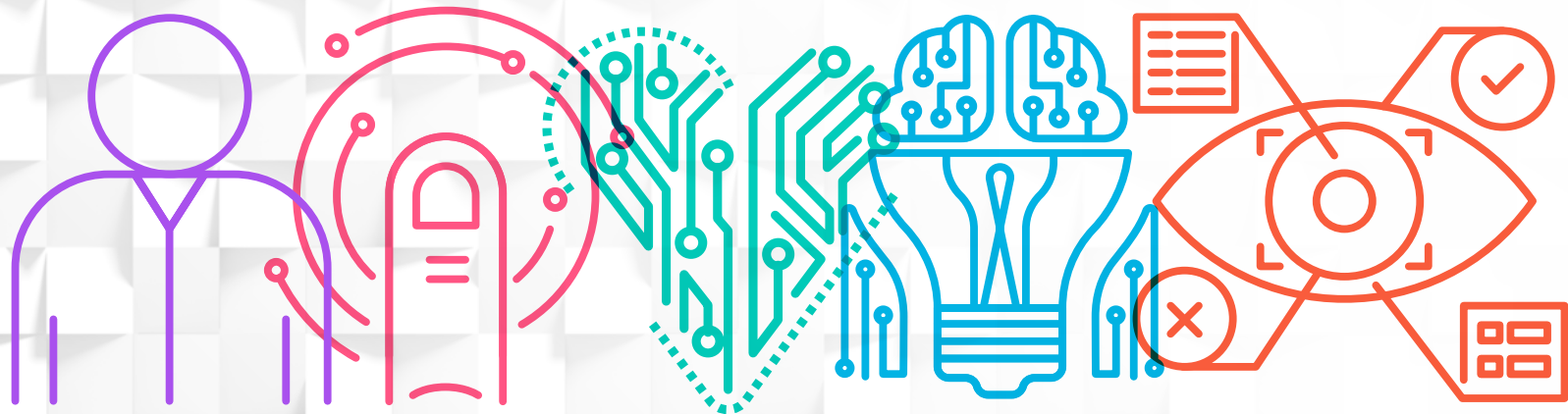


# Artificial Intelligence (AI) in the job interview process: Toolkit for employers, careers advisers and hiring platforms



Drs Zahira Jaser, Dimitra Petrakaki, Rachel Starr, Ernesto Oyarbide – University of Sussex  
Joy Williams and Becci Newton – Institute for Employment Studies



