Case Study: HireVue's Autonomous Decision Making System

El Equipo

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Introduction

HireVue is an online recruitment platform that undertakes standardised video interviews, AI assessments and other assessments to help companies with the hiring process. They aim to '(deliver) the best talent, faster with hiring intelligence' (HireVue 2021a). They have over 700 clients and claim to decrease recruitment time by 90% (HireVue 2021a). The product that uses AI is known as HireVue Assessments and is an additional product that employers can choose to use. It is a pre-employment algorithm that is used to filter applications and save companies time through the recruitment process (HireVue 2021b). It is only used by a minority of clients although this number is increasing (HireVue 2021b). The AI component of its assessment system is not used to make the final decision of who to offer the job to but is used in the initial screening process to subset the number of applicants to proceed to the next stage of interviews.

Fairness, Accountability, Transparency and Ethics

The use of AI in job application assessments is a field where Fairness, Accountability, Transparency and Ethics (FATE) are all important that need to be considered when using this technology. There are several issues with HireVue's Assessment (using AI) that relate to fairness, accountability, transparency and ethics.

Fairness

HireVue states that the HireVue Assessment helps avoid the human bias that is found in the recruitment process (HireVue 2021b). Their standardised interview questions help eliminate bias by ensuring every application answers the same questions no matter their relationship with the panel, age, experience or race. However, there is little mention of any evidence of how HireVue Assessment seeks to minimise bias. It has been well documented that using algorithms/ AI can actually increase the level of bias (Bogen 2019) with respect to race (Angwin et al 2016, Bass & Huet 2017, Buolamwini 2017), gender (Bass & Huet 2017), some medical conditions (Green & Guo 2016) or other minority groups. HireVue gives no indication of how they have set up the algorithm to ensure that none of these known biases impacts their assessments. HireVue itself has been criticised

for its facial recognition algorithm (Kahn 2019, EPIC 2019, Harwell 2019). Information gained through their facial recognition has been shown to add up to 29% of an application's score (Harwell 2019), with facial expressions contributing 10 - 30% (Bell 2019). In response to this criticism, HireVue has removed any facial recognition input into their algorithm (HRNews 2021).

HireVue states that applicants are assessed on competencies that research shows is required for the job in question (HireVue 2021b). There is no evidence to back up what research has been relied upon to come up with these competencies. Journalist Malcolm Gladwell (Kahn 2021) goes so far as stating that HireVue is '(cloaking) the process in pseudoscientific veneer'.

Transparency

It is difficult to find information about how HireVue uses AI algorithms to rank applications. The competency measures that are determined by undisclosed 'organisational psychologists' (HireVue, 2021) are never discussed to a level of detail that provides applicants with a deep understanding of what they are being accessed against. In a complaint lodged by the Electronic Privacy Information Center (EPIC), it outlines that applicants were given no access to their scores or training data, limited information about the inputs to the algorithms and no indication of why they scored how they did (Harwell 2019, EPIC 2019). This complaint also highlights that while HireVue's website at the time mentioned it did not use facial recognition software, it was using videos to detect personality, social intelligence and job suitability (HireVue 2019). HireVue has since stopped using any type of facial recognition (Kahn 2021). The results on an algorithmic audit that HireVue commissioned by O'Neil Risk Consulting and Algorithmic Auditing (ORCAA) recommended that HireVue communicate more clearly what was involved in the algorithmic assessment (ORCAA 2020). As a result of this audit, HireVue has planned to update the instructions applicants receive to better communicate the process.

Best practise and legal codes

The use of Artificial Intelligence (AI) in the Human Resources sector is something that is becoming more scrutinised, as these systems become more complex and their impact on the lifecycle of employees becomes more prevalent (Khatri et al. 2019). Artificial Intelligence based approaches may equally create new opportunities as they might displace human employees, as technology rapidly develops with the need for guiding practices and legal codes that protect the rights of individuals (Khatri et al. 2019). Following the COVID-19 pandemic, the use of Artificial Intelligence has proven its value in slowing down negative impacts of the pandemic in many ways, however, it has also re-ignited

concerns with regard to privacy and data protection (UNESCO 2021). As a company affecting potentially millions of people's employment and a company operating out of the United States with a wide global reach, there are several best practices and legal codes that HireVue should consider in their operations to reduce the potential negative impacts of their AI solution as a high risk application (EC 2021).

There are several recent developments in legislations worldwide that guide global best practices and principles in Artificial Intelligence Ethics, with the General Data Protection Regulation (GDPR) implemented by the European Union (EU) in 2018 arguably setting the standard for the general use of data (GDPR 2018). Following the introduction of the GDPR, several governing bodies including the EU, OECD and a selective number of countries introduced their own interpretations of these practices that set standards of using AI robust enough to keep up with the rapidly developing field (OECD 2019, Ritchie & Clarke 2019). Principles adopted around the globe focus on several key areas including improving aspects of fairness, accountability, transparency and ethics (OECD 2019, UNESCO 2021, AHRC 2020, Ritchie & Clarke 2019).

