the companies or the government department are also being now privatised and private companies focus on capital generation using AI to in place of human will definitely create a great rise in saving the capital of because human labour is expensive than the AI tools in a current scenario AI is replacing humans in data entry field compiling feel more widely known as accounts or the clerical jobs because the jobs done by clerical staff was mostly related to the editing compiling and transmission of data the same things are now being offer more efficiently accurately and earlier than the human so this is the major spot where AI creates a controversy because it will lead to displacement of humans from the jobs moreover this problem will be a gender neutral problem but in our surroundings we see that the clerical staff which deals with these kind of task are generally women so the major impact will be constituted on women of AI.

Lack of representation in AI development

Another critical concern in the lack of women representation in the AI development process. The tech industry which drives AI innovation remains predominantly male with women making of a small portion of the work force. This lack of diversity in AI development each can result in product that do not fully account for women need or perspectives a more diverse AI workforce is essential for creating technology that are fair inclusive and representative of all people. Additionally a lack of representation in AI development could limit opportunities for women to shape the direction of AI technology in ways that could benefit their lives and community.

Suggestions for Governance and regulations

The government as also taking great steps to regulate AI as the legislature also knows that leaving AI uncontrolled will lead to a great destruction and violation of laws and constitution

Role of government in regulating AI

To ensure that AI's potential is harnessed in a way that benefits women, strong governments and regulatory framework must be put in place⁷. Government play a crucial role in establishing guidelines

⁶ World Economic Forum. (2023). *The future of jobs report 2023*. Retrieved December 15, 2024, from <https://www.weforum.org/>

⁷ Stanford University. (2023). *AI index report 2023*. Retrieved December 15, 2024, from <https://aiindex.stanford.edu/>

and policy that promote fairness transparency and accountability in AI systems. This includes creating regulations that address the potential for bias in AI algorithms and ensuring that AI technology is a developed and deployed in which that respect human rights and gender equality.

For example, government code mandate that companies conducting AI research and development undergo rigorous audits to ensure their algorithm do not perpetuate gender or racial biases. They could also implement policies that promote gender equality in the tech workforce, ensuring that woman are not excluded from opportunities in AI development and that AI technology is our designed with gender inclusivity in mind.

Encouraging women's participation in AI

Government and corporations a like must take proactive steps to encourage women's participation in the AI fields. This can be achieved through policies that promotes equal assessed to Education and training opportunities in AI and related fees. Scholarship program and internship opportunities for women can help close the gender cap in AI education and development by active promoting women in AI government can ensure that women have a seat at the table when important decision about AI development and deployment are being made.

Public awareness and Advocacy

In addition to regulatory action there needs to be greater public awareness and advocacy about the impact of AI on gender equality. Civil society organisations activists and researchers must work together to trace awareness of the potential risk and benefits of AI for women and advocate for policy that promote gender equality in AI. This includes addressing issues such as AI buyer gender stereotype in AI systems and the impact of automation on women's employment.

The above mention were some of the suggestions and initiative that the governing authorities must take and have taken for regulating AI but a lot more is to be done in this because AI is like virus which spread aggressively in a short span of time so some of controls measures must be taken for regulating year in leading and equal content.

Case studies on Positive and Negative Impacts of AI on Women

Case Study – 1 Positive Case Study

Background

The rise of artificial intelligence has introduced transformative changes occurs various sectors including healthcare education and business. For women AI presents opportunities to any long standing careers in access to resources professional growth and social inclusion. Study highlights the positive impact of AI has had a woman with a focus on its role in empowering women tin developing countries facilitating gender equality in the work place and improving healthcare outcomes for women.

Case Study AI in Healthcare - Empowering Women in Rural India

In rural areas of India, women awesome face significant barriers to accessing quality health care due to geographical isolations, cultural norms and financial constraints. These barriers disproportionately affect maternal health, as women in these regions are more likely to experience complications during pregnancy and childbirth without proper medical care.

AI powered mobile application have begin to bridge these gaps by providing virtual consultations helps monitoring and early diagnosis of maternal health issues. For example up prominent initiated called “Maya”, develop by a tech company in collaboration with local health organisation leverages AI to monitor pregnancy through Chabot that guides to be mother through regular check up. The app collect data on symptoms medical history and lifestyle factors which it processes through machine learning algorithms to protect potential health risk. It then connects users to nearby healthcare providers or advisors on immediate steps to take in emergencies.

In addition to my AI powered tools like “Artemis” have be designed to detect breast cancer through analysis from images from medical scan these tools allow women in rural areas to receive early stage diagnostic that would be otherwise unavailable. In some cases these technology has province to be more accurate time traditional diagnostic method helping women receive kindly treatment.

