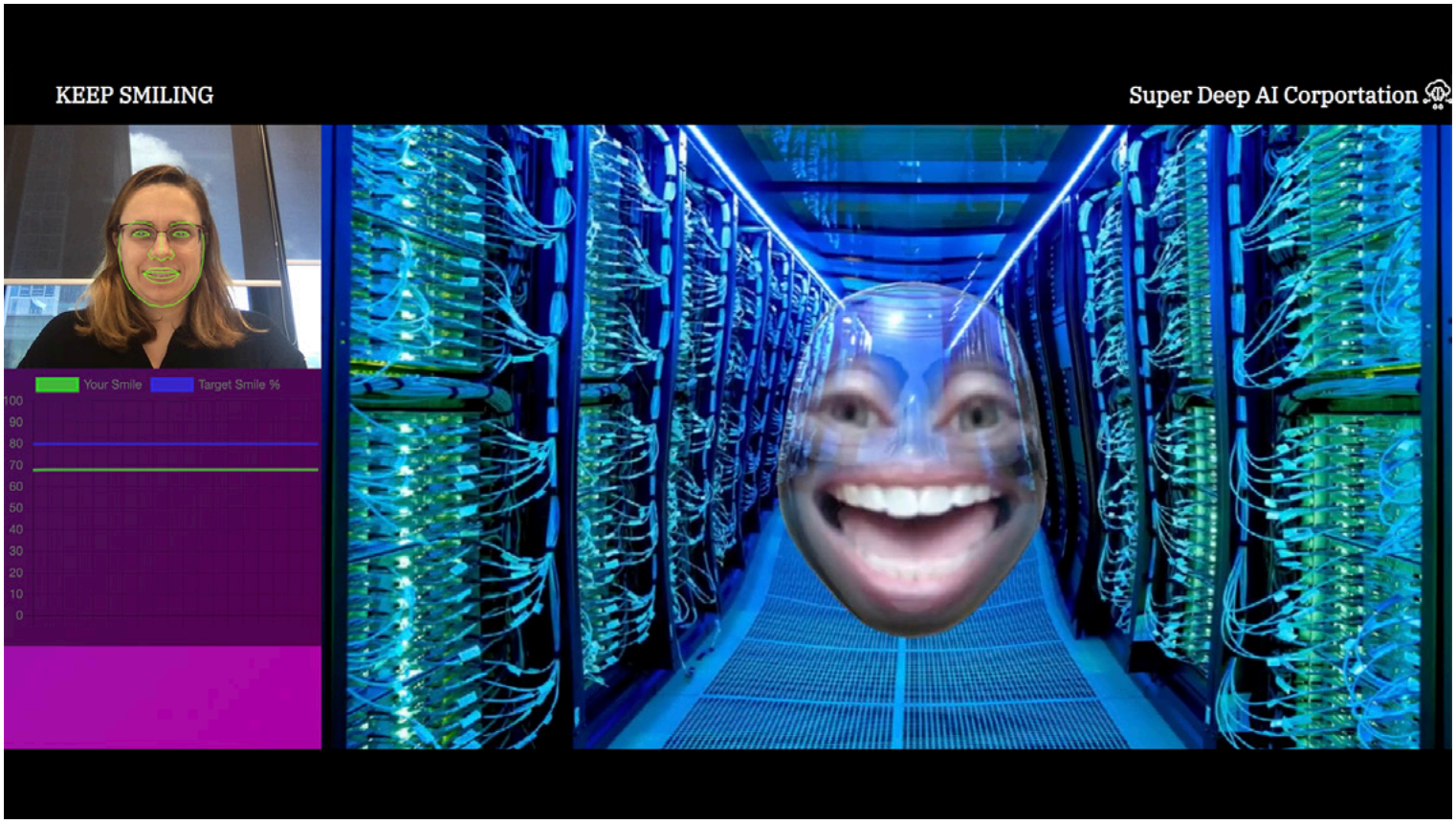

Keep Smiling

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Keep Smiling is an online interactive experience in the form of a job interview conducted by an AI agent. The agent asks the participant to smile, to smile even more, and to count objects she/he can see through a nearby window while continuing to smile (the system intends to extract the maximum profit from the human participant). Throughout this interaction the participant's face is detected via a webcam and the smile is rated against a happiness meter. As soon as the participant's smile rating drops below average, she/he is fired and the interview is terminated. The artwork draws attention to the highly automated and monitored world in which the responsibility for making decisions has been handed to machines and algorithms, and our emotions are evaluated without our consent. By interacting with the artwork we can experience just how unreliable an emotion detection algorithm can be despite its widespread deployment in our everyday lives. The artwork incorporates a number of elements from the AI industry, illustrating how decision-making and labour culture have been transformed by technology and the absurdity of basing key elements of this culture on the extraction of data and behavioural monitoring of subjects.

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Description

Smiling plays an important role during any job interview, often diminishing or increasing one's chances of being hired (Krumhuber et al. 2009; Ruben et al. 2015). The study by Krumhuber et al. shows that it is generally better to smile rather than maintain a neutral face and suggests that the quality of a smile is an essential factor in hiring decisions (Krumhuber et al. 2009). In contrast, the study by Ruben et al. indicates that less smiling is better for some types of jobs interviews, and that the timing of the smiles is very important (Ruben et al. 2015). All of these evaluations of smiling are highly subjective and would be extremely difficult to represent in machine code. Nevertheless, autonomous affect recognition algorithms are widely deployed and are highly profitable.

Artificial intelligence (AI) technologies are increasingly utilised to replace human decision-making in numerous fields from medical diagnoses to job interviews and employee disciplinary meetings. For example, 'Human', an AI-hiring startup based in London, promises that their algorithm can determine the best candidates for a client employer by analysing each interviewee's emotional expressions; and there are hundreds (if not thousands) of other companies, such as HireVue, Emotient, and Affecta, that deploy affect-detection systems for describing the human inner state and personal qualities. Meanwhile, there is no reliable evidence that it is possible to accurately predict an emotional state from a face expression (Barrett et al. 2019).

