INCLUSIVE AI AT WORK

Unconscious bias and artificial intelligence in recruitment and selection

DIVERSITY COUNCIL AUSTRALIA

MONASH University

AI: FRIEND OR FOE FOR D&I?

Artificial intelligence (AI) can be an efficient, convenient, supportive and objective tool that is capable of analysing bias in recruitment.

But for AI to support inclusive recruitment, there needs to be more support for people – recruiters, HR professionals and developers – on how to use these tools to eliminate rather than amplify bias. This means developers applying a D&I lens during the design and testing of these tools, and recruiters and HR professionals applying a D&I lens when AI tools are being deployed.

PRELIMINARY RESEARCH FINDINGS

Monash University & Diversity Council Australia, with Hudson RPO, have joined forces to explore the impact of unconscious bias on recruitment and selection processes that use AI.

We spoke to 32 recruiters and HR professionals, developers of AI software, academic and industry experts and job seekers to gain their insights into the use of AI tools in recruitment and their impact on diversity.

WHAT IS AI IN RECRUITMENT?

For this project, we defined AI as a system of computer-aided solutions for recruitment tasks using text, data, numbers, images or sound as inputs, that use complex mathematical algorithms to assist with administrative tasks and decision making.

It's important to note that AI is an umbrella term that covers a broad range of algorithmic implementations that differ in their ability to counter bias.

AI tools in recruitment include technology tools or software that help with:

- natural language processing software to analyse a candidate's personality and values,
- social media analysis,
- analysis of video interviews such as analysis of face expression, sound of voice, and emotions,
- video resumes,
- software that screens resumes for keywords,
- shortlisting candidates based on keywords,
- anonymised resumes,
- skills-based assessment,
- game-based recruitment,
- chat bots to communicate and provide feedback to candidates,
- reference checking systems,
- embedded candidate management systems.

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WHAT WE FOUND WAS THAT AI CAN BE EITHER 'FRIEND' OR 'FOE' FOR D&I

FRIEND:

Efficient. AI can help Recruiters + HR Professionals manage hundreds of job applications that they may receive for one job listing – through automated communication with candidates (including feedback).

"You can make that judgement call to go ok well I've got 1,000 people here. Who should I be spending my time on?" – RECRUITER, FINANCE

Convenient. AI in recruitment allows candidates to save time because they can communicate immediately with chatbots, don't need to wait for recruiters to respond to their phone calls and emails, and can schedule interviews at a time and place of their convenience.

[AI can be beneficial for some jobseekers with caring responsibilities] "who could schedule interviews at a time and place of convenience" – AI DEVELOPER

Supportive. AI is a useful ancillary 'device' or 'tool' to help complete work rather than a fount of decision making.

"The candidates that are being sort of automatically cleared or wouldn't have really had much of a chance anyway because they won't have met the core requirements." – RECRUITER, PHARMACEUTICALS

Objective. Some study respondents told us that AI could improve matchmaking through natural language processing software, skill-based assessments and game-based assessments, whereby candidates receive an "objective" score, which respondents believe is more impartial than humans.

"AI is helpful to match a person against a job… we asked people, what do you want to do, and the AI technology increases the amount of jobs they can match with" – AI INDUSTRY EXPERT

FOE:

Needs D&I capability – for recruiters, HR professionals and AI developers. For AI to support inclusive recruitment there needs to be deep understanding of bias and how it plays out in AI systems, as well as in organisational practices.

Developers need to apply a D&I lens to data inputs. AI developers mentioned the risk of biased feedback loops. For example, if the data that is fed into the tools is biased then the results will be biased.

The use of 'historical data' to create algorithms and software means that the AI tools could bake in biases.

For example, if an industry is traditionally male dominated, then the historical data is likely to prefer males as the 'ideal candidates'.

"The information that's fed into an algorithm. If it's only used to seeing and hearing males. It might have unintentional bias built in." – RECRUITER, PHARMACEUTICALS

Research tells us that most hiring algorithms drift toward bias by default as the algorithms reflect inherent (even if unconscious) biases and prejudices of their creators, who themselves are more likely to be racially privileged (and male).[1]

For example, many white-collar employers place a high value in hiring algorithms on elite university attendance, but such a credential is still disproportionately attained by racially privileged individuals, and often out of reach for racially marginalised individuals who experience systemic bias when it comes to accessing quality primary and secondary education.[2]

WHAT WE FOUND WAS THAT AI CAN BE EITHER 'FRIEND' OR 'FOE' FOR D&I

FRIEND:

Bias Analyser. AI can analyse patterns in new hires or promotions where workers are either recommending candidates that are measurably the same or measurably different than themselves.[3] AI can also be used to highlight biases across various stages of hiring processes.