**Becci Newton,**  
Director of Public  
Policy Research

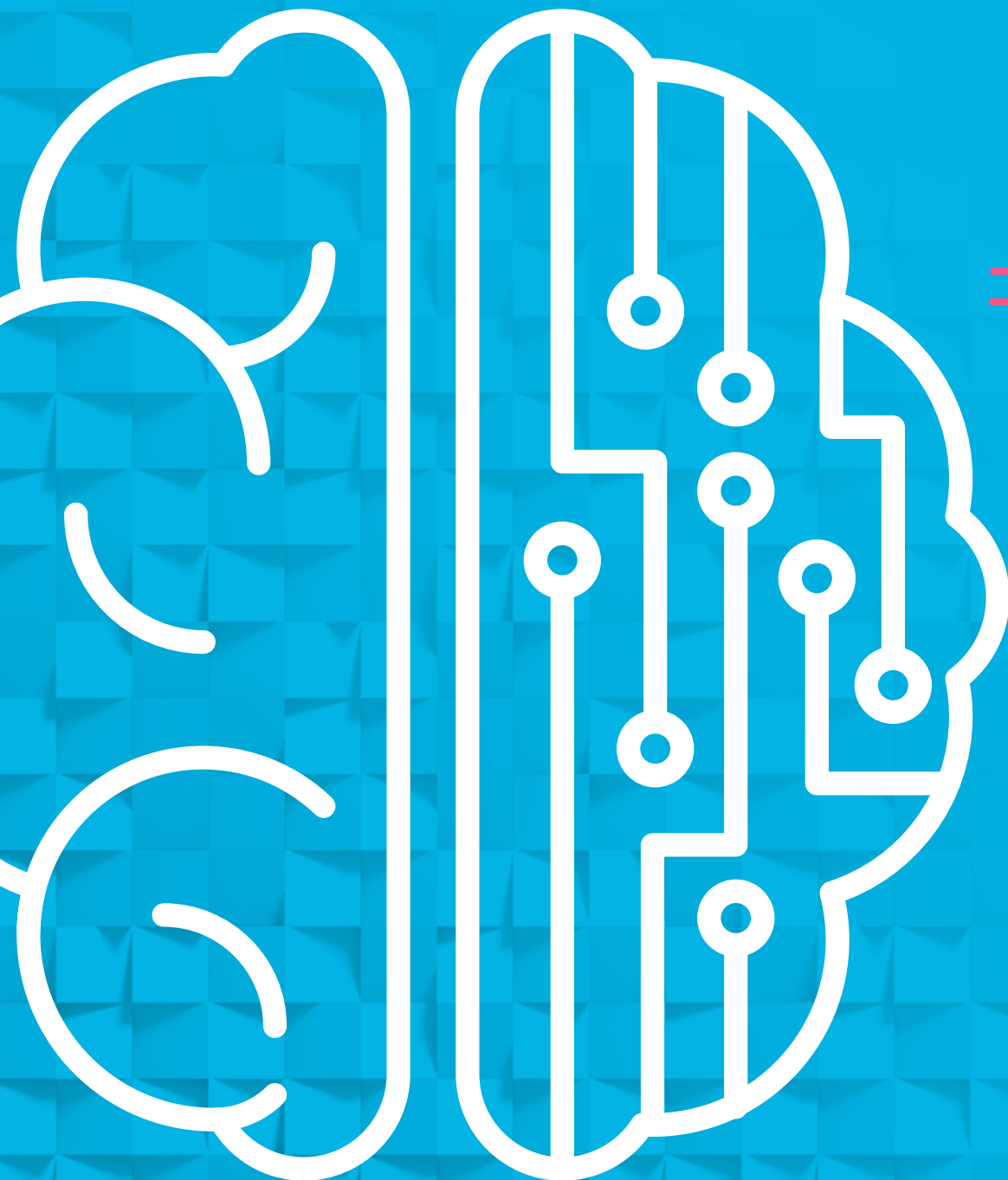
**This toolkit has been designed to provide employers and careers and employment advisers with crucial information on how to support young people in their transitions to the labour market in the context of new technologies used in recruitment and selection processes.**

This issue has never been more important. The pandemic has had a drastic effect on youth employment, constraining opportunities to secure employment, at the same time as 20-year trends which show that young people face a highly competitive labour market and growing precariousness in the jobs they can access.

Globally, we are seeing a mega-trend shift to increasing automation in our lives including at work. The pandemic has accelerated this; over the past 18 months people have seen increased digitalisation of home and working lives with 'Zoom calls' for social and business interaction causing 'Zoom fatigue'. This digitalisation now also affects recruitment and assessment in universities, the provision of careers advice and crucially, recruitment practices. However, young people and their advisers are not prepared for these changes. Importantly, employers may not fully understand their implications and the effects of new technologies on the talent pool in the hiring process.

This guide sets out to demystify some of these technologies and to highlight the lived experience of young people undergoing recruitment in this format, and to provide guidance to employers and careers and employment services on the implications for their practice. It builds on detailed research conducted by Dr Zahira Jaser and team, at the University of Sussex Business School, who used a mix of interviews of young job seekers, analysis of material published by Hiring Platforms and of technologies used in Asynchronous Video Interviews (AVIs).

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# INTRODUCTION

**Digitalisation and artificial intelligence (AI) are a growing part of everyday lives.**

From booking an Uber, to virtual assistants (Alexa, Home or Siri) and the internet of things (Nest, Ring and 'smart' tools), our lives are becoming mediated by technologies. These technologies are present in the world of work, with rising use of video-conferencing and collaborative digital spaces during the pandemic. Perhaps unsurprisingly, AI is now embedded into the recruitment process too.

This toolkit is a chance to consider how Asynchronous Video Interviews (AVIs) are being used in recruitment, and the implications for job-seekers, platforms and employers. It is underpinned by in-depth qualitative interviews with young job-seekers and an evidence review.