It appears that humanity has arrived at a moment when machines have been empowered to make decisions about and on behalf of people while ignoring all of the subtle, sensitive and emotional information that a typical human can take into account. For example, it is a known fact that Amazon applies automatic tracking of its employees' movements in its warehouses (Lecher 2019). Further, these automated systems may initiate the dismissal of a worker if his/her performance has dropped below a set average (Lecher 2019). Of course, this AI algorithm does not consider all the human reasoning for working slower than other days. At the time of writing this article, there have been several protest actions by Amazon workers, arguing that they should not be treated as robots and demanding more humane working conditions (Sainato 2020). More recently, Amazon workers in the US have succeeded in forming a new workers' union organization to help protect their rights (Sherman 2022).

Despite its evident shortcomings, it appears that AI has become the new golden calf and one that is followed blindly: algorithms will make decisions and the worker must obey them; instead of shortening our working hours, they are increased; we are paid less for our work output; and our job positions are increasingly insecure. This is how AI-powered efficient automatization functions. At the same time, the businesses that supply and employ this technology continue to benefit financially.

Keep Smiling is an artwork that stages an online interview with the audience. The hiring process begins when the participant clicks 'start interview'. The process is driven by the 'Super Deep AI' agent, which is the visual representation of an AI algorithm (see Figure 1). The only thing evaluated by the algorithm is the participant's smile rating, which determines whether the interviewee will be dismissed. By conducting the interview the system aims to extract the maximum profit from the participant. The artwork incorporates a number of elements from the AI industry, illustrating how decision-making and labour culture have been transformed by technology and the absurdity of basing key elements of this culture on the extraction of data and behavioural monitoring of subjects. For instance, similar to Amazon's 'picking rate' the artwork evaluates the interviewee's 'smiling rate'. If the participant performs below the set 'smiling rate', she/he is dismissed. Although it is difficult, if not impossible, to judge any individual's happiness with any degree of accuracy, AI emotion-detection algorithms are deployed exactly for this purpose in real-life applications. *Keep Smiling* enables the audience to experience directly how unreliable AI is in detecting and codifying emotions.