Commentary and Analysis

The integration of AI and healthcare services has had a significant positive impact on the health and well being of women in rural India. These tools of a several advantages:

1. Increase access to healthcare

In remote areas access to health care facilities can be limited AI powered mobile has applications reduce the Reliance on physical infrastructure allowing women to access medical advice and interventions from the comfort of their homes.

2. Improved maternal health

Maternal health is a critical issue and AI's ability to protect complications and alert women to take preventive measures can save lives. This is particularly important in area with limited access to skilled healthcare professional.

3. Empowerment through information

By enabling women to manage their health proactively AI poster essence of empowerment. Women who are informed about their health are more likely to make and formed decisions leading to better out comes for themselves and their families.

However, the implementation of AI in rural India is not without its challenge. There are concerns about data privacy the quality of AI models in diverse settings and the need for Digital literacy. AI applications must be culturally sensitive, easy to use and tailor to local contexts in order to ensure widespread adoption.

Despite the challenges the positive effect of AI on women in rural India demonstrates the potential of this technology to address critical gender disparity in healthcare.

Case Study 2 Negative Impacts of AI on Women

Background

While AI has the potential to empower women it can also exacerbate existing inequalities. That's right of automation and AI powered systems in the workplace for example as raised concern about its impact on job security particularly for women who are often employed in roles most vulnerable to automation. Additional AI can perpetuate gender prices leading to unfair treatment in areas such as hiring promotions and pays.

Case Study Gender Bias in AI Hiring Systems

One of the most concerning issues related to AI is its potential to perpetuate and even amplify gender biases. In the case of hiring systems powered by machine learning gender bias has been a significant

problem. This became evident in 2018 when Amazon scraps its AI recruitment tool after it was found to be biased against female candidates.

Amazon had developed an AI system to help automate the recruitment process with the goal of increasing efficiency and reducing human bias in hiring. However, the tool was trained on resumes submitted to Amazon over a 10-year period which were overwhelmingly for men as the Tech industries penalise resumes that included terms commonly associated with women such as women leadership or female founder.

Despite Amazon's intention to create a more efficient and unbiased hiring process, the AI tool ended up reinforcing traditional gender stereotypes and disadvantages women candidates. The company ultimately scrapped the system after it became clear that the tool was not only ineffective but also discriminatory⁸.

Commentary and analysis

This case highlights some of the risks associated with AI in decision making, particularly in areas like recruitment and promotions. The AI bias in Amazon's hiring system is not unique but part of a larger pattern seen across the Tech industries where AI systems are often built using historical data that reflect existing inequalities.

1. Reinforcement of gender bias

AI systems, especially those using machine learning algorithms, rely heavily on historical data to make predictions. If this data reflects buyers' practices or discriminatory behaviour from the past, the AI system is likely to perpetuate and even exacerbate these biases. In the case of Amazon, the system was trained on resumes that were biased against women, leading to unfair hiring practices.

2. Lack of transparency and accountability

The case of Amazon also underscores the lack of transparency in AI systems. The AI decision-making process was quite opaque, making it difficult for recruiters and candidates to understand why certain decisions were made. Without clear accountability and a transparent team mechanism, it becomes challenging to address the underlying issues of bias in AI.

3. Impact on women in the workforce

⁸ Bostrom, N. (2014). *Superintelligence: Paths, dangers, strategies*. Oxford University Press.

The use of biased AI recruitment can have long term negative effects on women representation in tech and other industries. Women may find it harder to enter the space and those who are already in the workforce may face lower career advancement if AI systems are unfairly dismissing their qualifications.

The use of biased a system in recruitment I like the need for greater oversight and regulations in AI development. Developers and organisations must take steps to mitigate biases in their algorithms by using diverse data sets conducting regular audits and ensuring that AI tools are designed to promote fairness and equality.

Conclusion

(A balanced approach to AI adoption)

As AI continues to transform the world it is essential to ensure that its development and implementation are done in a way that benefits everyone especially women. While AI has the potential to create significant opportunities for women in areas like healthcare education and the workforce it also presents challenges that must be addressed. These challenges include the risk of gender bias, job displacement, and the under representation of women in AI development.

To mitigate these risks government corporations and civil society must work together to ensure that AI technology is developed and used in a way that promotes gender equality and women empowerment. This requires not only regulatory framework to address bias and discrimination but also active efforts to encourage women participation in AI field. By taking these steps we can ensure that AI contributes to a future of a great opportunity and equality for women, while avoiding the potential pitfall that could exacerbate existing gender disparities.

Ultimately, AI is not inherently good or bad; its impact on women and society as a whole will depend on how we choose to shape its development and use. The time has come for all stakeholders to take responsibility for creating a future where AI serves as a force for positive change promoting sustainable development and ensuring that no one especially women is left behind.