## Why does this matter?

**The pandemic has accelerated employers' use of AI in the recruitment process - many more people – including the young with least experience – are being interviewed in this mode than ever before.**

The commercially available video interviewing platforms rely on AI-assisted technologies to schedule, track, conduct and even assess interviews. The platforms promise that using AI will lead to benefits through reducing bias, and compensating for flaws in human-led processes, thereby increasing fairness. This might sound compelling to employers, given the renewed impetus on reducing discrimination influenced by the Black Lives Matter movement, on one hand; and the acceleration of recruitment activities as the economy opens up following the pandemic, on the other.

The technologies also promise to reduce the challenges of shortlisting the increasing number of applications employers receive for their vacancies, as AI can assist with processing. Despite these promises, there is little information – due to commercial concerns about protecting intellectual property – about how these technologies function and crucially how they produce recruitment recommendations. This, despite growing awareness that bias can inadvertently be built into AI systems (Forbes, 2021<sup>5</sup>) and see further reading section.

01. <https://www.gartner.com/en/newsroom/press-releases/2020-04-30-gartner-hr-survey-shows-86--of-organizations-are-cond>
02. <https://jobdescription-library.com/job-interview-statistics#video-interview-statistics>
03. <https://www.shrm.org/resourcesandtools/hr-topics/global-hr/pages/employers-embrace-artificial-intelligence-for-hr.aspx#:~:text=Eighty%252Deight%2520percent%2520of%2520companies,some%2520form%2520of%2520the%2520technology.>
04. <https://observer.com/2021/03/artificial-intelligence-job-interview-problems-bias-tips/>
05. <https://www.forbes.com/sites/forbestechcouncil/2021/02/04/the-role-of-bias-in-artificial-intelligence/?sh=4ffd544b579d>



A  
GARTNER  
SURVEY  
OF  
**334**  
employers  
in 2020

REVEALED THAT  
**86%** OF  
EMPLOYERS

had used virtual technology to interview candidates to overcome recruitment challenges in the COVID-19 pandemic.

