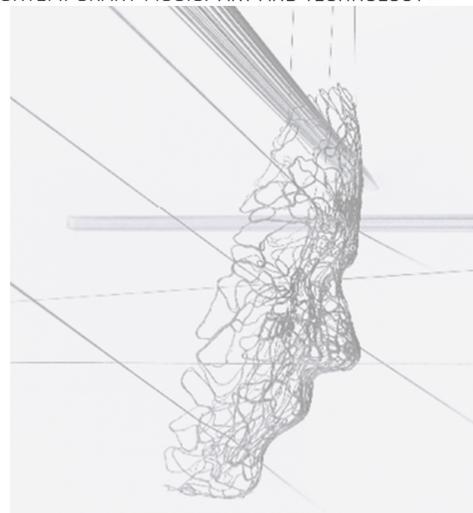
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Srđan Atanasovski
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Srđan Atanasovski* Institute of Musicology SASA Belgrade, Serbia

ARTIFICIAL INTELLIGENCE, POST-WORK AND MUSIC LABOR

Abstract: The recent – purportedly rapid – development of artificial intelligence (AI) tools has again resurrected the actuality of post-work u-/dystopias. Drawing on discursive topoi which have become popular since the post-WW2 automatization surge, AI post-work now advances into the field of white-collar labor, but also creative, artistic, and even music labor. In this paper I aim to analyze the emergent arrival of the post-work thesis into music labor. I will draw on prominent critics of automatization, AI and post-work discourses, such as Pierre Naville, Aaron Benanav and Jason Resnikoff, to show that these discourses are not only unsubstantiated, but are instrumentalized in order to depreciate the value of concrete labor in music production.

Keywords: artificial intelligence (AI), automatization, post-work, music labor, creative labor.

Al and post-work

The latest advancements in artificial intelligence have received significant media attention and have shaken the way we use many internet services. For the first time, ordinary users now have access to tools that can seemingly effortlessly produce texts on given topics, generate photos, and in extreme cases, even write entire short stories and student papers. Professional PowerPoint presentations

^{*} Author's contact information: srdjanatanasovski@yahoo.co.uk.

and detailed legal opinions can now also be created with the help of artificial intelligence. It seems that, after a decade of science fiction novels and a series of blockbuster movies depicting androids and smart computers collaborating with humans on an equal footing, artificial intelligence has not only become a reality but is now readily available on open internet platforms where every ordinary person can witness its effectiveness.

Alongside the development of artificial intelligence, one fundamental dilemma arises – the future of work. The products that artificial intelligence create on the internet today, from legal documents to high-resolution photos, were until recently the laborious fruits of work in the creative industry, scholarly endeavors, artistic labor and cultural work. With the availability of these services, the question arises – what is the future of creative jobs, and will artificial intelligence become a new cycle of work automation? Will white-collar workers now face what happened to blue-collar workers with the emergence of the post-industrial society?

In his seminal 1964 work *One-Dimensional Man*, Herbert Marcuse (1964), presented the thesis that a society without labor is now within reach.² Although the changes Marcuse describes are not yet entirely realized at the point of writing, his analysis aims to amplify and theorize certain tendencies observed in society. Many automation theorists have followed his lead, with popular studies such as Aaron Bastani's (2019) *Fully Automated Luxury Communism* also positing automation as a premise for achieving a better society – that is, a purportedly socialist utopia of a prosperous, post-scarcity economy (cf. Weeks 2011; Srnicek & Williams 2015). Even more, the proliferation of information technologies such as AI are often seen as "increasing the capacities of the labouring class for self-organized immaterial labour" (Steinhoff 2021, 7). The question arises: what have such conclusions actually done to our societal imaginings?

Whether one may speak of a society where workers control the means of production, or dreams of equality without dismantling property relations of today, if we may agree that contemplating a better society is virtuous, one of the key questions our concepts ought to elucidate is the role of socially necessary labor and how it will be redistributed in a just society. However, the thesis about the complete disappearance of socially necessary labor in a future society negates the existence of this dilemma. According to this thesis, in a future (socialist) society, there will be no need for socially necessary labor or for its democratic distribution. Indeed, technological progress, especially the processes of automation present since the end of World War II, and then the development of artificial intelligence at the turn of the current century, creates the perception in public discourse that we are on the verge of abolishing work as such. Therefore,

Arguably, Marcuse's arguments partly rest on shoulders of fallacious analysis of value production and perspective roles of state and capital within; see Mattick 1972; Bhandari 1999.

as technological advancements enable machines to do all the work for people, labor becomes a mechanism of oppression rather than exploitation. I will argue that this thesis serves as a mask for real social relations in the present and prevents discussion about the fair distribution of socially necessary labor.

