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01

Artificial Intelligence: A Friend or Foe in the Job Hunt?

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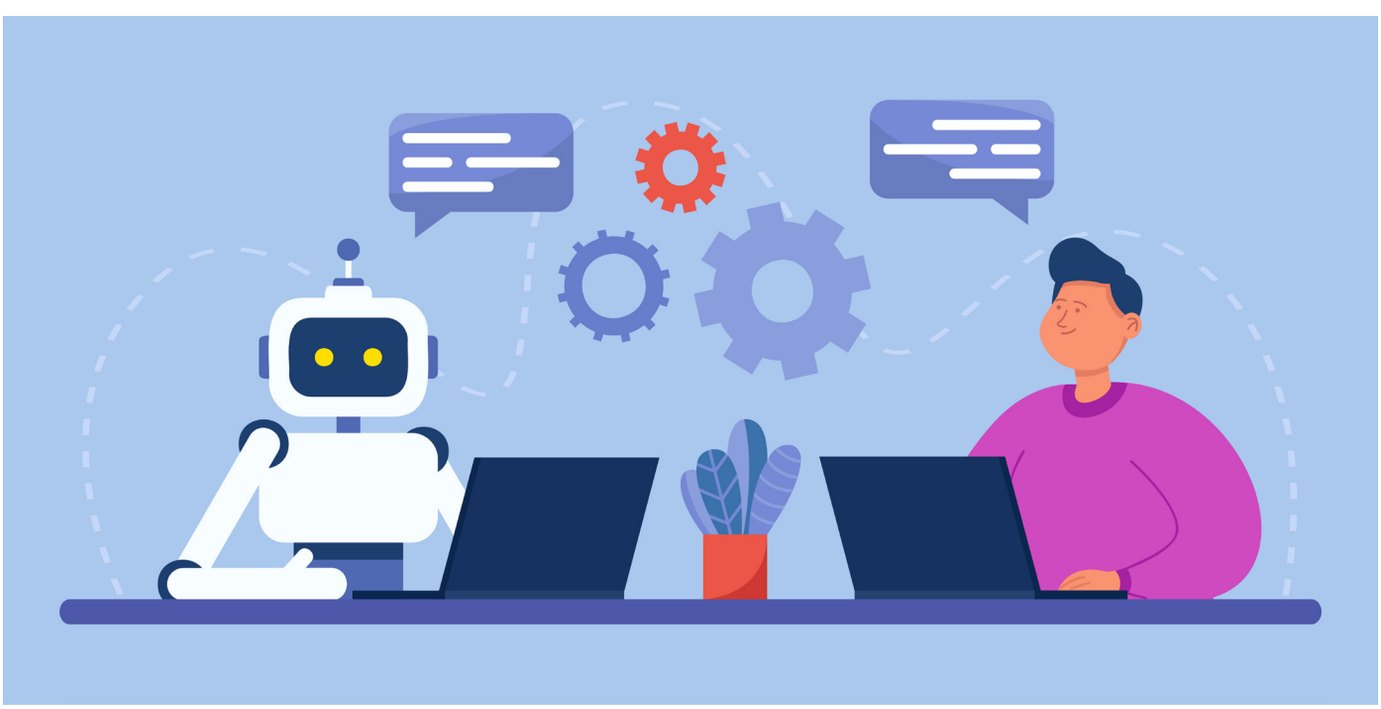
Nowadays, it is becoming more common for major companies such as Unilever, Intel, and L'Óréal to utilize AI software to efficiently evaluate and filter job applicants [1]. Although there are advantages of using AI for the recruitment process, there are also disadvantages.

Resumes are the first thing that recruiters use to evaluate whether the job applicant can proceed for an interview. Depending on the company, the number of resumes for a job post can vary, but 250 is often the average [2]. Due to the large number, it is very time consuming for recruiters to look through all of them. Therefore, companies rely on AI software such as CVViZ, which sifts through each and identifies the keywords that match the job description [3] as well as qualifications needed to perform the job such as past experiences, education, and certifications [3]. After identifying the specific keywords for the job, it would score the resumes according to the number of keyword matches and rank them accordingly [3].

