

AESTHETICS OF DEEPPFAKE – SPHERE OF ART AND ENTERTAINMENT INDUSTRY

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Abstract. *The usage of artificial intelligence is one of the main characteristics of contemporary society. Deepfake is one among other forms of AI that uses artificial intelligence called deep learning to make images of fake events. This technology is not just about videos it is about photos and audio, too. It could be applied in different areas such as education, health care, art, commercials, film, propaganda, etc. Authors are interested in deep fakes used in the art and entertainment industry and their effects on audiences and aesthetics. The paper aims to show some characteristics of the aesthetics of deepfake in the context of the contemporary art and entertainment industry. By focusing on the aesthetics of contemporary society, we try to make an aesthetics analysis of deepfakes (Case study 1– Wearing Gillian, Gillian Wearing, 2018, Case study 2 – Dali Lives, The Salvador Dali Museum, 2019) to show that contemporary art is more intimate with audience, thanks to usage of AI; also engagement of people is bigger than in traditional art. The conclusion is that contemporary art remains in the entertainment industry. It looks popular and closer to an audience; also, these spheres have a common and main aesthetic value- entertainment.*

Key words: *deep fake, artworks, aesthetics, entertainment, audience*

1. INTRODUCTION

The first use of manipulated multimedia content was found in 1860 years when a portrait of politician John Calhoun was skillfully manipulated by replacing his head with that of US President Abraham Lincoln (Masood et al. 2022). Now, advancements in Computer Graphics and DL techniques offer a variety of different automated approaches for digital manipulation and better semantic consistency. "The first true deepfake appeared online in September 2017 when a Reddit user named 'deepfake' posted a series

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of computer-generated videos of famous actresses with their faces swapped onto pornographic content" (Masood et. all 2020). They made a figure of deepfake evolution in their research on deepfake generations and detection, which briefly shows the timeline¹.

WebWibe posted: "Deepfakes are computer-created artificial videos in which images are combined to create new footage that depicts events, statements or actions that never actually happened. The results can be quite convincing. Deep fakes differ from other forms of false information by being very difficult to identify as false."² This 'new reality', which is a false reality, looks quite realistic.

Deepfakes could be created by anyone, from an academic to an industrial researcher, etc. It could be used in positive ways, such as in art, accessibility, business, and when expressing oneself. On the other hand, deepfakes could harm individuals, businesses, society, and democracy (Jaiman 2020).

Dominik Lees (2022) explains that it is not easy to make a good deepfake. After months of work, his team could not create a deepfake for broadcast. In his blog *Deepfakes are being used for good – here is how?* Posted on November 4, 2022, Lees explains that you need to have "top spec hardware, a lot of computer time and human intervention to fix glitches in the output".

In the paper for aesthetic analysis, we are using broad categorization of deepfake into two groups, visual and audio manipulations. The visual deepfakes are further grouped into the following types based on manipulation level "(i) face swap/identity swap, (ii) lip-syncing, (iii) face-reenactment/puppet-mastery, iv) entire face synthesis and v) facial attribute manipulation. The audio deep fakes are further classified as i) text-to-speech synthesis and ii) voice conversion" (Masood et all. 2022). The focus of our analysis is on visual deepfakes in the sphere of art and film industry. The starting hypothesis is that the main characteristic of contemporary arts that use AI is entertainment with shocking elements, which reminds us of the effects of aesthetics of excess. Using methodology is aesthetics analysis and case studies – Wearing Gillian (Gillian Wearing 2018) and Dali Lives (The Salvador Dali Museum 2019) as well as a theoretical approach to using deepfakes in the entertainment industry.

2. DEEPFAKE USAGE IN DIFFERENT SPHERES

"Deepfakes can be used by non-state actors, such as insurgent groups and terrorist organizations, to represent their adversaries as making inflammatory speeches or engaging in provocative actions to stir up anti-state sentiments among people "explained Jaiman in his blog *Debating the ethics of deepfake* posted in August 27, 2020). As he clarified, deepfakes may influence the outcome of a political election. They may also be used for misattributing, telling a lie about a candidate, falsely amplifying their contribution, or inflicting reputational harm on a candidate.

