



The Ethics of AI in Human Resources

Matthew J. Dennis¹ · Evgeni Aizenberg^{2,3}

© The Author(s), under exclusive licence to Springer Nature B.V. 2022

The use of artificial intelligence (AI) algorithms in human resources (HR) has become increasingly common over the last decade. The embedding of AI in HR can be seen across key areas, including recruitment, screening and interviewing of applicants, management of workers' tasks and schedules, evaluation of job performance, and personalized career coaching. An attractive prospect for employers is that automation and data-based decision making will lead to better decisions about hiring and management, increased efficiency, and reduction of costs. For example, AI can save countless hours in the recruitment process.¹ High application to job ratios can be reduced from hundreds to a handful at the click of a button. HR recruiters no longer have to trawl through piles of CVs, but can save their time for interviewing the very best candidates. AI-based hiring platforms claim to be able to give employers more accurate and relevant information on their applicants. These ways, the providers claim, surpass traditional recruitment techniques², while

increasing diversity and reducing human bias³ (Raghavan et al., 2020). Reduction of bias in assessments is, of course, an attractive promise for both applicants and workers. Once workers are hired, they can benefit from AI-enabled personalized learning, career coaching, and round-the-clock support from chatbots (Guenole & Feinzig, 2018). Algorithms also offer efficiency on the workforce management front by automating task assignment and work performance evaluation. These are particularly attractive features for employers that manage large groups of workers and clients (Jarrahi & Sutherland, 2019).

Nevertheless, the ethical issues these products raise are manifold. First, there is the question of whether these technologies work: whether they *really* can predict future ability, whether their hiring judgements are *actually* robust (repliable and not falsifiable) (Bayerischer Rundfunk, 2021). Yet, even if AI/HR technologies do what their manufacturers claim, the use of AI in HR raises significant ethical and legal concerns (Bogen & Rieke, 2018; Sánchez-Monedero et al., 2020; Tambe et al., 2019). Analogous to other applied areas of AI, these concerns include those relating to discrimination, privacy, explainability, and accountability. For job seekers and workers, multiple dimensions of human dignity are at stake, including their individual autonomy. Given the importance of work in people's lives, these and other ethical questions surrounding the use of AI in HR are highly consequential to both individuals and society at large.

This topical collection further illuminates key ethical issues that emerge when AI is applied in HR and covers approaches that can aid responsible and inclusive design practices in this domain. In their article, "A Capability Approach to Worker Dignity Under Algorithmic Management", Laura Lamers, Jeroen Meijerink, Giedo Jansen, and Mieke Boon offer a new conceptual framework to better understand how algorithms impact the dignity of workers. Initially drawing on the capability approach developed

¹ ModernHire claims a 70% reduction in interview-to-hire ratio (2021). HireVue claims a 90% decrease from initial application to hire (2021). To get an idea of what this amounts to in practice, see Forbes' interview of Leena Nair, Unilever's chief of HR. Nair claims that approximately "70,000 person-hours of interviewing and assessing candidates had been cut, thanks to their automated screening system" (Forbes 2018).

² Pymetrics urges employers not to "judge a job seeker by their resume alone." Instead, the company proposes that their "objective behavioural data that measures a job seeker's true potential" are better predictors of future productivity rather than "focusing on backward-looking resumes or self-reported questionnaires" (2021).

✉ Matthew J. Dennis
m.j.dennis@tue.nl

¹ Department of Industrial Engineering & Innovation Sciences (IE&IS), Philosophy & Ethics Capacity Group, TU/e, Eindhoven, The Netherlands

² Department of Intelligent Systems, Delft University of Technology, Delft, The Netherlands

³ AiTech Interdisciplinary Research Program on Meaningful Human Control over AI, Delft University of Technology, Delft, The Netherlands

³ HireVue claims to have seen a 16% increase in diversity (2021). LTP claims that their AI products can "quickly and objectively determine a match between Talent and the Work Environment" (2021). Randstad claims their AI interviewing can "lower risk of human error" (2021).

by Amartya Sen and Martha Nussbaum, as well as Ingrid Robeyn's notion of schematic representation, the authors study how dignity of workers can be both promoted and violated by algorithms used in HR management. The authors propose that the framework can be used to describe, analyse, and normatively evaluate specific situations, as well as aid in design of practical solutions to enhance worker dignity.

Jo Ann Oravec's "The Emergence of "Truth Machines"? Artificial Intelligence approaches to Lie Detection" explores the emerging use of AI for lie detection in HR. The author highlights how these lie detection systems can lead to human rights issues, specifically with regard to fairness, mental privacy, and bias. Oravec concludes that technologically-based lie detection systems come at the cost of fostering of human-to-human trust and accountability within organisations. While arguing that organisations should eliminate the use of lie detection technology and focus instead on building trust and mutual respect, Oravec provides recommendations for aiding HR managers in identifying, containing, and mitigating the moral and human rights problems involved with AI-based lie detection in contexts where its use is compulsory.

