The Ethical Challenge of AI: Tackling Bias in Recruitment

Assignment Title:	Driving Change - Group 57	
Group Member Details	**Student Name:** Sarah Bokunde Sadhana R Sambandam Nicolette T. Simuzingili Alex Orji Whitney Airewele Ben Doherty	**Student Number:** 21341221 21310393 21488262 21464614 21368531 21475754
Date Submitted:	12 March 2025	
Final Word Count:	1,600	
Total Number of Pages:	10	

Table of Contents	

Introduction

The integration of Artificial Intelligence (AI) in recruitment has transformed hiring processes by automating resume screening, candidate assessments, and interview scheduling. While AI offers efficiency and scalability, it may result in significant challenges related to bias and fairness.
AI-driven hiring tools can replicate and amplify existing biases in training data, leading to discrimination against certain demographic groups based on gender, race, age, or other systemic factors. This issue is both complex and significant because it affects workforce diversity, equal employment opportunities, and organisational ethics on a global scale.

Unaddressed AI bias affects workplace inequalities, limits access to economic opportunities for marginalised groups, and exposes organisations to legal and reputational risks. This also works against the United Nations Sustainable Development Goals (SDGs), which are global measures of progress towards a sustainable and equitable future.

This paper explores the origins and prevalence of AI bias in recruitment, analysing real-world case studies, including Amazon's hiring AI and LinkedIn's gendered job recommendations. It then examines the root causes of AI bias—such as flawed training data, algorithmic opacity, and systemic discrimination—before discussing proposed solutions, including bias audits, diverse AI development teams, and regulatory interventions.

The paper concludes by evaluating the trade-offs between efficiency and fairness, emphasising the need for sustainable and ethical AI-driven recruitment practices.

Historical Background and Causes of Issue

The use of AI technology has evolved significantly over the years, and with its increasing adoption, discussions surrounding AI bias have become more frequent.
A common theme in the literature on AI bias highlights a clear correlation between AI systems mirroring societal biases and the overrepresentation of certain data sources (Jackson, M.C., 2021).

Often, this issue arises unintentionally, as AI systems are frequently trained on readily available but inherently biased data, such as that sourced from Google. The ease of access to such data is a significant problem, due to a lack of fact-checking on these datasets. This oversight allows pre-existing societal biases to permeate AI systems, leading to skewed outcomes (Mandal, A., 2021).

A common trend in AI bias is its reflection of societal inequalities, with gender, racial, and power imbalances frequently present in recruitment data.
These biases manifest as underrepresentation, stereotyping, and discriminatory outcomes within the recruitment industry often exacerbated by algorithms trained on skewed datasets (Ntoutsi, E., et *al.*, 2020).

The global expansion of AI means these negative factors are increasingly present in the recruitment industry. In 2024 alone, AI was used for 55% of candidate matching in North America (Statista, 2024), and these numbers are expected to grow worldwide as AI access expands. It is crucial that efforts to address and improve biases keep pace with this growth.

Key Sustainability Theories & Frameworks related to the Challenge

The ‘Triple Bottom Line Framework’ discusses the importance of balancing profit with other key factors of a business’s success. This is exemplified by Google’s online advertising system displaying high paying jobs to “males” - clearly highlighting “efficiency/speed” as a priority as opposed to the other factors (IBM Data and AI Team, 2023).

The stakeholder theory similarly emphasises the importance of considering the financial aspects of business, but also the stakeholders involved. In prioritising cost-cutting to benefit shareholders, fairness and transparency may be ignored.
Cases of bias arise, such as algorithms using the prestige of a university as a deciding factor for successful candidates countering Economic, Social and Governance (ESG) and Corporate Social Responsibility (CSR) standards (Dzivane, 2025).

According to RPOA (2024) regulators and businesses should “consider AI systems that have the potential to impact employment as high-risk”, as AI bias is a growing challenge and requires further governance.

CSR mandates the promotion of equity in the hiring process, therefore companies should conduct regular audits to prevent algorithm bias (Montash, n.d). This particularly comes as a result of various global reports of AI misconduct which has triggered a surge of public awareness which in turn has also led to a call for more responsible and sustainable use of AI (Chang & Ke, 2023).

Lastly, some SDGs address gender equality (5), justice (16) and decent work (8), which provide a global scope for evaluating how AI hiring tools should correctly operate. In a study by Rahman, Hossain and Miah et *al.* (2025) they confirmed that if implemented correctly and aligned with these goals, “AI technologies contribute significantly to both resource efficiency and environmental stability”. Therefore, ensuring bias is minimised can facilitate successful recruitment and selection processes.