The next step of the job application process is the interview. Instead of a human, it would be with an AI software such as MyInterview. For 60 to 90 minutes, job applicants would answer questions via webcam and



microphone [4], while their facial expressions, tone of voice, eye movements, and problem-solving skills are monitored [4]. It can then analyze the data to narrow down the most promising candidates.

There are disadvantages to keep in mind with this option however. Whether it is for evaluating resumes or interviews, one is that it can also have its own biases and may not pick even the most qualified candidates [5]. This unfortunately happened at Amazon in which its AI software penalized resumes that had the word "woman", due to Amazon's computer models observing patterns in resumes over a 10-year period [5]. At the time, most of the resumes came from men, which was why the AI software favored the resumes submitted by them [5]. Another disadvantage is that AI software lacks human judgment [6]. There would be times when it does not give a comprehensive picture of the applicant's work ethic or character [6]. These would be the moments when a human recruiter would be more reliable than the AI to evaluate and conduct interviews. Last, a disadvantage of the AI interview software is that it can make the applicants uncomfortable, causing even the most qualified applicants to feel anxious and miss opportunities [7]. AI software is far from perfect. However, if improved, companies can use them to efficiently evaluate job applicants - saving time, money, and effort.

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02

How Successful Was GDPR?: Considering the Data 4 Years In

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Since the EU's GDPR was implemented in 2018, it has been celebrated by both the European Commission and related stakeholders. However, some of the EU's own policymakers have recently started to publicly question its success. The first to do so, Wojciech Wiewiórowski, European Data Protection Supervisor, expressed his doubts in a recent interview with POLITICO and said that he thinks there are parts of the regulation that must be adjusted to accommodate our current reality [1].

As he mentions in his interview, most of the criticism comes from the fact that Internet companies are regulated by the national agency where the company's headquarters are located. This causes differences in the investigative process and enforcement time of data protection laws across EU member states. For example, Google, whose European HQ is in Ireland, has faced complaints about its data collection practices since 2018 and Ireland's Data Protection Commission's probe is still ongoing [2].

On top of Mr. Wiewiórowski's comments, there is growing evidence of market disturbances that the EU's policy has caused. In an NBER working paper from 2018, Jia et al. found a significant decrease in the

number of EU ventures that received investment funding as well as a decrease in the investment amount on EU ventures relative to their US counterparts [3]. Similarly, a survey by Merrill found that about 55% of respondents who participated in M&A projects in 2018 said they worked on deals that failed due to concerns about potential data protection issues of the target company [4].

Such studies beg the question of whether there is someone who clearly benefited from GDPR. A study by Cliqz, a German web-browser company, suggests that Google and Facebook benefited in terms of larger ad market share compared to smaller online ad operators. Using data from WhoTracks.me, the researchers from Cliqz found that in the months after GDPR was implemented, smaller online advertising firms lost between 18% and 31% of ad trackers, while Facebook has lost only about 7% and Google even gained 1% [5]. The take-away from this study is that their dominant position helped big advertisers such as Google to retain their strong position in the online ad market, arguably thanks to their large legal departments which are unaffordable for their smaller competitors.

According to the interview, Mr. Wiewiórowski's efforts are now to collect enough evidence for the new European Commission which will take office in 2024. If his efforts are joined by others, we may expect changes in one of the most influential Data Protection laws when the new EU commission takes office. Although it is difficult to design the right data protection policy, working towards the goal of new amendments not disturbing the innovativeness of both European and non-European Internet firms would be recommended.