In "The Ethical Use of Artificial Intelligence in Human Resource Management: A Decision-Making Framework", Sarah Bankins focuses on how AI is now so widely deployed that it is used in almost every HR process, from sourcing job applicants and selecting staff, to allocating work and offering personalized career coaching. Nevertheless, such a wide remit of applicability also has the potential to generate various kinds of harm, few of which are effectively mitigated against by current guidelines. To remedy this, Bankins offers the initial steps towards a decision-making framework that is intended to support the ethical deployment of AI and guide determinations about appropriate distribution of HR tasks between humans and machines.

Megan Fritts and Frank Cabrera start their article, "AI Recruitment Algorithms and the Dehumanization Problem", by identifying what they regard as a key, yet understudied, challenge for AI-ethics – the question of whether the routine deployment of algorithms can cause dehumanisation. In particular, Fritts and Cabrera focus on how replacement of human recruiters by algorithms can be viewed as dehumanisation of the hiring process. The authors argue that this can have negative impact on substantive employee-employer and applicant-employer relationships because of the difference between the values of human recruiters and the values embedded in recruitment algorithms. As the authors highlight, addressing this issue will require making tough value trade-offs.

Josephine Yam and Joshua August Skorburg show how tricky the painstaking work of value trade-off can be in their article, "From Human Resources to Human Rights: Impact Assessments for Hiring Algorithms". The authors suggest

that the promises of using AI in hiring come at the cost of inflicting unintentional harm to human rights, including the rights to work, equality and non-discrimination, privacy, free expression and free association. The authors argue that framing ethical risks of hiring algorithms in terms of international human rights law, rather than abstract ethical principles, can help close the accountability gaps surrounding such systems. Yam and Skorburg go on to evaluate four types of algorithmic impact assessments in terms of how effectively they address the implicated human rights of job applicants and their potential to help organisations audit their algorithms and close accountability gaps.

Collectively, these contributions advance the understanding of the ethical challenges and opportunities that surround the use of AI in HR. The conceptual frameworks and practical recommendations open new avenues for further empirical research, as well as responsible and inclusive design practices in the HR domain. We, the co-editors of this topical collection, believe that the contributions highlight the need for such design practices to be grounded in direct engagement with diverse stakeholders, and in particular job seekers and workers, especially as they have the least amount of power and their voices and needs are often left unheard.

Funding acknowledgement This work is part of the research programme Ethics of Socially Disruptive Technologies, which is funded through the Gravitation programme of the Dutch Ministry of Education, Culture, and Science and the Netherlands Organization for Scientific Research (NWO grant number 024.004.031).

References

- Bayerischer Rundfunk (2021, February 16). *Objective or Biased: On the questionable use of Artificial Intelligence for job applications*. BR. <https://interaktiv.br.de/ki-bewerbung/en/>
- Bogen, M., & Rieke, A. (2018). *Help Wanted: An Exploration of Hiring Algorithms, Equity, and Bias*. Upturn. https://www.upturn.org/static/reports/2018/hiring-algorithms/files/Upturn_Help_Wanted_-_An_Exploration_of_Hiring_Algorithms,_Equity_and_Bias.pdf
- Guenole, N., & Feinzig, S. (2018). *The Business Case for AI in HR: With Insights and Tips on Getting Started*. IBM Workforce Institute. <https://www.ibm.com/downloads/cas/AGKXJX6M>
- HireVue (2021). Text from company website. www.hirevue.com. Accessed December 2021
- Jarrahi, M. H., & Sutherland, W. (2019). Algorithmic Management and Algorithmic Competencies: Understanding and Appropriating Algorithms in Gig Work. In N. G. Taylor, C. Christian-Lamb, M. H. Martin, & B. Nardi (Eds.), *Information in Contemporary Society* (pp. 578–589). Springer International Publishing. https://doi.org/10.1007/978-3-030-15742-5_55
- LTP (2021). Text from company website. <https://www.ltp.nl/>. Accessed December 2021
- Marr, B. (2018). 'The Amazing Ways Unilever Users Artificial Intelligence to Recruit Thousands of Employees.' Forbes Online. Online: <https://www.forbes.com/sites/bernardmarr/2018/12/14/>

- [the-amazing-ways-how-unilever-uses-artificial-intelligence-to-recruit-train-thousands-of-employees/](#)
- ModernHire (2021). Text from company website. www.modernhire.com. Accessed December 2021
- Pymetrics (2021). Text from company website. www.pymetrics.ai/. Accessed December 2021
- Raghavan, M., Barocas, S., Kleinberg, J., & Levy, K. (2020). Mitigating bias in algorithmic hiring: Evaluating claims and practices. *Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency*, 469–481. <https://doi.org/10.1145/3351095.3372828>
- Randstad (2021). Text from company website. www.randstad.nl. Accessed December 2021
- Sánchez-Monedero, J., Dencik, L., & Edwards, L. (2020). What does it mean to “solve” the problem of discrimination in hiring? Social, technical and legal perspectives from the UK on automated hiring systems. *Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency*, 458–468. <https://doi.org/10.1145/3351095.3372849>
- Tambe, P., Cappelli, P., & Yakubovich, V. (2019). Artificial Intelligence in Human Resources Management: Challenges and a Path Forward. *California Management Review*, 61(4), 15–42. <https://doi.org/10.1177/0008125619867910>
- Publisher's note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.