At the same time, some labor theorists, like anarchist author David Graeber, put forth the thesis of "bullshit jobs" (Graeber 2018), arguing that today's economy artificially creates jobs, primarily white-collar office jobs, to compensate for the lack of real necessary work. In an era where more and more jobs are being automated, theories about the post-industrial society serve to further sustain the remaining work, particularly industrial work, making it invisible in society.

Critics of post-work theories and discourses on automation and artificial intelligence can be, conditionally speaking, divided into two groups: on one hand, we have an analysis of specific technological processes that reveal the degrees of automation and the exclusion of humans as workers, while on the other hand, we have critiques of the discourse of automation and artificial intelligence itself and its purpose. Critics of automation in the 1950s and 1960s argued that automation in factory settings largely does not necessarily mean a reduction in the number of workers but rather a reorganization of physical labor and jobs in factories (see Naville 1979, 55ff). In other words, while talk of automation was ongoing, what was happening in the reality of factory floors was not a drastic reduction in the workforce but rather a change in qualifications and the structure of jobs in the factories. On the other hand, processes of deindustrialization and the creation of the so-called post-industrial society actually functioned more through the industrialization of the Third World countries and the relocation of factory plants outside the visibility zone of the First World, rather than actually involving the elimination of human labor and complete automation (cf. Moody 1997).

Labor notwithstanding automation

The current way in which artificial intelligence operates, especially regarding white-collar jobs, also resembles these described processes, whereby artificial intelligence and its tools become additional means of labor for white-collar workers, which can result in a change in job profiles and increased productivity, along with the creation of new types of jobs, primarily in the IT industry, which require a large number of engineers to manage the algorithms of artificial intelligence itself. The number of jobs that artificial intelligence actually eliminates, like pre-automatic systems, is relatively small compared to all the stories of mass layoffs we hear, and the number of working hours in specific companies often even increases.

Critics of automation theory like Pierre Naville (1979) and Aaron Benanav (2020) discuss how discourses on automation actually influence our understanding of work. Already in 1963, Pierre Naville (1979) argued that there was an overemphasis on automation with the purpose of creating the semblance that work itself would disappear. Naville shows how proponents of automation theory often portray automation as a solution to societal problems that would eventually lead to the elimination of labor. Critical of this portrayal, Naville analyzed how it obscured the complexities of social and economic systems. He emphasized the need to recognize the continued existence of work and the importance of reorganizing society to ensure equitable distribution of the benefits and burdens of automation. His critique suggested that the focus on automation as a means of eliminating work was misleading and that it obscured the deeper social and political issues at play in the implementation and impact of technological advancements. Economic historian and researcher Aaron Benanav, in his study Automation and the Future of Work (2020), explores the relationship between automation and employment in the context of contemporary capitalism. Examining historical trends in employment, Benanav emphasizes that technological advancements have not always led to mass reduction of work, but that they rather result in shifts in employment patterns. It is also indicative that in popular narratives, the role of automation in shaping employment trends has been overemphasized, while the role of factors such as globalization, financialization, and changes in labor market institutions is glossed over. Benanav shows how by focusing narrowly on automation, the broader issue of precarious employment, deregulation and the erosion of labor rights may be sidelined in public discourse and policy debates. In other words, if there is an overwhelming idea that labor itself is just one step from being abolished, the issues of labor protection and value of labor itself are portrayed as byzantine notions.

All our jobs are to some extent labeled in public discourse as prone to elimination, automation, digitization, under threat of becoming redundant. On the other hand, the remaining jobs are reduced to so-called bullshit jobs, already trivialized and from which it would be most honorable to simply give up. In other words, the vision of a world without work, where all human labor will be transferred to automated robots and artificial intelligence, tends to belittle existing socially necessary labor and justify its underpayment and undervaluation.

In the recent years, authors such as Benanav, James Bridle and Jason Resnikoff have claimed that the popular image of AI leads to a distorted picture that we live in post-work society. Benanav argues that the popular image of AI leading to a post-work society is overly simplistic and ignores the complexities of labor markets and economic systems, while suggesting that while automation may transform the nature of work, it is unlikely to eliminate the need for labor altogether. Author and artist James Bridle (2018) has explored the intersection

of technology and society in his book *New Dark Age: Technology and the End of the Future*. Bridle suggests that the belief in a post-work society is a form of techno-utopianism that fails to address underlying issues of inequality and exploitation.