¹ The evolution started with Video Rewrite Program in 1997, than GANs in 2014 and goes to appearing of Imaginator, First Order Motion Model, Marioneth and Wav2lip in 2020. See: "Deepfake Generation and Detection: State of- the -art , open challenges, countermeasures, and way forward", 2020. *Computer Science* , Cornell University. Available at: <https://arxiv.org/abs/2103.00484>

² Explained: What are Deepfakes? WebWise. In News, Trending. <https://www.webwise.ie/news/explained-what-are-deepfakes/>

Jaiman states that synthetic resurrection is another area of concern. In the same blog, he says "The main question concerning public personalities is: Who owns their face and voice once they die? The problem is that they are used for publicity, propaganda or commercial gain". Some people point out the good side of using deepfakes in an afterlife, as is the case of campaigns for political change. There is a video of a boy killed in high school. His parents used the technology to bring him back in a forceful video calling for gun control³.

Snoop Dogg's music video is another example of using deep fake technology for resurrection. He used deep fake technologies to bring Tupac, an American rapper who died in a drive-by shooting when he was 25, back to life. Using this technology Snoop Dogg paid tribute to his friend⁴.

Lees (2022) writes about using deep fake in the sphere of health care to help people with aphantasia, which is the inability to create images in their minds. The team was inspired by ghosting, a new phenomenon that appeared last year when people stopped to communicate with others. Deepfakes could be used in museums, which was done in the Dalí Museum in St. Petersburg, Florida, in collaboration with an advertising company, Goodby, Silverstein & Partners.

Education is another field where deepfakes are used. In Shanghai, during lockdown, Associate Professor Jiang Fei noticed his students' attention dropped during online lessons. To help them focus better he used an anime version of himself to front his teaching. Jiang Fei said: "The enthusiasm of the students in class, and the improvement of the quality of homework have made obvious progress" posted Lees in his blog Deepfakes are being used for good – here's how? posted on November 4, 2022.

Choow (2022) believes that by using AI technology education could be more interactive. Udacity, an American educational organization, has started incorporating deepfake technologies into its online courses. In his blog "What Are the Positive Applications of Deepfake" posted on June 9, 2022, Choow explains that: "Previously, people could only read the text slides from the course or listen to audio lectures. However, now, Udacity is investigating a new machine-learning framework that automatically generates lecture videos from text-based content or audio narration. This makes the learning process more interactive than reading boring texts off a slide".

Deepfakes could make history more interesting as well as history classes. "Deepfake technologies can also be used to construct artificial voices from historical figures. CereProc, a speech synthesis company based in Scotland, analyzed 831 recordings of former U.S. President John F. Kennedy's speeches to 'build his voice' by separating the audio into 116,177 phonetic units" (Chow, 2022).⁵

Deepfake technologies are also used to engage customers by providing personalized recommendations. An international news agency, such as Reuters, has created an AI-generated deepfake person responsible for presenting the sports news summary. That enables people to listen to personalized news broadcasts from various news reporters.

The fashion industry is another field where deepfakes are used. For example, many companies are now using AI for virtual fitting rooms where customers can scan their bodies and try on clothes before making purchases online.

³ https://cdn.musebycl.io/2020-10/UnfinishedVotes.com_.mp4

⁴ https://www.wipo.int/wipo_magazine/en/2022/02/article_0003.html

⁵ <https://www.jumpstartmag.com/what-are-the-positive-applications-of-deepfakes/>

At the end of the research of the areas in which deepfakes are used, we can list the following ones: the entertainment industry (the use of deepfake of Bruce Willis in Russian films), commercials (using Tom Cruise's deepfake on TikTok), videos games (Nicolas Cage's face is used as a target).⁶

3. DEEPAKES IN THE ENTERTAINMENT INDUSTRY

For decades, video manipulation has been used in the entertainment industry, particularly in film production. An early famous academic project was the Video Rewrite Programme, which was published in 1997 and was intended for use in movie dubbing (Bregler C, Covell M, Slaney M 1997). It was the first software to automatically re-animate face motions in an existing film to a different audio track, and the results were very realistic. In September 2017, Reddit users produced a series of digitally produced movies of famous women with their faces transposed onto sexual content. (NguyenTT et al., 2022). Another well-known case of deepfake was the public disclosure of the deepNude application, which allowed users to create fake nude photographs (Johnson DG, Diakopoulos N, 2021). This marked the beginning of deepfakes gaining widespread acceptance among a broad community. Deepfake technology/applications, such as FakeApp, FaceSwap, and ZAO, are now widely available and even people with no computer engineering expertise may generate a fake movie in seconds. Furthermore, open-source GitHub projects like Deep Face Lab and related tutorials are easily accessible on YouTube. Face 2 Face and Synthesizing Obama, both published in 2016, are recent research initiatives that have led to the growth of deepfake technology. (Suwajanakorn S, Seitz SM, Kemelmacher-Shlizerman I, 2017). Face 2 Face records the source person's real-time facial expressions while they speak into a standard camera. It alters the face of the target individual in the initial clip to depict them, replicating source facial expressions. Synthesizing Obama is a video rewrite 2.0 program that modifies a person's mouth movement in video footage to portray the person pronouncing the words recorded in an arbitrary audio clip. These paintings are solely concerned with the modification of the head and facial region. Recent advancements extend the use of deepfakes across the complete body, as well as the creation of deepfakes from one picture (Masood et al. 2023).