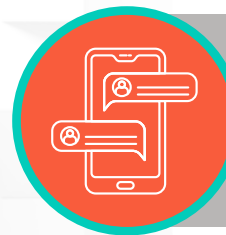


JOB  
DESCRIPTION  
LIBRARY  
FINDS A

**67%**  
INCREASE



the use of  
**VIDEO INTERVIEWS**  
between **2020-2021.**

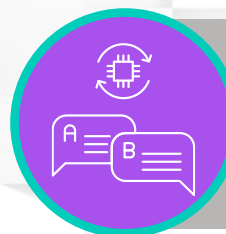


MERCER'S  
GLOBAL  
TALENT  
TRENDS

2019  
REPORT

FIND THAT

**41%** OF  
US COMPANIES  
used chatbots to engage with candidates during recruitment.



MERCER  
ALSO  
INDICATES  
THAT

**40%**



**US COMPANIES USED  
CHATBOTS TO LEAD SCREENING AND ASSESSING  
OF CANDIDATES DURING RECRUITMENT**

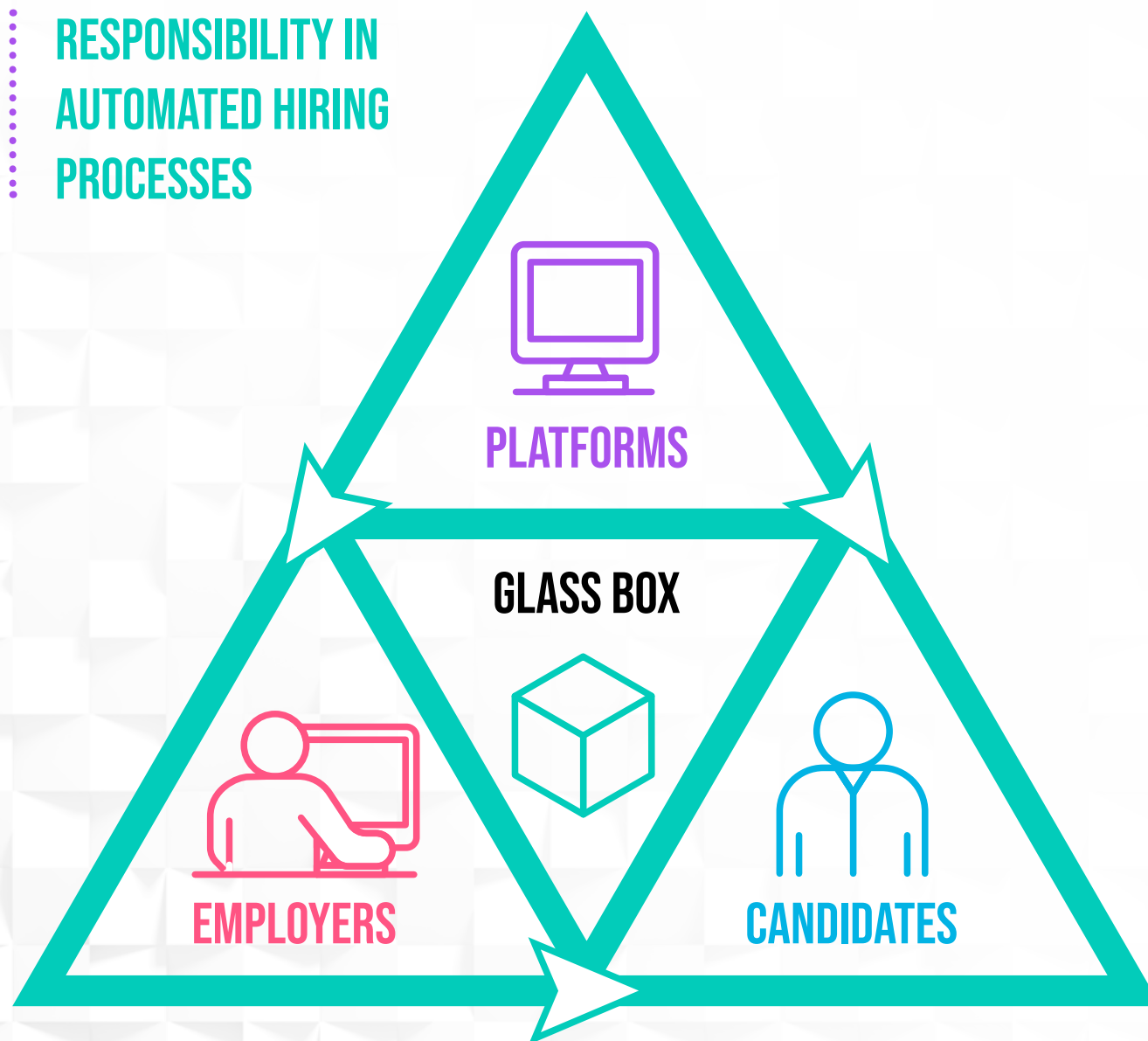
## Why does this matter? Con't

**This reliance on new technologies is giving rise to a new 'stakeholder' alongside employers and candidates: the hiring platforms. Each have different roles.**

- The platforms develop the algorithms and market the technology.
- The employer becomes the client of the platform, purchasing services to fill vacancies.
- The candidates are the ultimate users of the technology.

Alongside these varied roles, are also varied objectives. While the employer wants to recruit the best candidates, and the candidates ultimately want to be recruited, the objectives of platforms are more complex. These are tech companies, aiming to maximise the sale of their services and products. This leads them to develop a strong commercial focus on the employer as they seek to strengthen the relationship with their client. They might invest less in developing accountability towards job-seeking candidates, as here the relationship is weaker, and often mediated by the employer themselves (see figure [reference number]). For example, the research found materials published by platforms to support candidates to use AVIs were minimal, and sometimes included links to outdated or incomplete documents. This reflected what many research participants reported during research interviews: they did not know who to contact, or where to look for more information, or could not get replies to their questions in a timely manner.

## RESPONSIBILITY IN AUTOMATED HIRING PROCESSES



## Focus on Job-seekers' experience

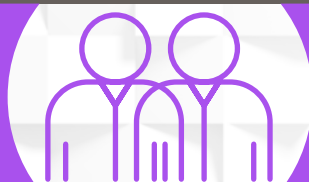
**Overall, the University of Sussex research focused on understanding job-seekers' experience as users of these technologies. Strikingly, one of the main findings was that the participants had a poor understanding of how this interview format worked, and of the technology.**

Improving employers' and employment and careers advisers' understanding of experiences of these recruitment technologies means in turn they can better support and equip job-seekers, from different backgrounds to prepare for technology-mediated interviews. This toolkit explores and critically appraises the new types of job interview and technologies, drawing on existing academic literature.