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03

Artificial Intelligence and the Entertainment Industry: Exploring New Paths

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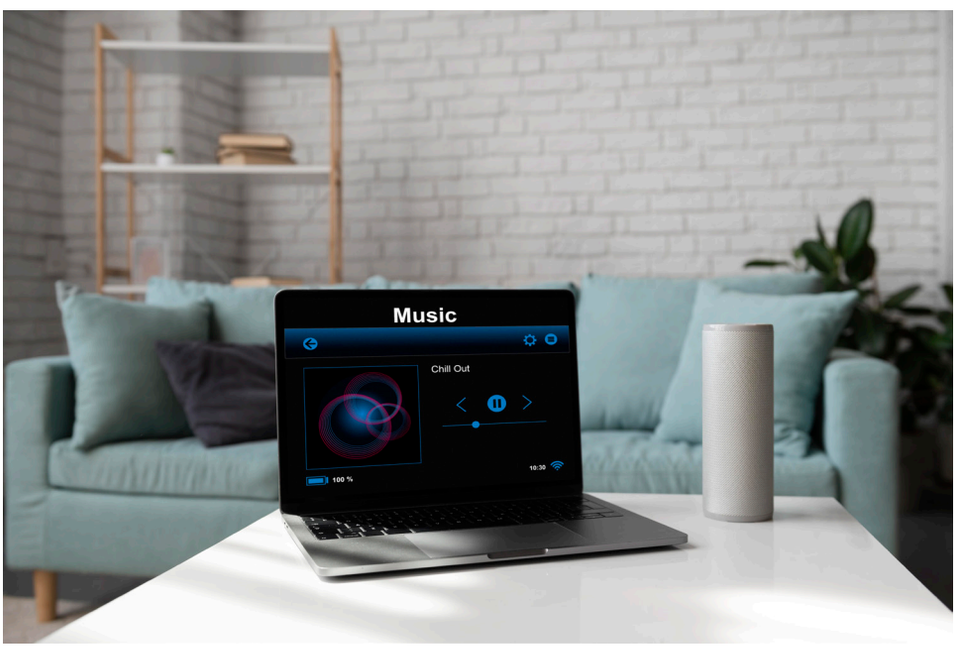

As well as reducing costs, automation through AI in various industries is expected to increase productivity and effectiveness [1]. In entertainment the scenario is not different, with companies disrupting their own frameworks and common definitions of products while rethinking their work through AI lenses.

An example can be seen in Brazil, with the ongoing development of TV 3.0, the next Brazilian TV system evolution. It will use artificial intelligence to make better choices in stage production. Edge AI, the use of in-device capabilities to run AI applications instead of running them in the cloud, will assure success in operationalizing these procedures, and will improve the experience of watching TV by sharing and analyzing real time data from the viewers [2].

Another example is home devices, with Alexa's (Amazon's voice command service) new feature. Alexa can now mimic the voice of deceased users - during the latest Amazon keynote, a boy asked Alexa to read a story in the voice of his late grandmother. According to the company, adding "human attributes" to AI systems is increasingly important, especially in a pandemic, when many people have lost loved ones [3].

These transformations can also be found in video games, where AI-based responsive interaction systems

that are adaptive and intelligent play an important role in creating better experiences for users [4]. AI is often used to control non-player characters (NPCs) in the video game industry. In the 1990s, finite state machine (FSM) algorithms were introduced to video game development, allowing these characters to respond to the player's action with its pre-programmed responses. However, future AI development in video games will not focus on enhancing NPCs', but on the creating of better and more unique user experiences, collecting data from players in real time, and offering responses based on daily interactions [5].

AI music is also advancing at a rapid pace. Artificial intelligence has aided the music industry in the identification of new artists and repertoire by finding the next breakout star or style. Last year, Warner Music Group purchased a software start-up that employs an algorithm to analyze social, streaming, and touring data to detect emerging artists [6].

Finally, the possibilities for artificial intelligence in movies are limitless. Writing scripts, assisting with pre-production, predicting a film's success, selecting actors, and even promotion are all tasks that AI can improve and are already being developed as new technologies to be used and fundamentally change the industry [7].

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04

Cloud and Security: What Will Happen as the Recessionary Clouds Brew?