Deepfake technology has the potential to change the creative arts, particularly television and movies. Deepfakes have been proposed as a means of translating films, editing misspoken words in a filmed scenario, or putting the principal actor's face on the body of a stunt double (Kietzmann, Lee, McCarthy and Kietzmann 2020). According to current estimations, fake video content can be generated for less than 10% of the cost of comparable synthetic media (Meskys et al. 2020). Deepfakes are already being used creatively to improve storytelling, indicating that this technology is being used. In the Star Wars television episode "The Book of Boba Fett" for example, an actor who has a younger version of the genuine performs the part of Luke Skywalker (actor Mark Hamill) placed onto their face (King 2020). Art galleries and museums have also embraced this technology. Salvador Dali was recreated in the Dali Museum in Florida using deepfake technology (Lee 2019). Dali moved, spoke, and interacted with museum visitors on projector screens, even allowing audience members to snap a selfie with him. Deepfake technology was utilized in an installation at the International Centre of Photography in New York City to recast the film The

⁶ <https://www.youtube.com/watch?v=cI0A0Gih1k0>.

Warriors, putting spectators into crucial moments (Mihailova 2021). People are recasting films and uploading snippets to YouTube in less formal capacities, in the houses of moviegoers all over the world. The site is flooded with incredibly realistic face swaps, and as Meskys et al. 2020 point out, these movies are done for pure entertainment and as a form of artistic expression (Murphy, Ching, Twomey and Linehan 2023).

Most deepfakes currently available on social media platforms such as YouTube, Facebook, and Twitter may be considered innocuous, entertaining, or artistic. Deepfakes, on the other hand, have been exploited for vengeance pornographic hoaxes, political or impartial impact, and money laundering. A deepfake video of former US President Barak Obama insulting the current president, Donald Trump, went viral online in 2018. The Israeli advertising firm "Canny" released a false clip of Facebook CEO Mark Zuckerberg to Instagram in June 2019. Recently, very realistic fake clips of Tom Cruise released on the TikTok website accumulated 1.4 million views in a matter of days (Masood et al. 2023).

Deepfakes can serve as an expressive cover for persecuted minorities, as evidenced by the composite faces made for interview subjects in the new HBO documentary *Welcome to Chechnya* about persecuted LGBTQ people. As William Yu has demonstrated in his video campaigns for greater possibilities for Asian American actors in prominent roles, activists can employ Deepface and Faceswap applications to reinvent representational and screen labor norms. He intends to make the financial viability of Asian celebrity faces more publicly visible and normative by "re-casting" films like *Captain America* and *The Martian* with John Cho, Steven Yuen, and Constance Wu (Bode, Lees & Golding 2021)

Facial reenactment has many applications, such as changing a participant's facial expression and mouth movement in an online bilingual video conference, editing an actor's head and facial expressions in the film industry the post-production process systems, or creating realistic animation for movies and games, among others (Masood et al. 2023).

Lip-syncing includes synthesizing a video of a target identity so that the mouth region in the modified video corresponds to arbitrary audio input. The movement and look of the lower part of the mouth and the surrounding area are important aspects of synthesizing a visual speech. To deliver a message more effectively and intuitively, proper lip motions and expressions are required. Lip-syncing has various scientific applications in the entertainment business, such as creating audio-driven realistic avatars in films or video games, voice-bots, and dubbed films in foreign languages. It can also help those with hearing impairments grasp a situation via lip-reading from a video made with real audio (Suwajanakorn S, Seitz SM, Kemelmacher-Shlizerman I, 2017).

