

ARTIFICIAL INTELLIGENCE AND SOCIETY: ITS IMPACT ON WOMEN'S LIFE

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ABSTRACT

Artificial intelligence (AI) systems are changing the social, economic, and healthcare environment at a very rapid pace, but the use of AI technology has a differential and disproportionate impact on women. This article examines the existing literature on the impact of AI technologies on women's lives in four broad categories: algorithmic bias and gender discrimination, economic and workforce participation, safety and digital rights, and health and well-being. Based on the existing literature on the discriminatory recruitment algorithms, facial recognition technology failures, and pervasive workplace surveillance, as well as new literature on AI-facilitated harassment through deepfakes and non-consensual intimate images, this article argues that AI technologies both perpetuate existing gender inequalities and create new ones. At the same time, the existing literature also suggests the ways and means of responsible AI design, governance, and policy that can mitigate these effects and ensure more equitable outcomes. The key findings of this article are that there is empirical evidence of gender bias in recruitment algorithms, the disproportionate risk of job automation for women, pervasive workplace surveillance that threatens privacy, and the use of AI-generated deepfake pornography to target women. The article ends with recommendations for the development of gender-sensitive data sets, the use of inclusive design, the employment of robust bias evaluation techniques, and the enhancement of legal and platform accountability to ensure that AI technologies support and do not undermine women's rights and opportunities.

KEYWORDS: Artificial Intelligence, Gender Discrimination, Algorithmic Bias, Women's Rights, Digital Safety, Workforce Automation, Healthcare AI, Deepfakes

Introduction

In a world where artificial intelligence is transforming society, decision-making and its beneficiaries are also undergoing a shift. While AI holds the promise of efficiency, personalization, and better insights, not everyone gets to enjoy the benefits. Women, in particular, have a set of problems that are unique to them: discriminatory recruitment and facial recognition algorithms, job displacement through automation, harassment through deepfakes, and increased surveillance at work. This article reviews the literature on the effects of AI on women in four categories: bias in automated decision-making, work and economic implications, safety and digital rights, and health and well-being. The main thesis of this article is that the use of AI in high-risk environments could potentially exacerbate inequality if the technology is biased or opaque. However, the literature also

points to ways in which AI can be made more equitable.

Objectives of the Study

- To examine how gender bias appears in AI, in terms of its scope and various forms.
- To evaluate the economic and social impact of AI on women.
- To develop appropriate strategies for AI.

Research Methodology

This research employs a systematic qualitative literature review to examine the impact of artificial intelligence (AI) on gender in four categories: algorithmic bias, workforce engagement, safety and digital rights, and health and well-being. The research relies on peer-reviewed literature and policy briefs published between 2010 and 2025, identified through structured searches of prominent academic

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databases using keywords associated with AI and gender discrimination. The criteria for literature to be included in this research were that it had to be empirical or systematic in nature and examine gender-differentiated outcomes and social impact. Literature that did not examine social impact was excluded. The literature was reviewed for relevance and then analyzed using a structured review matrix. A thematic analysis was performed to look for patterns, record negative impacts, and provide governance recommendations. This secondary research did not involve human subjects. The research may be subject to publication bias and the dynamic nature of AI technology.

Algorithmic Bias and Gender Discrimination

Algorithmic bias in AI is a well-documented means by which women have been systematically disadvantaged, with clear evidence of gender bias in a number of high-stakes areas. This section will discuss specific instances of gender bias in recruitment algorithms and facial recognition software and explore the means by which AI systems contribute to the maintenance of inequality.

Recruitment and Hiring Systems

There is potential for gender bias to be embedded in AI recruitment systems. A specific instance of this is Amazon's recruitment algorithm, which downweighted applications containing activities that were predominantly female because the training dataset was predominantly male. Research into large language models used in recruitment practices has also shown a bias toward male candidates, particularly in higher-paying positions. This is likely to continue as recruitment software becomes an ever-more prominent gatekeeper to employment.

Facial Recognition Technologies

Facial recognition technology tends to have a higher rate of errors in women, especially women from marginalized racial and ethnic backgrounds. This is likely to result in the wrong identification of women, a lack of access to services, and other tangible forms of harm. Apart from the technicality of the issue, it has been argued that facial recognition technology tends to perpetuate social hierarchies by failing to recognize women and, in the process, their dignity and autonomy. The increasing application of facial recognition technology in public and online spaces is also likely to result in gendered surveillance.

Structural Mechanisms of Bias

The recorded instances of bias in hiring and facial recognition are only symptomatic of

larger structural issues with the development and implementation of AI. Researchers have highlighted that AI can perpetuate human bias through the "garbage in, garbage out" phenomenon, whereby biased training data result in biased model outputs [5]. If AI systems are trained on data that reflect existing patterns of discrimination, such as past hiring practices that disproportionately hired men or image datasets that underrepresent women, the trained models will learn to replicate these patterns. The lack of transparency in many AI systems only adds to this issue. Black box models are difficult to analyze to determine the precise features or decision rules that are causing the biased outcomes, which in turn makes it difficult to address the issue of bias [5]. Even if bias is discovered, it can be difficult to ascertain whether the issue is with the training data, the model architecture, or the implementation environment, or if it is a combination of these factors. However, there are also recorded pathways for mitigation in the literature. The responsible AI literature argues that with proper design and management, AI systems can actually decrease human noise and bias in decision-making [5]. This requires careful consideration of dataset representation, model performance across demographic groups, decision-making transparency, and ongoing monitoring for biased outcomes. The issue is in ensuring that these considerations are not optional but are instead standard best practices.

Economic and Labor Market Implications

The implication of integrating artificial intelligence technologies into the labor market and the workplace has important implications for women's economic engagement and security. While AI automation has the potential to affect all workers, regardless of gender, current evidence suggests that women are relatively more vulnerable to the effects of AI-related job disruption and face more significant challenges in deriving benefits from AI adoption.