Labor historian Jason Resnikoff provides the most cutting critique of the post-work thesis. Resnikoff points out that post-work authors argue that if the production in the society can be accomplished "without the participation of the vast majority of people", and if the fruits of this production can be distributed evenly, "this eventuality would constitute liberation". However, even if we would concede that this is achievable, the question arises whether liberation is liberation from "exploitation by other human beings", or "freedom from the demands of embodied, biological existence" (Resnikoff 2018, 210; cf. idem 2021; 2023). Resnikoff stresses that the discourses of automation have shifted our visions of emancipation from being able to control the work of oneself, to being free from work – that is, from the realm of labor to the realm of leisure (Resnikoff 2021; cf. Gourevitch 2022). In his study on automation, Resnikoff (*idem*) offers a line of thinking that can be particularly useful for thinking on effects AI has on music labor: the role of automatization, as well as of "mechanic learning", is to disguise and conceal the role of actual human labor, and by dint of this concealment to depreciate it in the wider social contract.3

Artificial intelligence and music

From the current moment, it is important to reflect on the new wave of artificial intelligence emerging in the third decade of the 21st century, especially in music. We can observe a lively discourse on artificial intelligence that began in the late 20th century when humanity first encountered processors with tremendous computing power, enabling them to surpass human capabilities in certain tasks involving a limited number of computational operations. Devised in 1950 by Alan Turing, so-called Turing Test became a common place for discussing and assessing the existence, or the reach, of artificial intelligence, by assessing a machine's ability to mimic human intelligence in conversation. The test, origi-

The recent academic discussions on "music labor" have often themselves contributed to the obfuscation of the place of the labor in music industries. Particularly through seemingly confusing the role of the producer and consumer, and introducing concepts such as "emotional labor", "affective labor", "unpaid labor", (labor of the) prosumer, etc., the place of the productive labor in the music industry is doubly concealed. In this regard, Shannon Garland's critique of the concept of "affective labor" is particularly useful, as she argues for the much-needed return to the concept of productive labor, that is, (human) labor that produces music as commodity and surplus value (Garland 2023).

nally named imitation game, in which a human evaluator would interact blindly with both a machine and a human aiming to reliably distinguish between them based on their responses, for decades served as a benchmark for safeguarding the title of "artificial intelligence" of existing automata. However, a milestone of the last decade of 20th century was the famous chess match Deep Blue versus Garry Kasparov of 1997, in which a computer defeated a grandmaster, where Deep Blue – a chess-playing program run on a purpose-built IBM supercomputer – thus became the first computer program to defeat a world chess champion under tournament regulations.

The new generation of artificial intelligence essentially possesses certain specificities compared to 20th-century artificial intelligence. The breakthrough in the development of this new artificial intelligence largely relies on new models of microchips that mimic the neural networks of humans, exponentially increasing the number of computational operations. More importantly, these new microchips offer a different architecture suitable for automated learning. Another innovation in the field of artificial intelligence is the development of Big Data, where artificial intelligence produces algorithms that autonomously process large amounts of data, entering into learning processes through such analysis. Finally, the third characteristic of the new generation of artificial intelligence is the so-called black-box model, where the human author of the algorithm is not entirely capable of controlling and explaining how and why the algorithm arrived at a certain result. In other words, the learning process is such that the algorithm reaches results based on the autonomous processing of vast amounts of data, with the final result being the only evident outcome, rather than the details of the process that led to that result.

In a sense, music has been a very suitable field for demonstrating the power of early "artificial intelligence", especially when it comes to replicating the styles of different composers. For artificial intelligence, replicating the style of a particular composer has been a challenging but reachable task because it involved processing a large but limited volume of data. For example, a computer program could produce a piece in Mozart's or Bach's style by analyzing a corpus of their works, which presents a significant amount of data but is far removed from the level of Big Data, not only by scale, but by its finite nature. Conceptualizing music might also have been important for developing AI models: theorist of artificial intelligence and music Marvin Minsky has pointed out that working with music involves recognizing its structures and that music can be used to foster AI "feature-finding" capabilities (Minsky 1981; cf. Roads 1980).