Their deepfakes are intended to be amusing, hilarious, or politically sarcastic, and can help them obtain social media followers. Some hobbyists may seek more tangible personal rewards, such as raising knowledge about the possibilities of deepfake technologies to obtain deepfake-related paid jobs, such as music videos or television series. Thus, hobbyists and professional actors such as broadcasting companies may collaborate (Westerlund 2019).

Individuals involved in deepfake niche communities are tough to locate. It only took a few months after one user introduced celebrity porn deepfakes to Reddit in late 2017, for a newly formed deepfake hobbyist group to gain 90,000 members. Many amateurs concentrate on porn-related deepfakes, whereas others place famous actors in films where they never appear to create humorous effects. In general, hobbyists perceive AI-crafted films as a new type of online humour, and their contribution to the growth of such

technology as a way to solve an intellectual puzzle, rather than a technique to fool or threaten people (Westerlund 2019).

Aside from pornography, readily available deepfake technology could soon enable members of the general public to regularly make and enjoy deepfake media. Many of these uses are creative, instructive, and entertaining, but they do not receive the same amount of attention in the works of literature as the more adverse aspects (Broinowski 2022). Deepfakes may be used to create and customize video games, films, and other media by superimposing one's face onto the characters. (Albahar & Almalki 2019) Deepfakes are also becoming popular among creative artists. In 2022, rapper Kendrick Lamar released a music video. ('The Heart Part 5') Using deepfake technology, he depicts himself rapping while superimposing many influential black guys onto his face. Deepfake technology was utilized in a trailer for Will Smith's 2019 film *Gemini Man* to mimic an older clip of Smith chatting about the film from the sitcom *The Fresh Prince of Bel Air*. These are instances of deepfakes being utilized with the stars' full knowledge and consent, yet popular media has speculated about how this technology will revolutionize the film business. In 2019, Collider claimed that "within five years, deepfakes will have advanced to the point where viewers will see the likes of Marilyn Monroe starring alongside Heath Ledger in entirely original feature films" (Castoro R, 2019). Others believe that the ability to recast oneself in popular media will soon be available to the general public; "It is inevitable that quite possibly by the time you read this article, technology will be available for anyone to start not only in high-quality deep fakes of scenes from television programs but also in any commercial they want". (Kietzmann, Lee, McCarthy, Kietzmann 2019). Although technological advancements are bringing up new opportunities for viewers to participate in films, nothing is known about how we should build these digital tools or how to restrict any harm they may create (Murphy, Ching, Twomey & Linehan 2023).

Deepfakes may become commonplace in the not-too-distant future, allowing us to tailor our entertainment and media experiences. The current work investigates the potential challenges that could come from such a reality. To begin, we wonder if deepfakes can alter our memories and opinions. Furthermore, are deep fakes so convincing and realistic that they will damage our memory more than any other contemporary misleading medium? Some authors (Liv & Greenbaum 2020) have hypothesized that deepfakes may create a situation in which "seeing is believing," altering our shared knowledge of culture and history. (Beridze & Butcher 2019). Second, we inquire about how audiences perceive the promised capabilities of deepfakes. In what ways might the capacity to tailor our entertainment be desirable or unappealing? Understanding these problems is critical for creating and maintaining regulations for a future where deepfake technology grows more prevalent (Murphy, Ching, Twomey and Linehan 2023).

Because of the growing threat of deepfakes to privacy and security, it is critical to design robust and dependable detectors. Visual media can be manipulated using a variety of deep-learning frameworks. Deepfakes are photographs or movies that depict a face whose identity or expression has been altered by a deep neural network. (Kietzmann, Lee, McCarthy and Kietzmann 2020). Deepfakes, in addition to being entertaining novelties, offer a security and privacy risk. The fabrication of bogus pornographic content depicting persons who did not consent to their data being used for this purpose is a popular misuse of this technology (Meskys, Kalpokiene, Jurcys and Liaudanskas 2020). Another dangerous application of deepfakes is the imitation of other people's identities. A deepfake could be used to circumvent security measures that rely on visual data. Furthermore, deepfakes can show

powerful individuals, such as politicians, propagating dangerous misinformation, posing a threat to society as a whole and democracy. Deepfake detectors, on the other hand, use sophisticated structures, are expanded to handle multi-modal data, and give attention to (common) artifacts, including those not evident to the naked eye (Beckmann, Hilsmann & Eisert 2023).