A DEPERSONALISATION SPECTRUM OF THE RECRUITMENT INTERVIEW WITH A DECREASING ROLE FOR HUMAN INTERACTION, AND AN INCREASING ROLE OF THE AI

THE DEVELOPMENT OF THE HIRING INTERVIEW:  
A DEHUMANISING PROGRESSION

### FACE TO FACE INTERVIEWS



These are synchronous (in real-time) and conducted in-person, with interviewers and candidates in the same location at the same time.



FACE TO FACE

### VIDEO INTERVIEWS



These are synchronous, but conducted virtually, with interviewers and candidates facing each other via a screen, at the same time but in different locations. Video-conferencing technology facilitates the interaction but is passive as it does not have a role in decision making.



VIDEO INTERVIEWS

### ASYNCHRONOUS VIDEO INTERVIEWS (AVIS)<sup>6</sup> WITH PASSIVE AI



These interviews are recorded by candidates and reviewed by the interviewer or decision-maker at a later stage. They are conducted through screens but interviewers and candidates do not meet. AI technology may, or may not be present but where it is, it is passive ie not making recommendations on the hiring decision.

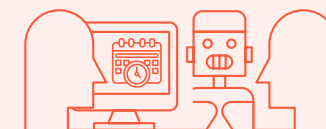


ASYNCHRONOUS VIDEO INTERVIEWS (AVIS)

### AVI AI-ASSISTED

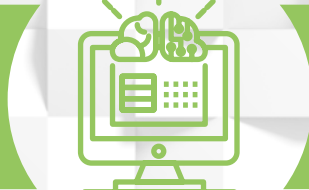


These interviews are asynchronous and recorded. They are conducted through screens but interviewers and candidates do not meet. AI technologies assist in the hiring decision. The AI makes recommendations by interpreting aspects of candidates' performance such as facial expression, gesture, tone of voice, and/or keywords in responses. The AI produces a report for interviewers or decision-makers to review.



AVI A.I - ASSISTED

### AVI AI-LED



These interviews are asynchronous and recorded ie conducted and recorded on screen with no contact between candidates and interviewers. AI technologies are used to assess whether candidates progress to the next phase of the recruitment process.



AVI A.I - LED

## What did the research show?

The research interviews took place with students engaged in university study who were also looking for work. Reflecting on their experiences of AVIs they expressed discomfort compared to when they were interviewed by people.

Four core themes emerged:



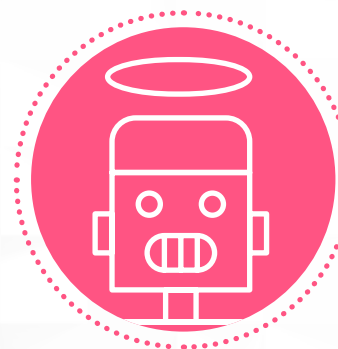
### Feelings of diminished humanity

as job-seekers believed they needed to perform in a rigid way - holding a fixed gaze and an unnatural posture, fixing a smile, speaking with a monotonous voice, and holding their hands still - they felt they had to behave like robots.



### Lack of understanding

Job-seekers embraced unnatural behaviours as they believed this would satisfy the AVI 'bot'. However, candidates often did not know how they were going to be assessed by the AVI - some thought there was face recognition involved, when there was none.



### Glorification of AI technology

underpinned by the belief that the AI technology is superior to human decision-making. This meant job-seekers saw their changed behaviour as inevitable in the recruitment experience.



### Feeling emotionally and cognitively exhausted

resulting from behaving in the way they believed was necessary for the bot - but which was highly unnatural.



A key challenge for students was that the AI systems and employers rarely offered any feedback so they were left to their own devices on how to improve their performance at their next interview.

## CASE STUDY: MO

### **Mo is 20 years old and finishing his second year at university, studying business.**

He is a first-generation university student – neither of his parents went to university, his mum does not work and his dad holds down two jobs as a chef and taxi driver. His first language is not English and he has not developed ideas about ‘professionalism’. Mo’s ambition is to work in finance or banking. He is softly spoken and in conversation shows great sensitivity and maturity. However, he discussed how self-aware and self-conscious he is in front of a web-camera during AVIs and fears that he might not be as polished or professional as other candidates, given his background. He is worried about his accent, and that he gesticulates too much for the screen.