The new generation of artificial intelligence emphasizes the popularization of visual communication and textual content as its fundamental feature. It often passes the Turing test, clearly indicating its advancement in communication, where an observer often wouldn't be able to determine which of two interlocu-

tors is a human. The importance of visual communication for the new artificial intelligence is particularly evident in military applications, one of its most significant uses (cf. Virilio 1993; Pasquinelli 2023). Artificial intelligence is developing its abilities to interpret visual data, crucial in modern warfare with automated weapons, where rapid and precise interpretation of on-field information is essential. Therefore, the expansion of artificial intelligence and its algorithms in visual media is noticeable, and its use in warfare is evident, as seen in conflicts like those in Ukraine or the Israeli offensive in Gaza.

While music isn't a priority in artificial intelligence development, there are already services capable of generating music tracks or songs based on internet user prompts, similar to Chat-GPT operations. Based on input data, or prompts, these services generally provide two categories of music products: (royalty-free) background music and customized song tracks in selected style or genre. An example of the former is a simple online AI tool Mubert (https://mubert.com/), generating background music based on simple prompts and featuring premium memberships tailored for internet content creators, in need of instant custom-made music backgrounds and signatures. As stated on their website, their vision is that "content creators should have instant access to tailor-made music", whereas "Mubert's platform allows users to unleash their creativity with a massive database of pre-made tracks and real-time generative music" (Mubert 2024). And if one would have wondered what would be a tailor-made track for reading this paper, this track was generated using the keywords of this article as a prompt, with a free license that obliges to note "Music by mubert.com" when sharing the track. AI services such as Mubert, as well as Soundful (https://www. soundful.com/) and Aiva (https://www.aiva.ai/), all aim to provide for content creators and their operability renders music labor superfluous, by drawing on existing music. Song track AI creators market themselves to a different audience: users who want to experiment with the production of customized song music tracks in specific styles, including generated lyrics. Both types of AI web-based generative music services purportedly aim to democratize music production, but also problematize the position of music labor and creative labor and how it is presented as exceedingly unnecessary.

In the current landscape of AI tools there is no dearth of seemingly different services which can cater to the different needs of users or customers, with potential to radically transform the ways music is produced (cf. Deahl 2018). Song track AI creators include contemporary platforms like Sony-created Flow Machines (https://www.flow-machines.com/) and Amper Music (https://www.ampermusic.com/), which demonstrate AI's capacity to generate melodies and entire tracks. The list goes on: Ecrett Music (https://ecrettmusic.com) enables users to generate tracks in various genres, Orb Plugins (https://www.orbplugins.com) offers a range of software tools that generate chords, melodies, rhythms and

sounds, based on user prompts, while Tokyo-based startup company Dreamtonics (https://dreamtonics.com/synthesizerv/) offers vocal synthesis technology that enables users to generate singing voices, based on their input of lyrics and melodies. Notable AI services marketed towards individual users also include IBM Watson Beat and Google Magenta's Studio. Watson Beat (https://www.ibm.com/case-studies/ibm-watson-beat) is an AI tool developed by IBM that generates musical compositions in various genres. It uses machine learning techniques to analyze musical data and create original compositions based on user input and preferences. Magenta Studio (https://magenta.tensorflow.org/studio) is an Ableton Live plugin developed by Google's Magenta project and it includes tools for mechanic music generation, such as Melody Mixer and Drumify.

Amper Music is specifically interesting, as it aims to make its use and interface as simple as possible, aiming to produce "feeling of empowerment" at the user end (Deahl 2018). It supposedly provides a "music composition platform" that allows users to create custom tracks tailored to their needs, where users can specify parameters like mood, style, and length, and the AI generates original compositions accordingly. Amper co-founder Michael Hobe stated for the online press: "It's more of intelligence augmentation. We can facilitate your creative process to cut a lot of the bullshit elements of it." The "bullshit elements" Hobe refers to in his statement are precisely what for generations of music artists has been highly-skilled and praised music labor.

One of the main controversies that artificial intelligence raises is the question of sourcing, namely, as we have already mentioned, one of the basic characteristics of the new generation of artificial intelligence is the use of Big Data. This practically means that artificial intelligence services need to be fed with data in an uncontrolled and automated manner in order to produce appropriate responses to the given questions. In other words, for artificial intelligence to paint a picture in the style of impressionism, it needs to process large amounts of data related to the reproduction of paintings by impressionist artists, as well as discursive data about how people talk about impressionism. Since it operates on principle of a black box, information on what input data was used for the artificial intelligence algorithm to arrive at the appropriate result might not even be available.