Case Study: Amazon's Biased AI Hiring Tool

Amazon's experimental AI hiring tool, designed to streamline recruitment, revealed significant bias against women (Dastin, J., 2018).

In 2014, Amazon commenced a project to develop an AI-driven hiring tool for automated résumé screening to enhance recruitment efficiency. The system was trained on a decade of historical hiring data predominantly sourced from a male-dominated workforce. Consequently, it gradually began to favour male candidates, penalising résumés that included gender-specific terms—such as "women's"—or reflected attributes associated with female candidates.

By 2015, engineers observed that the algorithm's outputs were skewed, and despite attempts to mitigate these biases, the tool continued to display discriminatory tendencies (Oppenheim. M, 2018). Following the project termination, investigative reports were made public, sparking widespread debate on the ethical implications of biased AI in hiring.

Bias was primarily introduced by training algorithms of biased data. The lack of diversity in both the training dataset and the development team allowed gendered patterns to persist unchecked, thereby reinforcing biases from previous recruitment decisions and limiting fairness in candidate evaluation (Goodman, R., 2018).

Experts argue that Amazon's tool is a textbook example of "garbage in, garbage out" in AI systems. Without diverse data and robust oversight, algorithms inevitably replicate societal biases, creating serious ethical dilemmas in hiring and underscoring the need for transparency, accountability, and fairness in AI-driven recruitment (Hamilton, I. 2018) (Raghavan, M., Barocas, S., Kleinberg, J. and Levy, K., 2019).

Alternative solutions include conducting rigorous bias audits, sourcing diverse and balanced datasets, and integrating human oversight with AI systems. Companies are now investing in explainable AI frameworks, audits and regular algorithmic reviews to ensure equitable decision-making. Startups like Pymetrics and firms such as HireVue have reengineered their tools to mitigate bias (Lee, N.T. and Lai, S., 2021).

Regulatory measures, like the EU AI Act and emerging local laws, further support these efforts (HireVue, 2021) (Merelli, M., 2018). Embracing such practices promotes responsible management by aligning technological innovation with core ethical and social values (European Commission, 2021). These steps not only improve fairness in recruitment but also help build trust in AI systems for a more inclusive future.

The incident has ensured that as AI becomes more prevalent in HR, it does so under a far more watchful eye from both companies and regulators, leading to better outcomes for employers and job seekers alike.

Propose Organisational, Institutional, or Governmental Solutions

Despite the complexity of this issue, we believe there are several potential solutions that could mitigate certain risks and biases associated with AI-driven recruitment.

Firstly, governments could introduce legislation to mandate annual audits of AI systems used in recruitment. Companies should assess their AI systems and hiring results for any prejudices based on protected characteristics, such as age, gender, and ethnicity. Algorithmic decision-making would also be evaluated by impartial third parties, guaranteeing that there is adherence to moral principles and anti-discrimination laws.

If biases were to be found, companies would have to reveal audit results and take corrective action.

Many governments across the world have started to take action on this. For example, several US states have proposed specific laws regulating the use of AI in employment decisions, with some having already introduced these laws. New York's include a requirement of annual bias audits for automated employment decision-making tools in companies ("AI, recruitment and the law," n.d.).

There are three main stakeholders involved in this process – governments, businesses, and employees. These key stakeholders must work together to implement required AI audits in order to guarantee accountability and equity in hiring.

Additionally, private and public institutions can conduct research into potential technical solutions for training unbiased AI models. These models should adhere to the proposed audit standards, to improve the overall function of AI for stakeholders.

Finally, human oversight should always be implemented as that is of key importance when using any tools that affect people. Businesses should incorporate these controls into their recruitment processes to allow swift intervention when bias is recognised.

Overall, external oversight methods can help reduce algorithmic bias and help enhance recruitment quality and efficiency while remaining fair and transparent (Chen, 2023). With these recommendations we aim to support equitable AI-driven recruitment that ensures hiring practices remain equitable, open, and accountable.

Conclusion

Following our analysis, we have recommended audits to ensure the fairness of AI models used in a recruitment setting, and that legal protections are in place for job applicants. The importance of this recommendation is in the long-term transparency of the AI-driven recruitment process, which is a legal requirement and can be a cause for prosecution in Ireland (Duffy et al., 2025).