The recent surge of new deep-learning models has emphasised again the relevance of the term "technological unemployment", coined in the 1930s by John Maynard Keynes in relation to the loss of jobs to technology (Keynes 2010). Machines are performing a rapidly increasing number of jobs that were previously performed by humans. In addition to handing over repetitive manual tasks to robots, we also ask machines to solve problems using artificial intelligence and machine learning. Carl Benedikt Frey and Michael Osborne have studied the probability of computerisation of over 702 occupations in the US and found that approximately 47% of Americans are employed in roles that are at high risk of automation as a result of recent and anticipated advances in AI and machine learning (Frey et al. 2017). Studies in the UK and Japan put the figures at 35% and 49% respectively (Morgenstern 2016).

While we are occupied with thinking about humans being replaced by robots, our experience of work itself is also changing as we are subject to increased surveillance, algorithmic assessment, and the modulation of time. Furthermore, this collaboration between algorithmic systems and employees is not being negotiated fairly (Crawford 2021, 56). *Keep Smiling* vividly illustrates this situation of humans being forced into engagement with AI systems by constant monitoring, automation and evaluation.

Time privatization is another issue. In the artwork, it is introduced by the agent accidentally naming the customers as "products" at the beginning of the job interview. Next, apart from smiling, the Super Deep AI agent gives discrete little tasks, such as counting cats, zebras, and humans, to the participant. This aspect of the artwork refers to the way that in AI systems larger processes are broken into tiny tasks such that we hardly notice how we all engaged in providing training

data for the algorithms to learn from in order to process vast amounts of complex data, much like Google's image recognition algorithm CAPTCHA is trained by its engagement with millions of users. As Kate Crawford states: "[...] the myth of AI as affordable and efficient depends on layers of exploitation, including the extraction of mass unpaid labour to fine-tune the AI systems of the richest companies on earth" (Crawford 2021, 69). The term 'fauxtomation' was coined by writer and artist Astra Taylor to describe the deceptiveness of apparent automation that in fact relies heavily on human labour, and we can see that it applies also to an AI is that is neither artificial nor intelligent because it requires extensive human interaction and its putative decisions are anything but intelligent. Ultimately, the pillars on which AI technology is based are low-paid and unsecured workers. As Jeff Besos himself put it, it is artificial artificial intelligence.

In summary, the artwork aims to scrutinize automated hiring, skills-testing, and dismissal systems. The artists reflect on the implications of AI use in the hiring process by providing this interactive artwork with dark sense of humour whereby participants are confronted by a 'master' artificial intelligence agent that requests the interviewee to smile, and to keep smiling for an indefinite period since of course the AI itself would never grow tired.