Important in the watershed in AI and understanding music labor has been the release of the track "Heart On My Sleeve", uploaded on April 15, 2023, by the anonymous TikTok user Ghostwriter977 and ostensibly featuring vocals from Drake and The Weeknd. The two music artists, who have collaborated previously, have not been involved in the production of the record, as it was revealed that the track was created from scratch using artificial intelligence and mimicking the timbres of the artists. The song was streamed more than 20 million times before Universal Music Group, the multinational music corporation representing

the artists, demanded it be taken down from the platforms (Savage 2023; Paul and Millman 2023). In 2024, The Economist also reported that "several thousand new tracks added to Spotify every day are made by AI", leading to a decline of record label-signed artists publishing tracks on Spotify (Lee-Devlin, Fulwood and Bird 2024). Universal Music Group has issued thousands of take-down notices to posters of fake AI-generated tracks under names of its signed artists and has lobbied lawmakers on the issue (*idem.*).

However, it is unlikely that AI in music becomes dominantly the vehicle for grassroot producers defying the business models of corporations such as Universal Music Group, which (for now) relies on monopolizing the exchange channels, that is, effectively connecting niche audiences with promoted artists in a controlled way, enabling them to claim the significant part of the produced value (cf. Sandoval 2018, Prey, Del Valle and Zwerwer 2020). Namely, music industry magnates are to follow what was already demonstrated as the intent of the Hollywood movie industry: phasing out and obfuscating human labor in the music production. The year of 2023 again proves to be a watershed, with the "Beatles' Last Song" released on November 2nd, where AI software was used to create John Lennon's vocals from a demo tape and to create a new version of "Now And Then". The type of the software used is referred to as "stem separation software", machined-trained to separate recordings containing multiple instruments and vocals into constituent parts - stems. As Matt Mullen reported for Musicradar, "stem separation tools utilize a form of machine learning wherein the software is trained using thousands of existing songs to understand and recognize the frequency bands that individual elements of a mix, such as vocals, guitars and drums, typically tend to occupy" (Mullen 2023).

In that context, creative products of humanity from previous centuries become a kind of fodder for artificial intelligence algorithms. This not only questions the concept of intellectual property, which remains one of the fundamental ideas of neoliberal capitalism, but fundamentally undermines the rights of the authors and creators over their works, whether they are paintings, music, or literary works. There are already initiatives in the creative sector, both in the United States and internationally, aimed at protecting creators from the mechanisms of artificial intelligence that could appropriate their works. In March 2023 a broad coalition of over 40 members, including unions, associations, and policy experts, announced the launch of the Human Artistry Campaign against uses of artificial intelligence technologies which could be developed and used to denigrate or erode human agency in art (Human Artistry Campaign 2023). Universal Music Group has also highlighted issues of misappropriation of artists' copyright and identity. Michael Nash, chief digital officer at the Universal Music Group, in an interview given to The Economist pointed out that the corporation advocates for "future-proof policy solutions", some of the precepts of their commercial contracts with digital partners including: (1) AI models can't be trained on an artist's work without consent, (2) AI recordings trained on unlicensed music content need to be removed, (3) AI content can't dilute artists' royalties, and (4) AI content that infringes on artists' right to publicity needs to be removed (Lee-Devlin, Fulwood and Bird 2024).

Conclusion

In conclusion, artificial intelligence services unregulated access to big data, which remains the main point of disagreement between this and similar campaigns on one hand, and AI providers on the other. Unsupervised access to data remains an integral part of this technology, the suspension of which will have an unavoidable detrimental effect to the quality of AI services themselves. Additionally, artistic initiatives aim to prevent situations where the personality of a certain artist is imitated through artificially generated voices or sounds, or when writing in the style of a specific author using artificially generated tools. Namely, protecting the likeness of actors has been one of the cornerstones of industrial action by the American actors' union SAG-AFTRA (Screen Actors Guild – American Federation of Television and Radio Artists), lasting from July 14 to November 9, 2023, and being the longest in the union's history.⁴

Fundamentally, both expert and popular discussions on the new generation of AI in music are grounded in understanding that AI doesn't create new styles or original content but relies on what is already recognizable and available: it uses the creative efforts of other artists to generate new outcomes, remaining on the line of pure imitation of existing styles. What artificial intelligence actually challenges is the concept of art as a process, completely devaluing artistic work and portraying it as entirely redundant, meaningless, something easily reproducible with a single click, and without any value in terms of effort. However, the key difference between artificial intelligence and genuine musical invention remains the lack of creativity and decision-making about what we listen to. Artificial intelligence might be able to "compose", but it cannot truly "listen" to music, and therefore make decisions through its compositional process based on intermittent listening. Importantly, recent developments of new genres in popular and art music that use technological tools actually rely on creating new sonic landscapes and timbres stemming from the compositional process, which requires constant listening and a reassessment of results. In other words, digital