Where there is a lack of legal code or best practice, companies such as Google and Facebook are taking the initiative to promote self governance in the tech industry, with Facebook announcing an AI Ethics Research Centre in 2019 (Facebook 2019), and Google defining and iterating it's own guiding AI Ethics Principles from 2017 onwards (Google 2021). Other notable developments include the European Commission (EC), who are proposing a coordinated plan and legal framework to become a global leader in trustworthy AI (EC 2021) and UNESCO, who are in a two year process of drafting a Recommendation on the Ethics of Artificial Intelligence to be completed sometime later this year (UNESCO 2021). The UNESCO document will be a comprehensive document with a multi-stakeholder consultation process, building on previously drafted recommendations with a group of 24 renowned AI Ethics specialists (UNESCO 2021). Countries such as Australia have also adopted AI Ethics Guidelines including a statement by the Australian Human Rights Commission that provided a framework to address decision-making with the use of AI systems (AHRC 2020) and the AI Ethics Framework developed by the Australian Government in partnership with CSIRO and DATA61 (Dawson et al. 2019).

Most prevalent to HireVue's operations are principles addressed by aforementioned bodies that discuss fairness and non-discrimination, human oversight and determination and responsibility and accountability, particular important in the decision making processes within the Human Resources sector (OECD 2019, UNESCO 2021, Dawson et al. 2019).

In the complaint by the Electronic Privacy Information Center (EPIC) to the Federal Trade

Commission in 2019, EPIC alleged that HireVue's evaluations of potential employees of their clients do not meet the minimum standard of the OECD AI Principles and the Universal Guide for Artificial Intelligence (EPIC 2019). Specifically, EPIC outlines HireVue's use of facial recognition (a feature that HireVue contested) as part of their algorithm to evaluate candidates to be problematic, where there have been several significant and agreed upon examples of racial and gendered bias in such algorithms, leading to inaccurate and discriminatory predictions (EPIC 2019, Dawson et al. 2019). The issue with the approach taken by HireVue in this instance is the absence of human input in the decision making process, where existing biases may be perpetuated. Furthermore, EPIC alleged that the eye-tracking software utilised as part of the model is discriminatory to individuals who may suffer from neurological conditions such as Alzheimers and Autism and may not make eye-contact during the interview process (EPIC 2019). The OECD states that AI systems should be designed in order to respect the rules of law and diversity, and in this example, non-discrimination (OECD 2019), where UNESCO lso more broadly promotes the use of fair and non-discriminitory systems (UNSECO 2021).

Another issue with HireVue's algorithm is the inability to query and replicate predictions due to the black box paradigm, which also raises issues of consent (EPIC 2019, Dawson et al. 2019). If the developer of an algorithm cannot accurately describe the way an algorithm works, then it is impossible for a user to provide informed consent (Dawson et al. 2019). More concerningly, the inability to assess the results of a prediction based on the algorithm used is non-transparent and prevents users with the ability to contest outcomes, further perpetuating biases (OECD 2019, UNESCO 2021, Dawson et al. 2019). In a more regulatory legal framework, many have interpreted Article 15 of the GDPR: Right of Access by the Data Subject to legislate this requirement (GDPR 2018).

Promoting FATE

The use of AI in assessing people for employment purposes introduces significant risk of social harm (Bogen 2019). Further to this, job seekers are not willing users of HireVue's AI system in the truest sense because they are presented with a Hobson's choice: one must either submit to AI evaluation or forego the potential for employment. It is therefore all the more important that processes are put in place to ensure the system is not disadvantaging people on a discriminatory basis, that its assessments are transparent and explainable, that there are clear answers to the question of accountability, and that the assessment outcomes are trustworthy.

In order to mitigate any unfair negative impact on people from different demographics, the assessment model should be specifically tested to ensure no statistically significant difference in rating candidates between demographic groups. This should include

reviewing the difference in mean scores across groups, and checking to see if similarly skilled people from different demographics tend to be ranked lower than others (ORCAA 2020). Information about legally protected characteristics might unintentionally leak through other features—such as detecting age, race or gender from the vocabulary used in a candidate's response—so it is worthwhile actively searching for variables that correlate highly with protected characteristics and removing them from the model (ORCAA 2020). In addition, visual features—such as analysis of a candidate's face—should not be used.

Extra steps should be taken to protect people who come from minority backgrounds, including sufficient sampling of training data to allow appropriate representation, and engaging advocacy groups for insight into how assessments need to be adjusted to achieve a fair outcome e.g. accessibility for people who have a disability or are neuroatypical (ORCAA 2020).

While the model itself may be proprietary and a trade secret, candidates should be given meaningful feedback on specific, measurable factors that contributed to their score, to prove that the assessment was made on work-related skills or qualities that can be practiced and improved. If a candidate has concerns about their calculated score, a process should be offered to request a review from an independent organisation. HireVue should be held to account for any deficiency or bias detected in the assessment outcome, including remediation and compensation, to set proportional incentives for guaranteeing fairness.

Conclusion

Artificial Intelligence will likely continue to play an important role in Human Resources, while regulations are developed. As an existing product in this space, HireVue's assessments have been proven to create risks around principles of Fairness, Accountability, Transparency and Ethics, particularly in the aspects of bias and fairness, transparency and accountability. The neglect of HireVue to address these issues has already led to complaints by nonprofit organisations and voluntary remediation. Due to legislative frameworks that are still emerging, guidelines for best practices are still non-binding, and there are questions around enforceability of such practices across a global community which may not share the same values. During this transitionary period, there are processes that AI practitioners can follow that promote Fairness, Accountability, Transparency and Ethics that range from quantifiable analysis of the assessment methods through to engagement and feedback from the users who are subjected to it.

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Contribution Sheet

For each member in your team, please write your name, student number, contribution percentage to the assignment and your signature. Marks are awarded to the individual team members, according to the contributions made towards the final work. Please submit what percentage each team member made to this assignment and submit this sheet in your submission.

The contributions of your group should add up to 100%.

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