Mo has applied to several major banks and been involved in several AI-led interviews although he was not clear on whether there was any human involvement or just AI. He has not received much feedback and does not really understand what aspects of his performance are important in the AI algorithm – what he says, his gaze, tone of voice or gesticulation.



***‘I was interviewing for [Bank] and I thought it was going to be recorded at first and then reviewed by a human later on. But as I read through how the thing works, I found out it was actually an AI algorithm that judges your effort. So that was a big shocker to me because I, I never knew that, you know, that kind of technology has arrived yet.’***

## CASE STUDY: ALINA

**Alina is 22 years old and recently graduated with a good degree in Business and Management.**

She immigrated to the UK from Romania and was the first in her family to attend university. She lives in shared accommodation and her job search was driven by career aspirations as well as the need to support herself financially. English is Alina's second language, she speaks with a distinct accent and is articulate, confident and clearly communicates her ideas. She described how the video-interview process made her feel 'very self-conscious' about her English.

Alina had taken part in more than 10 AI-assisted interviews with a range of major banks and corporations. She was not aware of how she would be assessed until one company told her: *'Don't worry about how you look on the camera because an AI is going to analyse your words'*. She understood that the words she said would be important and felt that recording herself for video interviews was very different from speaking with a person: *'You're very careful of what you're saying. It's not like, you know, in a conversation'*. Feeling cautious over her use of language inhibited her performance.

***'I was very aware of my English and all the mistakes I was doing while speaking. [...] every time when I was making like a very little mistake, I had this freezing... I'm not gonna be able to show my energy, my ambition or everything, or how passionate I am about the company'.***

After being rejected following all her video-interviews, Alina took part in a face-to-face interview during which she felt able to fully communicate her strengths:

- *'There was this reassuring*
- *that I don't have to be*
- *perfect. I just have to show*
- *my energy, my passion,*
- *ambition and everything'*

She was offered the position and is now happy in her job in Business Operations where she is managed by the person who interviewed her.

## CASE STUDY: ELLIOT

**Elliott is a 21-year-old young man – a first generation scholar from the south of England, who recently graduated from university with a good degree in Business and Management.**

He is now looking for his first job. He has a regional English accent and uses regional slang, which reveals information about his background. While he is not polished, he is pleasantly jovial and lively.

He is looking for a job in sales or consulting – he likes human engagement, *'a bit of customer contact'*. He cherishes building relationships, and so doesn't want to *'be kind of just stuck behind a desk, working on my own'*. Elliott has taken part in several AVIs with a range of major companies. He has found the experience disorientating and stressful. When we asked how he feels about this kind of interview he said:

*'Erm, it might be a bit of a strong word, but maybe a bit of dread, just because they're, they're just so awkward. I don't really like doing them because you're just talking to a camera.... I just find it stressful. Yeah, because in a real interview, obviously, you've got someone to ask for clarification and an interviewer to kind of push you on a bit if you need a bit of guidance.'*

Every time Elliott has had an in-person interview he has had positive feedback. The contrast between the two experiences has convinced him that he performs worse in AVIs than as part of in-person interviews. This belief has a demotivating effect for him, so much so that, in comparison with more motivated candidates, he invests very little effort in improving his performance in AVIs. This demotivation is also guiding his job application choices. He told us that he intends to apply only for jobs where companies offer in-person interviews.

*'Since I don't perform well in the video interviews ... I don't really care that much. I do not want to invest loads in them 'cos I know I'm probably gonna cock it up anyway.... But it's making me think I want to work for a smaller company, just because these big companies obviously have video interviews because they have so many applicants, and they're not, probably not, that personal anyway. So yeah, it's definitely making me think of going from these big grad schemes to maybe smaller local companies. So I think definitely, it's, it's had a kind of a shift in my mindset, because before it was I want to work for like a big sort of MNC, but now, yeah, after kind of some of the applicant processes, I'm thinking maybe it would be better to work for a smaller local company.'*



# What does this mean for employers, platforms and advisors?

**Evidence from employers – drawn from large-scale surveys and qualitative information – indicates that when recruiting they are looking for candidates who can demonstrate soft skills and employability attributes alongside the credentials and qualifications that indicate their technical capability for roles.<sup>7</sup>**

When employers use AI platforms to assist in recruitment, it is important that they understand how the platforms incorporate their recruitment criteria and indicators that assess candidates' qualities and attributes.