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As the recession starts picking up as topic of conversation in the United States, many companies are now looking over their budgets to control costs and see where they can cut down. In such cases what has been found is that even despite a predicted recession, cloud computing, security software, and digital transformation will still be on the top of the lists for most Chief Information Officers (CIOs).

As seen from the global lockdown caused by Coronavirus (COVID-19), the impact of this pandemic created a need for accessing critical information, paving the way for cloud technology and software security in a time when work became synonymous with online presence [1]. Cloud computing in particular has had a major role in the COVID-19 pandemic by providing communication and information in organizations and industries from the government to education to healthcare [1]. Following suit, it was also seen that cloud computing allowed for some countries to combat COVID-19 not only in the education and health sectors but in economic and commercial ways as well [1]. Tech companies became more reliant during this time with work from home increasing and many programs pushed out advanced features to appease and assure

consumers who were now working in such predicaments [1]. As a result of this, cloud computing began to strengthen its role as a pillar for countries who were lacking a digital infrastructure, providing help by attempting to mitigate the effects of the pandemic in favour of an alternative solution [1].

Opposite this case, but still along the same lines, security software, particularly regarding the concerns over software failures and the Cost of Poor Software Quality (CPSQ) started making way as low-quality development practices began to get highlighted due to the change of work environment [2]. Data leakage has become one of the key causes of a business' collapse and with cloud computing being so interconnected either directly or indirectly with many businesses, if any should happen it will not only cause failure externally but internally as well. Software failure is not only a concern in regards to defects in the program but rather a larger problem, the potential infiltration of the cloud or server, creating in such cases an added "waste" due to the increase cost that would accrue [2]. To prevent such errors and losses, prevention is key, providing that software shows should:

- Ensure regular analysis of source code to detect and vulnerabilities [2]
- Use known practices while benchmarking along the way [2]
- Pay attention to "defined quality objectives" and "the measures against these objectives within the project lifecycle" [2]

By seeing how things have played out during COVID-19, as the United States falls back into its 'normal,' a recession will take an interesting turn given the involvement of technology and the implementations of cloud computing which are already so heavily used in the current work environment.

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05

Semiconductor Chip Shortage Leaves Automotive Industry Scrambling

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The global shortage of semiconductor chips has forced a near-halt to production of automobiles around the world. After beginning in 2021, the shortage forced the industry to produce 11 million fewer vehicles than average, resulting in a $200 billion catastrophic loss for even the biggest companies [1]. In February of 2022, Ford was forced to shut down production at eight of their assembly plants in North America [2], while General Motors closed a plant in Kansas City for 10 months due to lack of chips. Mercedes-Benz chose to utilize their chips for expensive models and temporarily placed a shut down on factories that produce lower-priced sedans. Porsche had informed American dealerships and buyers that they may have to wait over 12 additional weeks to get their cars, because they do not yet have access to a semiconductor chip used to monitor tire pressure [3].

The automotive industry relies on these semiconductor chips for a number of reasons. First, they are used to streamline the technology and for items such as digital displays, entertainment systems and complex features like assisted parking [4]. In newer models, these chips are necessary for key functions to work, such as window monitors, GPS map systems, and fuel injection [5].

It is said that chip shortages are forcing customers looking to buy a car on a 6 to 12 month waiting list, meaning that consumers are seeing the effects of the shortage firsthand [4]. However, this is not the only impact of the chip shortage. Car prices during the shortage have risen sharply, setting a new record-high for prices every month for the past nine [6]. In November 2020, the average buyer paid almost $3,000 below the sticker price, meaning that consumers were getting discounts on the price of cars put out by sellers. However, almost a year later in December 2021, the average non-luxury car buyer paid $900 over the sticker price, increasing payment by about $4,000 dollars. In addition, for those looking to buy luxury cars, on average, they paid $1,300 above the manufacturer suggested retail price (MSRP) during the chip shortage [6].

Semiconductor chips are crucial to not just the automotive industry, but technology industries. While the world has seen firsthand and felt the impacts of the shortage, one thing is certain - if the chip situation is not rectified, the industry may face monumental collapse.

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