Occupational Exposure

Evidence from different countries indicates that women are more represented in AI-affected sectors such as services, administration, and cognitive work, which are rapidly being automated. However, the effect is not the same. In sectors that have a high probability of substitution, lower-paid women are more likely than their higher-paid counterparts to completely leave the labor force. This indicates that AI automation may cause not only job loss but also withdrawal from the workforce for economically marginalized women, particularly when retraining is not feasible and

childcare responsibilities are significant. The effect is also different depending on the type of tasks. AI automation increases the automation of cognitive and administrative work, which are sectors where women are more represented, while physically demanding tasks, which are more represented by men, are less automatable. In general, women's traditional preeminence in clerical and service work may make them particularly susceptible to displacement by technology.

Barriers to Benefiting from AI

Although AI provides opportunities in technology, data science, and other related areas, several barriers exist that prevent women from benefiting from these opportunities. Women are still underrepresented in STEM, comprising only 29% of the global research and development workforce. This reduces the number of women who can shape AI development, design, and governance. In addition to the STEM gap, disparities in digital literacy and technology use prevent women from benefiting from AI-enabled technologies, retraining, and sector transitions to AI-driven industries, particularly when internet access, technology, and digital education are not provided. Furthermore, women's underrepresentation in AI development means that their requirements and possible biases are not taken into account, leading to a vicious cycle where women are locked out of AI development and the technologies developed continue to lock women out of AI-driven industries.

AI-Generated Deepfakes and Non-Consensual Imagery

Generative artificial intelligence facilitates the creation of very realistic synthetic media, such as non-consensual intimate imagery, which predominantly affects women. A global survey involving more than 16,000 participants revealed that 2.2% of the respondents had been victims of deepfake pornography, while 1.8% had committed the act [1]. Although the figures seem small, they represent millions of people worldwide, with women being the predominant victims. Empirical studies have shown that non-consensual intimate deepfakes have a gender bias, with women being the primary targets [3], [4]. High-profile cases involving the synthetic depiction of famous personalities have drawn attention to the issue of platform responsibility and the effectiveness of legal safeguards [5].

Mechanisms of Harm

The harm caused by AI-generated deepfakes and non-consensual imagery goes beyond privacy violations and impacts the dignity, autonomy, and social status of women. AI-generated "frankenporn"

and "synthetic intimate images" objectify and break down women's bodies into digital pieces, producing images that cannot consent and shape the perception of women in both online and offline contexts [6]. Deepfakes also cause "illocutionary wronging" and "panoptic gaslighting," where victims are compelled to repeatedly deny the images, undermining their credibility and control over their own narratives, while the potential that any image could be a deepfake creates uncertainty that can be leveraged against women who voice out or engage in public life [6]. Research reveals that the existence of synthetic intimate media intimidates, stigmatizes, and potentially silences women, deterring them from pursuing careers in politics, media, and other public fields and causing psychological and social harm [1], [3]. Even in regions where laws ban non-consensual intimate images, victimization persists, suggesting that legal systems are not enough [1]. Thus, researchers propose a comprehensive strategy that involves improved detection technologies, tougher platform policies, digital literacy, and increased legal accountability for providers facilitating abusive synthetic content [1], [5].

Healthcare and Wellbeing

Artificial intelligence has tremendous potential in the area of women's health, from disease diagnosis and treatment to overall well-being. However, as AI increasingly becomes more entrenched in the medical field, the issues of bias, discrimination, and ensuring that women's needs are incorporated into AI development become more pressing. This article examines the role of AI in the medical field through the prism of women. Designing AI for women involves developing AI that focuses on women's needs. This is because women have different needs when it comes to health, from overall well-being to giving birth, and AI development seeks to bridge the digital gender gap that prevents women from fully leveraging medical technology. It also addresses issues of fairness in the medical field. If AI is designed based on male or gender-neutral data, it frequently fails to recognize or interpret women's experiences. The objective of designing AI for women involves placing women at the forefront of AI development, ensuring that diagnoses are more accurate, telemedicine is more accessible, and information about reproductive health, pregnancy, and menopause is more accurate and accessible. However, despite the enormous potential of AI in improving women's health, bias and discrimination are evident in most AI systems. Systematic reviews indicate biased data, underrepresentation, and the

improper use of algorithms that negatively affect women.

Conclusion

This may result in gaps where problems arise, outcomes don't match, and resources aren't allocated fairly. To guarantee that health AI stays equitable and transparent, we therefore require thorough bias analysis, a variety of data sets, high-quality information, and improved regulation. A new, gendered kind of harm is introduced by deepfakes and non-consensual intimate photographs produced with AI and without consent. According to extensive research, the victimization rate is 2.2%, with women bearing the brunt of this burden. These tools are used to frighten, stigmatize, and silence women through objectification, misunderstanding, and persistent degrading. AI-powered workplace surveillance that tracks health and biometric data also raises privacy issues and may make discrimination worse. Though prejudiced and discriminatory health AI is a problem, AI for women in healthcare can offer more individualized care and enhanced access. Concerns around reproductive health privacy and profiling through discrimination in health data are brought up by the use of health data, especially in the workplace. Fairness and efficacy are seriously threatened by the underrepresentation of women in AI development. We need more women in leadership, governance, and technical roles. This is crucial for equity as well as for creating AI systems that are more resilient, inclusive, and responsive to a wider range of demands. The findings suggest that the impact of AI on women is neither constant nor uniform. We can guide AI towards gender equity rather than harm, but this will take collective action from developers, policymakers, employers, researchers, and civil society to place women's rights, safety, and opportunities at the forefront of this AI-fueled transformation that is reshaping society today.

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