Questions surround both how and how well algorithmic decisions about candidates' qualities are made. For example, is it sufficient that AI records the number of times a candidate says 'I' versus 'we' in their responses when assessing attitudes to teamwork or does a simple formulation such as this mean that employers are missing meaningful information that would assist them in their recruitment decisions?



Equally, to be able to demonstrate the qualities that employers are seeking, young people need to understand how the technologies work. The research underlying this toolkit indicates that relying upon AI without understanding it creates disadvantages for candidates, even well-educated ones. Young people with less experience of technology and those who are more marginalised face particular obstacles. Companies hoping to establish or maintain a diverse workforce should be aware of those limitations prior to making decisions about AVIs in recruitment. Synchronous, face-to-face or video-facilitated interviews are better understood by employers and candidates and recruitment platforms do not fully emulate these.

07. [Newton B, Hurstfield J, Miller L, Page R, Akroyd K \(2005\) What Employers Look for When Recruiting the Unemployed and Inactive, Research Report DWPRR 295, Department for Work and Pensions, Oct 2005](#)
08. [\(Raghavan et al., 2020\)](#)
09. [A report published in Nature stated that no reliable evidence has been found that AI can detect emotions \(Crawford, 2021\)](#)
10. [Researchers at MIT argue that personality traits cannot reliably be predicted using intonation \(Wall & Schellmann, 2021\)](#)

# A quick guide to the AI technologies used in AVIs

**The technologies used by platforms is constantly changing and there is limited information available on how platforms use AI to screen candidates.<sup>8</sup>**

However, broadly, there are three main forms of screening technology. These can be combined and claim to assess personality traits, genuineness, skills, capabilities, language proficiency, and emotions.

WHAT ARE THE MAIN FORMS OF AI IN AVIS?		
 <b>VIDEO-BASED</b> Also known as: Visual inputs	 <b>TEXT-BASED</b> Also known as: Verbal inputs	 <b>AUDIO-BASED</b> Also known as: Vocal inputs
WHAT DOES THIS MEAN FOR HOW IT ASSESSES JOB-SEEKERS?		
Facial expression, eye movement, facial movement  <b>Example:</b> Face Recognition Technologies	Vocabulary, keyword use  <b>Example:</b> Natural Language Processing	Vocal tone, volume, pronunciation, speed  <b>Example:</b> Speech Emotion Recognition
WHAT ARE THE ADVANTAGES AND DISADVANTAGES?		
<b>Pros:</b> Offers predictions about emotions, attention and genuineness. Used to assess attitudes & personality types  <b>Cons:</b> Feels invasive. Accuracy is debated particularly cross-culturally <sup>9</sup>	<b>Pros:</b> Time Efficient Ignores unnecessary information  <b>Cons:</b> May not take context into account. Does not reliably capture meaning.	<b>Pros:</b> No additional hardware required. Does not rely on visual information  <b>Cons:</b> Candidates with accents or from diverse backgrounds may be misinterpreted. Accuracy is debatable. <sup>10</sup>

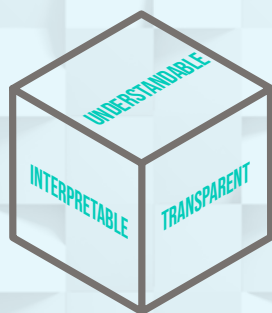
## How can we bridge the AVI digital divides?

**The starting point should be a 'glass box' approach that is transparent about the technology and how it is used. This would bring advantages for:**

- candidates, enabling them to perform their best during AVI interviews that use AI; and
- employers, ensuring a fairer support to candidates, and better access to a wider talent pool for their vacancies.

Adopting a glass box approach would mean careers and employability advisers would be able to better support job-seekers to prepare for AVIs; and hiring platforms would signal their underpinning business ethos and values.

### FEATURES OF THE GLASS BOX



**Understandable:** candidates and employers understand the AVIs function, i.e. how it works; what data are collected, how data are used, and by whom.

**Interpretable:** explanations provided in clear, unambiguous terms, and fully representative of the process that underpins AVI.