3.1. Implications

A study also has design implications, particularly in light of participant worries that the option to recast films would provide too much choice. Even without the plethora of alternatives provided by deepfake recasting, streaming viewers report being paralyzed by choice. The 'paradox of choice' highlights our proclivity to become overwhelmed by too many options and either give up or make poor decisions (Schwartz and Ward 2004). According to research, the average Netflix user loses interest after 60-90 seconds of searching and having evaluated 10-20 titles, at which point the danger of abandoning the service grows significantly (Gomez-Uribe and Hunt 2015). In 2021, Netflix introduced the 'Play Something' feature, a shuffle option in which Netflix chooses something for you to watch. This function allows the viewer to circumvent all decision-making, and its very presence testifies to the stress and paralysis that can result from having too many options (Rodríguez Ortega 2022). Deepfake recasting is potentially a problematic addition to the viewing experience since viewers would be asked not only to choose the film or series, they want to see but also to actively cast the show. This has ramifications for the design of such features, as potentially reducing the selections would improve the viewer experience paradoxically. (Murphy, Ching, Twomey and Linehan 2023).

Deepfakes are often recordings in which an artificial face has been placed onto the face of another person, resulting in an extremely convincing film of someone saying or performing something they never did. The earliest deepfakes to appear on the internet were created pornographic videos starring celebrities, and unlawful deepfake erotica remains a serious problem (Murphy, Ching, Twomey and Linehan 2023).

4. DEEPPAKE IN THE SERVICE OF ART

Before we say something about deepfake in the sphere of art, let's review traditional art and its aesthetics and the contemporary one. Traditional creativity characterizes artwork autonomy, the artist in the focus, and meaning of the artwork, dividing literature from non-literature and creating a hierarchy of grandiosity among artworks. On the other hand, characteristics of contemporary artworks are: inter-relations between different artworks, emphasizing the context and forces that supply production, meaning as a consequence of the attention which is affected by text or artwork in the audience or a group of individuals, explores criterion of literature and spreads the extent of literary investigation and critical book review (Crnobrnja 2010, 54). Using of AI in arts is also one of the characteristics of contemporary art. As Grau (2002) explained creating virtual reality is not just a tendency of the digital age. The use of illusion and creating virtuality existed in ancient Greek. Immersion is technics used in arts. By immersion borders between reality and virtuality are erased. Deepfake could be an example of immersion. When we watch a film that uses Bruce Willis's deepfake, we could think that it is the real Bruce Willis and not his deepfake.

Emily White in her blog "Positive Implications of Deepfake Technology in the Arts and Culture" posted on September 1, 2021, finds that two methods of creating deepfake are used in art: the encoder-decoder method and GAN method or the generative adversarial network.

The first method used images of real people. One example of this type of deepfake in the arts is a research project carried out by the Moscow Samsung AI Center in collaboration with the Skolkovo Institute of Science and Technology, which used the encoder-decoder method to animate famous artworks such as Leonardo Da Vinci's Mona Lisa and Ivan Kramskoy's Portrait of an Unknown Woman.

The second model creates a deepfake of people and beings who do not exist. An example of how GAN deepfakes can be used in the arts is Gen Studio, a collaboration between MIT, Microsoft, and the Metropolitan Museum of Art. In Gen Studio, users select images of objects from the Metropolitan Museum's collection and "visualize the space between those pieces" by feeding those object images into the generator algorithm, which creates a somewhat realistic-looking image based on the discriminator algorithm's feedback, explains White (2021).

"There is no shortage of inspiration at the intersection of art and technology, and art is often used in early concepts and experiments to provide a humanistic touch. In this vein, it comes as no surprise that technologists are deploying deepfake technology to reimagine famous artworks" (White 2021).

The following examples of using deepfake show this connection between art and technology: Da Vinci (Mona Lisa deepfake), Gustav Klimt (Portrait of Johanna Staude deepfake), Vermeer (Girl with a Pearl Earring deepfake), and so on.

We can say that deepfakes present a new tool for audience engagement. This is a characteristic of new art- bigger audience engagement. Instead of watching paintings and sculptures and contemplating, today people are more interactive – they need to press buttons, as is the case in Dali museum in Florida, or use QR codes, VR glasses etc.

On the other hand, the artworks address ethical issues that contemporary society is confronted with, giving a meaningful platform for study, experience, and debate about moral challenges in the technological era (Cheres and Groza 2023).