"We test to see that it is free of bias and they don't disadvantage, say, for example, female and minority job seekers...the tool is backed by science" – AI DEVELOPER

CASE STUDY: AI REDUCING BIAS BY LIMITING HUMAN PREJUDICE

Casey* recalled an experience in a previous role in which Indigenous candidates were systematically discriminated against by hiring managers based on prejudicial beliefs. While Casey had tried to intervene, they were relatively new to the organisation and lacked the clout, broader organisational support and 'hard evidence' to meaningfully redress the situation. As a result, hiring managers continued these discriminatory practices for some time. With the introduction of AI to the hiring process (aptitude testing, anonymised resumes and personality tests that assessed integrity), Casey was able to provide 'evidence' to hiring managers and, to some degree, minimise the discrimination of Indigenous candidates within the recruitment process.

FOE:

Recruiters & HR professionals need help deploying these tools to ensure good D&I outcomes.

AI is embedded in recruiters and HR professionals' daily work but they struggle to identify and articulate the inner workings of these tools and how they work in practice describing it as a DIY 'Black Box'.

- The recruiters + HR professionals we spoke to felt that they had not received formal training on how AI tools can be used to eradicate rather than amplify bias. AI developers agreed that addressing bias from AI in recruitment can be controlled, but it relies on *'training sessions with recruiters'* to discuss the pros and cons of AI and for the recruiters to be aware of their own biases in selecting candidates.

- Respondents indicated that there was a lack of transparency or clarity about what AI does and how it works (e.g. how do AI assessments work in practice?).

- Recruiters + HR professionals expressed their wish for more customisation in the AI tools they use (e.g., improving usability and outcomes by refining various inputs, such as through weighting), but they did not know who to contact to achieve this. This left them unsure how these tools might impact D&I.

WHAT YOUR ORGANISATION CAN DO

USE AI TO <u>ELIMINATE</u> NOT AMPLIFY BIAS

1   **Ask for evidence that your AI tool is bias-free** *before* deploying it. In the U.S., Amazon learnt this lesson the hard way after finding its hiring algorithm favoured male over female applicants.[4]

2   **Consider job design through a D&I lens** before deploying AI. AI will be more effective when it is part of a broader D&I program that examines biases in job design as well as the recruitment process.

3   **Make sure you incorporate vendor advice** about training recruiters and HR professionals in using AI tools, and how to consider ethical aspects related to the use of these tools.

4   **Use AI to identify bias in new hire patterns.** AI can help by analysing patterns in new hires or promotions where workers are either recommending candidates that are measurably the same or measurably different than themselves.[5]

5   **Use AI recommendations as just one data point.** Don't treat AI as the all-knowing oracle but instead just one additional datapoint to add to your structured hiring process.[6]

6   **Ensure that staff using AI tools have adequate training.** Allocate an internal AI specialist who as part of the role is required to understand:

- WHAT the D&I risks are with using AI in recruitment, not just the opportunities
- HOW the AI tool is selecting candidates so you can be confident in the logic behind it
- WHETHER customisation is possible to reduce bias and how this can be achieved.

If we solve these friction points there is an immense amount of potential to make recruitment more fair!

NEXT STEPS

We need more AI vendors to make their data transparent. Leading practice AI vendors are addressing concerns about transparency and accountability by sharing or publishing their research on how these tools address bias; by sharing information about the data they feed into their software; or by running training workshops on using these tools to address bias in recruitment.

Consider government regulation to address bias. One academic expert noted that legislation had been useful in addressing discrimination in recruitment practices, and that regulation could address certain uses of AI decision making. Industry and individual organisations can also opt to implement non-regulated standards for use around AI across recruitment. For example, the AI ethics principles framework of the Australian Government could be adopted as framework around AI that vendors would need to demonstrate how their products rate on each of the defined principles.

1. Gideon Mann and Cathy O'Neil, 'Hiring Algorithms Are Not Neutral', *Harvard Business Review*, 9 December 2016, https://hbr.org/2016/12/hiring-algorithms-are-not-neutral; Aaron Rieke and Miranda Bogen, 'Help Wanted: An Examination of Hiring Algorithms, Equity, and Bias' (Washington, DC: Upturn, 10 December 2018), https://upturn.org/work/help-wanted/; Was Rahman, 'AI-Powered Recruitment Can Be Racist or Sexist – and Here's Why', *DiversityQ* (blog), 13 January 2021, http://diversityq.com/ai-powered-recruitment-can-be-racist-or-sexist-and-heres-why-1511217/.

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3. Sharon Florentine, 'How Artificial Intelligence Can Eliminate Bias in Hiring', *CIO*, 22 December 2016, https://www.cio.com/article/3138492/how-gender-neutral-job-postings-decrease-time-to-hire.html.

4. Michael Li, 'Addressing the Biases Plaguing Algorithms', *Harvard Business Review*, 13 May 2019, https://hbr.org/2019/05/addressing-the-biases-plaguing-algorithms.

5. Sharon Florentine, 'How Artificial Intelligence Can Eliminate Bias in Hiring'.

6. Jeffrey Dastin, 'Amazon Scraps Secret AI Recruiting Tool That Showed Bias against Women', *Reuters*, 10 October 2018, https://www.reuters.com/article/us-amazon-com-jobs-automation-insight-idUSKCN1MK08G.

* Not their real name.