**Transparent:** specify the role of AI within the AVI – whether it is AI-passive, AI-assisted or AI-led.

## What does this mean for employers?

**Employers should be curious about whether and how far the platforms will help them achieve the mix of candidates they need from their talent pool, linked to their priorities for equality, diversity and inclusion.**

- Provide clear information to candidates about how the AI recruitment process works. Through this, candidates are enabled to adapt their interview style appropriately, rather than assume unnatural postures, gestures or language, when these are not taken into account. This will support candidates to show their authentic selves during AVIs and feel confident and free from perceptions about their differences compared to others.
- Balance the use of AI tools with human approaches to build genuine relationships during the recruitment process and ensure selection of candidates with the attributes and values the company requires.

Adopting a glass box approach would mean careers and employability advisers would be able to better support job-seekers to prepare for AVIs; and hiring platforms would signal their underpinning business ethos and values.

What inputs does the AVI tool assess?	Assessments using video or audio-based inputs could be detrimental given questions over accuracy. <sup>11</sup>
What impression of my company does use of this platform give?	Using AI instead of human interviewers may make the company less attractive to candidates. <sup>12</sup>
What information can I provide to support candidates to understand the AVI process?	A glass box approach will mean candidates understand what is being assessed and act accordingly. <sup>13</sup>
What does the platform do to mitigate bias in recruitment?	There is a risk that algorithms can replicate and amplify human biases. <sup>14</sup>
How many candidates might be rejected through this process?	AVIs can mean all candidates are interviewed to create the shortlist leading to high interview rejection rates. <sup>15</sup>
What information is available for candidates and is it objective?	Platforms may provide limited and subjective information. Employers as clients could require platforms to improve information.

11. (Newman et al., 2020)

12. (Wesche & Sonderegger, 2021)

13. (Langer et al., 2021)

14. (Köchling et al., 2021)

15. (Black & van Esch, 2020)

## What does this mean for careers and employment services?

**Careers and employment services need to ensure they are well informed on the role now being played by AI in recruitment processes in order that they can better support their client groups.**

There is also a need to build resources to enable candidates to upskill. This might involve creating practice areas and feedback tools to support people to feel more comfortable when using AI by extending existing offers of mock face-to-face interviews and providing tips about establishing how AI is used and the implications for candidates.

- Create a robust support system for candidates. Careers and employment services should develop a better understanding of how hiring platforms function and develop public awareness campaigns and other information resources for candidates.
- Build candidates' understanding of how the different AVIs work and what they need to know about how bots reach judgements.
- Young people need information and preparation. This can start with careers and employment advisers building their knowledge so they can help candidates navigate the technologically-facilitated recruitment process. Part of this should focus on equipping candidates to ask questions before taking part in AVIs particularly, so they understand how their performance will be assessed and can act accordingly.

### Checklist for careers and employment services

1. Do you cover different types of interviews when discussing how to navigate the recruitment process with young people?
2. Do you understand the different forms of interviews and implications for how candidates need to approach these?
3. Do you ask employers about the recruitment process for their specific vacancy; the stages involved and whether and how AI is used?

## What does this mean for platforms?

**Platforms need to be explicit on the capabilities of their technologies and what the AI can assess on employers' behalf. This needs to move beyond the perceived benefits to the choices employers have for the role AI will play in the process.**

Platforms to recognise job-seekers as a key stakeholder in AVI market and ensure transparency for them. Such recognition is even more pivotal in the context of the Black Lives Matter movement and widespread calls for gender equality.

- Embrace a glass box approach; not over-promising objectivity but focusing on transparency and implementing measures that aim to mitigate bias in the AI-assisted AVI.
- Be open about how technologies work with candidates. Explain what AI measures and how they record data. AI technologies can affect the emotional wellbeing and integrity of candidates or raise concerns regarding data privacy. Resolving information needs rapidly is ethical and could be a selling point.
- Create a culture of privacy and of informed consent. Employers and platforms need to request consent from users to collect and store their data and inform candidates about the ways in which their data are being used. They need to regularly review approaches in order to ensure alignment with relevant policies as they evolve.

### Questions for platforms

1. Are you offering enough information to employers and job candidates about what will be assessed and how?
2. Do your technologies adequately accommodate cultural and linguistic diversity?
3. How does your platform meet the needs of candidates with any type of physical or learning disability?
4. Does your platform provide mechanisms for candidate feedback based on the data and assessment led by the AI or employers?

## Dig deep – a selection of evidence on AI in recruitment

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