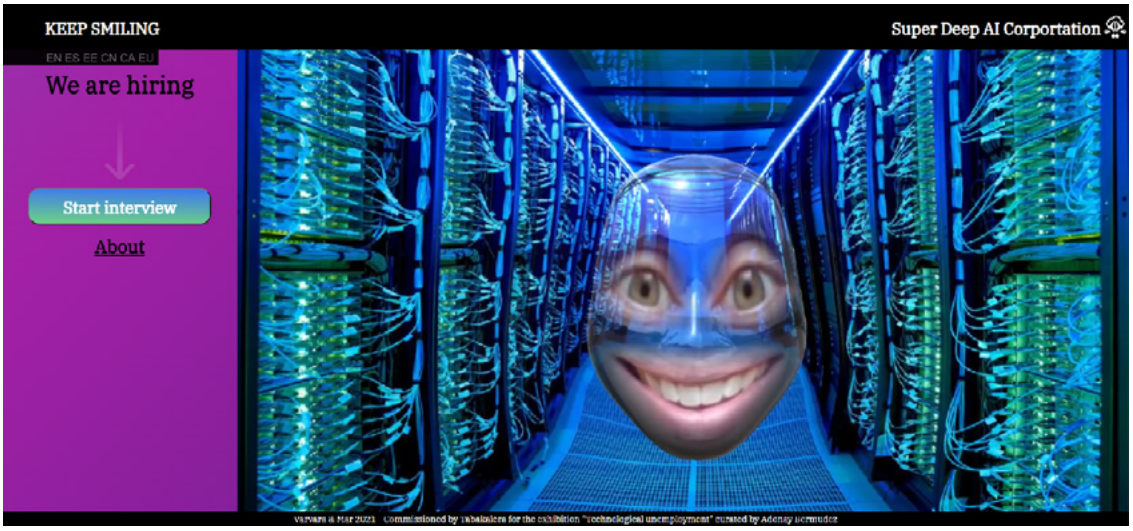


Fig. 1. A screenshot of the Keep Smiling webpage (https://keepsmiling.var-mar.info/).

Related Work

Several artworks address the problematics of face detection and emotion recognition. Affect recognition was first introduced as in the form of universal emotions by American psychologist Paul Ekman, in the 1970s, and developed into the Facial Action Coding System (Ekman and V. Friesen 1978). One of the firsts artworks utilizing facial attribute classification was a video work by Christian Moeller, titled *Cheese* (2003), in which the artists asked six actresses to smile for as long as they could in front of a camera. In the artist's words: "Each ongoing smile is scrutinized by an emotion recognition system and whenever the display

of happiness fell below a certain threshold, an alarm alerted them to show more sincerity. The performance of sincerity is hard work" (Moeller 2003).

Another example is *Random String of Emotions* (2018) by Coralie Vogelaar, which explores the absurdity of affect analysis procedure. Vogelaar's emotion recognition software analyses a sequence of randomly formed expressions placed in random order, challenging the software to discover new (non-existing) emotion expressions (Vogelaar 2018). Exploring the errors in emotion recognition technology is a common interest among the projects presented here.

The interactive artwork *Smiletovote* (2018) by Alexander Peterhaensel asks the audience to smile in order to be allowed to vote, and assigns to each participant a selected political party based on analysis of their face. The artwork addresses the problematics of AI biometric scoring by creating a fictitious 'GovTech' startup (Peterhaensel 2018). This artwork employs an interaction method and imitates startup aesthetics by its use of a fictional company, thereby simulating a speculative pseudo-reality that is staged for the audience to experience the artist's proposed narrative.

Technical Realization

The online artwork *Keep Smiling* is a web-based interactive experience developed in html5, JavaScript, video, and using webcam. All computation takes place on the client/user side within the browser, no computations are performed by the server. The artwork can be experienced in different languages, but the audio of the AI agent/recruiter is always in English with the selected language shown in subtitles (see Figure 2). The video translation is realized by subtitles standard implementation for HTML5 using SRT files.