The agreement reached with the Hollywood studios concerning AI included protections such as "clear and conspicuous" consent, "reasonably specific description of the intended use", etc. (SAG-AFTRA 2023), in opposition to studios initially intending to produce "digital replicas" in unregulated and/or extorting fashion.

technology has had a paradoxical impact, as it brings back timbre (and manipulation of timbre) as the cornerstone of musical creativity, thus making human (close) listening an even more important part of the creative process. "Artificial intelligence" here, as in other places, is contradictory in itself, as in order to speak of any "intelligence" in music, it has to be *embodied*. If music has ever been at the forefront of the development of AI, it now may also have a role at the forefront of showing its limited capacity, as fundamentally dis-embodied cognition.

The question of musical labor within this discourse remains open: with abundant availability of music AI generative services, music labor remains under constant threat of being devalued and depreciated. It is, however, important to locate machine-learning and the AI industry not as the driver in disembodying the labor, but as mechanism of obfuscating the embodiment of the labor processes. As Steinhoff stresses, "AI work presents us with yet another example of the fragmentation, deskilling and automation of labour processes long familiar to Marxist labour process studies" (Steinhoff 2021, 8). In that context, one reaction we can note is musicians seeming to feel pressured to open and publically present their laborious music production processes. This year at the Serbian Eurovision competition, the winner Teya Dora, with her song "Ramonda", released a video on TikTok about the song's creation (TeyaDora 2024). In the video, we witness a situation where the composer presents the process of music creation - parallel to classical depictions of music creation of the romantic genius of the 19th century, when composers were portrayed in moments of inspiration, usually faced with blank music sheet paper and a pen - now, in a form of video documentation of the process of making a popular music piece, which aims to record the physical effort and material exigencies of music labor itself. Together with the well-documented shift of music industry to live concerts (Holt 2010), these processes aim to bring back our understanding of digitally produced music to material, even visceral circumstances of its production and consumption - in opposition to discourses which would render not only musical and creative labor, but socially useful labor in general as obsolete.

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VEŠTAČKA INTELIGENCIJA, POST-RAD I RAD U MUZICI (summary)

Načini na koje veštačka inteligencija (VI) transformiše naša iskustva i rad u digitalnom dobu su značajni. VI omogućava korisnicima da generišu tekstove, fotografije, čak i kompleksne prezentacije i pravne analize, što otvara pitanja o budućnosti rada, posebno u kreativnim industrijama. Automatizacija poslova, koju su neki videli kao potencijal za oslobađanje od rada, često dovodi do promena u strukturi poslova i premeštanja poslova u globalnim lancima snabdevanja. Narativi o automatizaciji i veštačkoj inteligenciji pre svega imaju za svrhu umanjenje percipirane vrednosti društveno neophodnog rada, dovodeći do potplaćivanja i potcenjivanja radnika: vizija društva bez rada zanemaruje pitanja nejednakosti i eksploatacije i preusmerava fokus sa kontrole rada na slobodno vreme. U muzičkoj industriji, VI se ističe u repliciranju stilova i generisanju pesama na zahtev korisnika, demokratizujući pristup stvaranju muzike kroz platforme kao što su Mubert, Amper Music i IBM Watson Beat. Međutim, upotreba VI u muzici donosi brojne kontroverze, posebno u vezi sa korišćenjem podataka. Nova generacija VI za optimalno funkcionisanje koristi velike podatke koji se automatizovano prikupljaju, što može ugroziti privatnost korisnika, ali i integritet nečijeg umetničkog izraza. Nedavni slučaj pesme "Heart On My Sleeve" na TikToku, koja je imitirala vokale Drakea i The Weeknda bez njihovog učešća, izazvao je debate o autorskim pravima i etici u muzici generisanoj putem veštačke inteligencije. Udruženja muzičkih umetnika pokrenula su pitanja koja se tiču kontrole nad podacima i zaštite umetnika od imitacija, što takođe pokazuje rastuću zabrinutost u industriji u vezi sa devalvacijom kreativnog rada i potrebom za zaštitom umetničkog integriteta. Naizgled paradoksalno, digitalni alati veštačke inteligencije dovode do novootkrivenog značaja ljudske kreativnosti, a posebno procesa slušanja, kao i potrebe da se muzički rad kao realan, materijalni proces, dokumentuje i načini transparentnim.

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