The rise of artificial intelligence (AI) in visual art has opened up a new universe of possibilities for investigating and creating meaningful and sophisticated artworks. The European Commission's current proposal for regulating AI Commission E (2021) requires deepfake authors to publicly label their content through Article 52. Raising awareness of fake news, for example, was illustrated on the British Channel 4 parody of Queen Elizabeth II's 2020 Christmas speech. The Queen takes part in a TikTok dance challenge in the spoof video. The phoney message was identified as deepfake and was broadcast concurrently with the official message Unit SF (2021). However, Article 52 specifies that there are some exceptions to this responsibility, including "the right to freedom of the arts and sciences." These efforts to control AI are a step towards a new generation of human rights, including epistemic rights, which are desperately needed in this age of surveillance capitalism (Zuboff S 2019) (Cheres and Groza 2023).

The work of Chan et al. called "Everybody Dance Now" is a popular motion transfer approach in which a fake video of users dancing like a professional dancer is made using the library OpenPose, which is a set of algorithms for skeletal modelling. The "Everybody Dance Now" initiative uses independent GANs for face and body to maximize the human aspect of recognizing identity: that is, boosting the realism of the face (Chan et al. 2019). Algorithmic

art, which is a phrase used for any artwork that cannot be created without programming, has attracted global attention and sells for high prices at auction, write Schneider T, Rea N. in "Has artificial intelligence given us the next great art movement? Experts say slow down, the 'field is in its infancy.'" on Artnet News posted on September 25, 2018. Important art shows, such as the Athens Biennial, feature artificial intelligence artworks such as "Seamless" by Theo Triantafyllidis, and there are even art museums and exhibitions devoted entirely to AI (Cheres and Groza 2023).

The AICAN project investigates the artistic creative process as well as the transition from perception to cognitive opinions in the context of program-generated art (Mazzone and Elgammal 2019). It employs a Creative Adversarial Network (CAN), a kind of GAN with stylistic ambiguity used to increase the complexity and uniqueness of the produced images (Elgammal et al. 2017). Hong and Curran discovered that viewers could not tell the difference between CAN-generated and human-created artwork and that CAN-based art scored higher in terms of novelty, visual structure, and inspiration. (Hong and Curran 2019). Furthermore, Google has released Deep Dream Generator, a suite of AI tools for creating innovative visual material. (Cheres and Groza 2023).

5. THE AESTHETICS OF THE DEEPPFAKE

Aesthetics is a philosophical discipline about sensory perception. It refers to beauty, art, and taste. Aesthetics is not just about beauty, it is also about ugly. With the development of technology and mass media, aesthetics has spread its area of research. In addition, the area of art spreads, for example, the appearance of virtual art. The aesthetics, we can say, is applied science (Baumgarten 1954). Media aesthetics show us that it is. When we deal with AI (deepfake) and its use in the art and entertainment industry, we could say that aesthetics analysis consists of analysis of visual elements, voice, relation between audience and artwork or entertainment content, aesthetics experience, and actual aesthetics value. In that, sense the aesthetics of deepfake is part of the aesthetics of communication (Kon 2001), also it could be a part of pragmatic aesthetics (Shusterman 2000).

"Deepfake videos can be categorized into the following types: i) face-swap ii) lip-synching iii) puppet-master iv) face synthesis and attribute manipulation, and v) audio deepfakes" (Masood et al., 2021).

When deepfake is analyzed, we differ in source and target. The source is a photo of the person that we are using for creating a wanted foto or face. In the first step of creating deep fake, „the face of the source person is replaced with the target person to generate a fake video of the target person, trying to portray actions to the target person which in reality the source person has done“ (Masood at all, 2021).

In the second step, lip-synching-based deepfakes, the movements of the target person's lips are transformed to make them adequate with some specific audio recording. With puppet masters, deepfakes are created by mimicking the expressions of the target person, for example, head movement or eye movement, gesticulations, etc.

Deepfakes known as face synthesis and attribute manipulation involve the generation of photo-realistic face images and the aim is spreading disinformation on social media using fake profiles. There are audio deepfakes focused on the target speaker's voice using deep learning techniques to portray the speaker saying something they have not said. For

example, there is a Russian deepfake showing Ukraine President Volodymyr Zelensky asking his troops to surrender.⁷ This is about fake political propaganda.