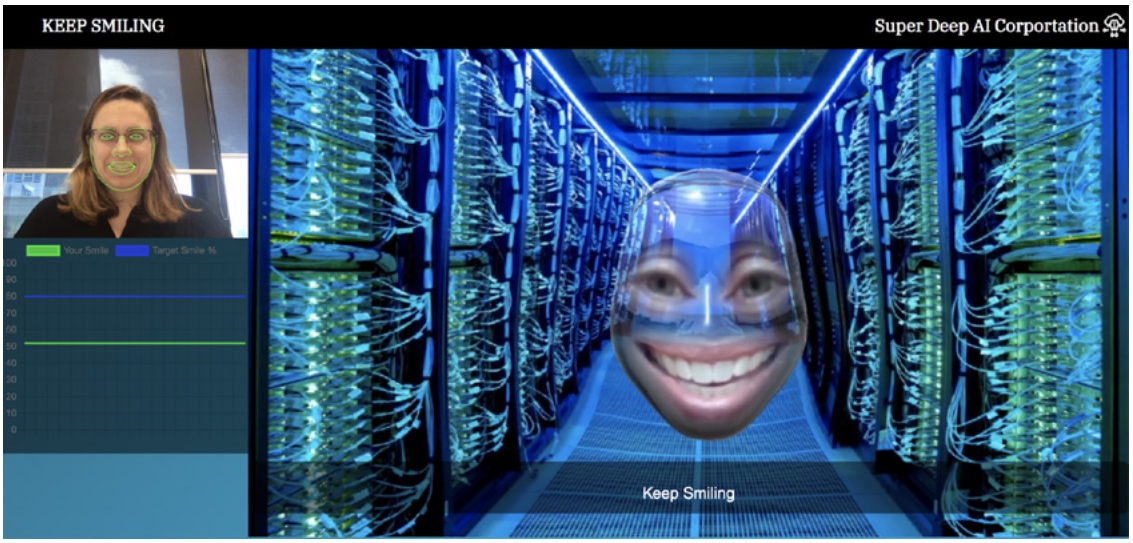


Fig. 2. A screenshot of the *Keep Smiling* interview process (https://keepsmiling.var-mar.info/).

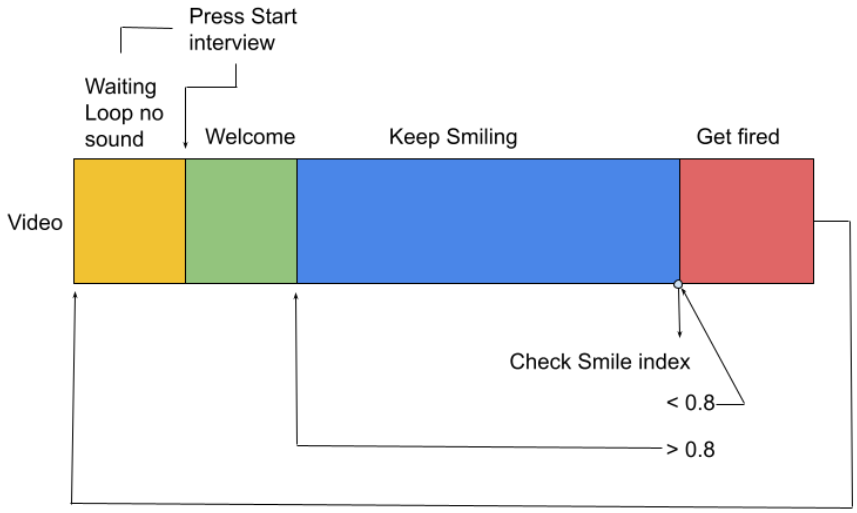
Although the 'Super Deep AI' agent looks like an intelligent application, in reality it is simply a video made with the aid of a Snapchat filter developed by the artist.

1. Clmtrackr is a JavaScript open-source library for fitting facial models to faces in videos or images published in Github by Audun M. Øygard: https://github.com/auduno/clmtrackr

2. Chart.js is a flexible JavaScript open-source library for charting for developers and designers: https://www.chartjs.org/

The facial emotion detection utilises open-source library clmtrackrv[1] by Audun M. Øygard. The webcam image of the interviewee is displayed along with detected facial features rendered in the foreground using clmtrackrv, which helps an interviewee to understand whether the algorithm is accurately detecting the face and how much smiling work is required of the participant for their smile to achieve the necessary smile rating. The smiling data visualization is displayed in a multiline line chart developed in Chart.js[2] library. The graph shows the average smiling of the interviewee as a green line while a static blue line shows the target level necessary to avoid the interviewee being dismissed by the agent (see Figure 2).

Fig. 3. Flowchart of the artwork.



There is a logic behind the scenes of the system that is controlling participant interaction. The interview begins with a welcome phase, which is followed by encouragement to keep smiling and the extraction phrases, which comprise a single video file with a duration of 6 minutes and 23 seconds. Evaluation of the participant's smile happens on the 6th minute. If his/her average smile rate is over 0.8, then the user is sent to yet another round of smiling. Otherwise, the dismissal phase of the video is played and the participant experience will be terminated. In order to try again, the participant needs to press 'Start Interview' again. Figure 3 illustrates the logical process of the online interactive artwork. However, if the participant tries to archive a smile rate above 0.8 average of the index the system will continue the interview indefinitely until the participant can no longer achieve the 0.8 rating. However, the AI agent will continue to check and notify the interviewee if their smile level falls below the requested standard, ending the interview.

Available at: https://keepsmiling.var-mar.info/

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