As Meshram (2023) suggests, businesses must adopt AI, in recruitment, to stay relevant in increasingly competitive industries. Therefore, AI-recruitment should be refined through joint research initiatives to address the key issue of discrimination, while human interventions should be in place for early identification of bias.

We recognise that our recommendations are quite costly and it may take a while to implement this process redesign. However, our recommendations are strongly aligned with general ethical concerns and key global goals. Our solutions address the SDGs Gender Equality (5) and Reduced Inequalities (10), and several others. This will greatly benefit all stakeholders involved in the recruitment process.

Bibliography

1. AI, recruitment and the law: how do equality and data protection laws regulate this process? [WWW Document], n.d. URL https://www.lewissilkin.com/insights/2023/10/31/ai-recruitment-and-the-law-how-do-equality-and-data-protection-laws-regulate-this-process (Accessed: 12 March 25).
2. Amazon (2023) *How Amazon leverages AI and ML to enhance the hiring experience for candidates*. Available at: https://www.aboutamazon.com/news/workplace/how-amazon-leverages-ai-and-ml-to-enhance-the-hiring-experience-for-candidates (Accessed: 9 March 2025)
3. Chang, Y.-L. and Ke, J. (2023) Socially Responsible Artificial Intelligence Empowered People Analytics: A Novel Framework Towards Sustainability. Sustainability, 16(1). Available at: Socially Responsible Artificial Intelligence Empowered People Analytics: A Novel Framework Towards Sustainability - Yu-Ling Chang, Jie Ke, 2024 (Accessed: 9 March 2025)
4. Chen, Z., 2023. Ethics and discrimination in artificial intelligence-enabled recruitment practices. Humanit. Soc. Sci. Commun. 10, 1–12. https://doi.org/10.1057/s41599-023-02079-x (Accessed: 9 March 2025)
5. Cui, A. (2020) 'LinkedIn says it reduced bias in its connection suggestion algorithm', VentureBeat, 5 August. Available at: https://venturebeat.com/business/linkedin-says-it-reduced-bias-in-its-connection-suggestion-algorithm/ (Accessed: 10 March 2025).
6. Drage.K, Mackereth, K. Does AI Debias Recruitment? Race, Gender, and AI's "Eradication of Difference". Philosophy & Technology, 35(3). Available at: Does AI Debias Recruitment? Race, Gender, and AI's "Eradication of Difference" | Philosophy & Technology (Accessed: 9 March 2025).
7. Dastin, J. (2018) 'Amazon scraps secret AI recruiting tool that showed bias against women', *Reuters*, 10 October. Available at: https://www.reuters.com/article/us-amazon-com-jobs-automation-insight-idUSKCN1MK08G (Accessed: 10 March 2025).
8. Duffy, A., Gallen, S. and Quinlan, N. (2025) *AI in Recruitment: The Potential Risks and Rewards for Employers*, *Default*. Available at: https://www.matheson.com/insights/detail/ai-in-recruitment--the-potential-risks-and-rewards-for-employers (Accessed: 10 March 2025).
9. Dzivane, C. (2025) AI in Recruitment: Key Ethical Considerations. Available at: AI in Recruitment: Key Ethical Considerations | Taylor Hopkinson (Accessed: 9 March 2025)

10. European Commission (2021) ‘Proposal for a Regulation laying down harmonised rules on artificial intelligence (Artificial Intelligence Act)’, European Commission. Available at: https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence (Accessed: 10 March 2025).
11. Fisher Phillips LLP (2024) ‘AI Workplace Screener Faces Bias Lawsuit: 5 Lessons for Employers and 5 Lessons for AI Developers’. Available at: https://www.fisherphillips.com/en/news-insights/ai-workplace-screener-faces-bias-lawsuit.html (Accessed: 10 March 2025).
12. Goodman, R. (2018) 'Why Amazon’s Automated Hiring Tool Discriminated Against Women', *ACLU*, October. Available at: https://www.aclu.org/news/womens-rights/why-amazons-automated-hiring-tool-discriminated-against#:~:text=It%20shouldn%E2%80%99t%20surprise%20us%20at,existing%20workforce%20is%20virtually%20guaranteed (Accessed: 10 March 2025).
13. Hamilton, I. (2018) ‘Amazon built an AI tool to hire people but had to shut it down because it was discriminating against women’, *Business Insider*, 10 October. Available at: https://www.businessinsider.com/amazon-ai-biased-against-women-no-surprise-sandra-wachter-2018-10 (Accessed: 10 March 2025).
14. HireVue (2021) *AI-Driven Hiring: Ensuring fairness, transparency, and accountability*. Available at: https://www.hirevue.com/why-hirevue/ethical-ai (Accessed: 10 March 2025).
15. IBM (2023) AI Bias Examples. Available at AI Bias Examples | IBM (Accessed: 9 March 2025)
16. K S, Y. (2024) AI AND CIRCULAR ECONOMY: CONCEPTS AND CONFLICTS. Juni Khyat Journal, 14(9), pp. 168–177. ISSN: 2278-4632. Available at: (PDF) AI AND CIRCULAR ECONOMY: CONCEPTS AND CONFLICTS (Accessed: 9 March 2025)
17. Lee, N.T. and Lai, S. (2021) ‘Why New York City is cracking down on AI in hiring’, *Brookings Institution*, December. Available at: https://www.brookings.edu/blog/techtank/2021/12/20/why-new-york-city-is-cracking-down-on-ai-in-hiring (Accessed: 10 March 2025).
18. Malik, A. (2023) AI Bias In Recruitment: Ethical Implications And Transparency Available at: AI Bias In Recruitment: Ethical Implications And Transparency (Accessed 9 March 2025)
19. Maurer, R. (2021) ‘HireVue Discontinues Facial Analysis Screening’, SHRM, 3 February. Available at:

https://www.shrm.org/topics-tools/news/talent-acquisition/hirevue-discontinues-facial-analysis-screening (Accessed: 10 March 2025).

20. Mendis, R. (2024) 'A global outlook on 13 AI laws affecting hiring and recruitment', HR Executive, 18 June. Available at: https://hrexecutive.com/a-global-outlook-on-13-ai-laws-affecting-hiring-and-recruitment/ (Accessed: 10 March 2025).
21. Merelli, M. (2018) 'Companies are on the hook if their hiring algorithms are biased', *Quartz*, 12 October. Available at: https://qz.com/work/1427621/companies-are-on-the-hook-if-their-hiring-algorithms-are-biased/ (Accessed: 10 March 2025).
22. Meshram, R. (2023) 'THE ROLE OF ARTIFICIAL INTELLIGENCE (AI) IN RECRUITMENT AND SELECTION OF EMPLOYEES IN THE ORGANISATION', *Russian Law Journal*, 11(9s). Available at: https://doi.org/10.52783/rlj.v11i9s.1624 (Accessed: 10 March 2025).
23. Milne, S. (2024) 'AI tools show biases in ranking job applicants' names according to perceived race and gender', UW News, 31 October. Available at: https://www.washington.edu/news/2024/10/31/ai-bias-resume-screening-race-gender/ (Accessed: 10 March 2025).
24. Montash (n.d). Available at: AI & Talent: How to Stay Ahead Without Sacrificing Compliance or CSR (Accessed: 9 March 2025)
25. Oppenheim. M,(2018) 'Amazon scraps sexist AI recruitment tool', *The Independent*, 11 October. Available at: https://www.independent.co.uk/life-style/gadgets-and-tech/news/amazon-ai-recruitment-tool-sexist-artificial-intelligence-a8579161.html (Accessed: 10 March 2025).
26. Raghavan, M., Barocas, S., Kleinberg, J. and Levy, K. (2019) 'Mitigating Bias in Algorithmic Hiring: Evaluating Claims and Practices' Available at: https://ar5iv.labs.arxiv.org/html/1906.09208#:~:text=create%20challenges%20for%2C%20antidiscrimination%20law (Accessed: 10 March 2025).
27. Rahman, S.M.M., Hossain, M.A., Miah, M.S., Alom, M.M., and Islam, M. (2025) Artificial Intelligence (AI) in Revolutionizing Sustainable Recruitment: A Framework for Inclusivity and Efficiency. International Research Journal of Multidisciplinary Scope (IRJMS), 6(1), pp. 1128–1141. DOI: 10.47857/irjms.2025.v06i01.02698. Available at: Manuscript_IRJMS_02698_WS.pdf (Accessed: 9 March 2025)
28. Recruitment Process Outsourcing Association.(2024) Available at: AI Governance in Recruiting: Ensuring Fair & Compliant AI Adoption (Accessed: 9 March 2025)
29. Roberts, H., Zhang, J., Bariach, B. et al. (2022) Artificial intelligence in support of the circular economy: ethical considerations and a path forward. AI & Soc 39, 1451–1464

Available at: Artificial intelligence in support of the circular economy: ethical considerations and a path forward | AI & SOCIETY (Accessed 9 March 2025)