It could also be used for some other purpose such as entertainment or education. In the 2019 UK general election, artist Bill Posters released a provocative video of Boris Johnson. In this video, Boris Johnson said that people should vote for Jeremy Corbyn. The British artist made it obvious that AI Boris was unreal by directing viewers to a website about deepfakes.⁸

5.1. Case study 1- Wearing Gillian (Gillian Wearing, 2018)

Here we present an analysis of the aesthetics of deepfake, related to the case study approach. Wearing Gillian is a short film by British conceptual artist Gillian Wearing. At first glance, we could notice a play on words in the title. The artist used her name and changed the sequence of her name and surname. She does this in her film enabling people to 'wear' Gillian. Her artwork aims to point to the problem of identity in contemporary art. Her previous exhibition with auto-photographs in which she dons different identities through masks, make-up, and costumes, also researched identity. "Me as Madame and Monsieur Duchamp (2018)⁹ gives Wearing an opportunity to further complicate identity roles and personalities we feel comfortable with only behind props. Presented in the form of an enormous two-piece frame necklace, the work presents the artist as Duchamp on one side and his alter ego Rose Sélavy on the other... Combined with a mesmerizingly skillful use of masks and props, the artist becomes the man and the woman he occasionally chose to become. Rose's signature clutching of her coat collar with seduction and Duchamp's mischievously piercing gaze reappear in the artist's body, one that she uses as a blank canvas to paint identities onto", explained Osman Can Yerebakan in his blog Gillian Wearing: Life, posted on ArtSeen in 2018.

The tendency in contemporary art which is present in Gilligan's work, too, was noticed by Max Rynanen: "To be an example of something, and embodying an idea is something that has a strong role in today's visual art, and in a sense, it is needed for many works of art to be possible" (2022, 34).

Emily White (2021) said that Wearing's use of deepfakes in her film has implications for photographers and filmmakers who can use this technology to create digital masks.

Here is how a film looks: "The five-minute film deploys face-swapping Artificial Intelligence technology and offers a candid into of the celebrated artist. In the film, we hear Gillian talk about herself, but the people on screen are actors who have the artist's facial features integrated with their own" posted on December 14, 2018, in Wearing Gillian: Explore the lines between real and fake art and ad.

We will quote Max Rynänen: "The presence of the body also removes analytic neutrality from imagined stories. There is a real person. We see her face. We see her body, being there, doing things. Emphatically, as visual perceivers, we engage with her, although we just see images. Nevertheless, these, images in the exhibition spaces of contemporary art museums are not just any kind of images that float by. I might see hundreds of media images every day. However, contemporary art has somehow been able to retain the old way of using time with images" (Rynänen 2022, 37).

⁷ See: <https://theconversation.com/deepfakes-are-being-used-for-good-heres-how-193170>

⁸ This video could be seen at <https://theconversation.com/deepfakes-are-being-used-for-good-heres-how-193170>

⁹ See: <https://www.tanyabonakdargallery.com/artists/64-gillian-wearing/works/10298-gillian-wearing-me-as-madame-and-monsieur-duchamp-2018/>

What shows these Gilligans' artworks? First, that artist could be very close with the audience or intimate by enabling them to look at herself. Using AI people could experience how it is when they look different and that they are someone else. Identification is possible by watching TV or reading a book, also. This kind of identification is different because our idea becomes embodied and we can see it. In addition, people are engaging, and that creates experience more.

5.2. Case study 2, Dali Lives, The Salvador Dali Museum

This case study analyzes using deepfake in a Museum for audience engagement during visiting an exhibition of Salvador Dali's art. "Now, the Dalí Museum in St. Petersburg, Florida offers this opportunity to their visitors. In the exhibition Dalí Lives, an AI-driven video editing and rendering technique was used to produce a life-sized recreation of Dali out of thousands of hours of archival video footage." Stay in Blog "3 Things you need to know about AI-powered 'deep fakes' in Art & Culture" posted on December 17, 2019.

Dali appears when visitors press the doorbell on the kiosk and then he tells them about his life.¹⁰ This appearance of an artist as real, his addressing to an audience and by that addressing makes contact so real. The possibility of taking a selfie with Dali which Dalis deepfake, probably creates different aesthetic experiences in humans. Probably some of them think for a short time that real Dali addresses them. Watching the video Behind Scenes: Dali Lives, about creating an exhibition and people's reactions, we can conclude that people have nice reactions- they had fun and were surprised at first.

Lee (2019) explains how this video was created: "Using archival footage from interviews, GS&P pulled over 6,000 frames and used 1,000 hours of machine learning to train the AI algorithm on Dalí's face. His facial expressions were then imposed over an actor with Dalí's body proportions, and quotes from his interviews and letters were synced with a voice actor who could mimic his unique accent, a mix of French, Spanish, and English." Writes Lee, in his blog *Deepfake Salvador Dalí takes selfies with museum visitors*, posted on May 10, 2019.

What idea is covered behind this exhibition? "To evoke a sense of immediacy, closeness, and personalization; the digital avatar welcomes museum-goers in a conversational style, maintaining an impression of friendly, almost conspiratorial rapport throughout the experience" (Mihailova 2021). Also, she said about the Dali Lives video. that it focuses on conveying a sense of surprise, amusement, and – crucially – engagement. "People are shown smiling, laughing, and posing together with the deepfake" (Mihailova 2021). Mihailova reminds us that enhancing viewer engagement is not a new idea. Museums, memorial centers, and other heritage institutions use different strategies to evoke emotional responses. The same could be said for films, photography and some other mass media as well as for social networks. By using technology, narratives, and visual or audio elements producers could create intimate relations with the audience. In social media, public persons and common people could create intimacy by making selfies.

¹⁰See:

https://www.google.com/search?q=%2CDali+Lives&rlz=1C1GCEA_enRS995RS995&oq=%2CDali+Lives&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIPCAEQLhgTGK8BGMcBGIAEMgoIAhAAGBMYFh

6. CONCLUSION

The use of deepfake in the modern world is very widespread. Its application can be found from the sphere of entertainment, through propaganda to the sphere of education and health. While concerns about abuse are widespread and, in some situations, justified, the use of deepfake does have its other side. In the paper, we dealt with the deepfake in the art and entertainment industry and its aesthetics, with a brief review of the ethical problems that may arise. Contemporary art is characterized by the role of the audience in shaping meaning. When it comes to mediums, the computer is used more and more, which leads to the emergence of new artistic directions – there have been installations, computer art, virtual art and the emergence of virtual art museums for a long time. Artificial intelligence is also used in the world of art and culture. The paper analyzes the case of using a deepfake in the Dalí Museum in Florida as a Gillian Wearing exhibition.

We are studying the aesthetics of deepfake from aspects of aesthetics of communications and pragmatic aesthetics. For that reason, we analyze visual and audio elements of deepfake and the relation between audience and artwork that includes deepfake.

The first case study presents the approach to the short film *Wearing Gillian* made by British conceptual artist Gillian Wearing. Results show that by using AI people could make new aesthetic experiences and new kinds of identification thanks to the possibility of embodying our ideas. AI enables the audience to be more engaged. The second study approach, using deepfake on the exhibition *Dali Lives*, shows that by narratives and visual or audio elements, producers could create intimate relations with an audience- for example, by taking selfies with the audience. This possibility makes the aesthetic experience very live. In addition, the audience can have fun. When we are talking about the similarity between popular artworks and contemporary art, we can say that it is great and we could single out entertainment as aesthetic value, which is common for popular and contemporary art.

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ESTETIKA DIPFEJKA – SFERA UMETNOSTI I INDUSTRIJE ZABAVE

Upotreba veštačke inteligencije jedna je od glavnih karakteristika savremenog društva. Dipfejk predstavlja vid veštačke inteligencije koji koristi veštačku inteligenciju zvanu deep learning za pravljenje slika lažnih događaja. Ova tehnologija se ne odnosi samo na video zapise, već i na fotografije i audio. Može se primeniti u različitim sferama kao što su obrazovanje, zdravstvo, umetnost, reklame, film, propaganda itd. Autori istražuju dipfejk koji se koristi u umetnosti i industriji zabave i njihov uticaj na publiku i estetiku. Rad ima za cilj da prikaže karakteristike estetike dipfejka u kontekstu savremene umetnosti i industrije zabave. Fokusirajući se na estetiku savremenog društva, pravimo estetički analizu dipfejka (studija slučaja 1– Wearing Gillian, Gillian Wearing, 2018, studija slučaja 2– Dali Lives, The Salvador Dali Museum, 2019) kako bismo pokazali da savremena umetnost stvara intimniji odnos sa publikom zahvaljujući korišćenju veštačke inteligencije; takođe, angažovanje publike je veće nego u tradicionalnoj umetnosti. Zaključak je da savremena umetnost podseća na industriju zabave, izgleda popularno i bliska je publici; takođe, ove sfere imaju zajedničku glavnu estetičku vrednost – zabavu.

Ključne reči: *dipfejk, umetnička dela, estetika, zabava, publika*