Deepfake

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Sources

Source A

Deepfake is a phenomenon increasingly present online, which can be used across the world. [...] The term itself comes from two English words: 'deep' (as in artificial intelligence's deep learning) and 'fake'. It is sound-and-image processing aimed at creating false videos, using the extensive artificial intelligence technology. Its main objective is to create sound-and-image footage that cannot be distinguished from that which is real, including true statements, speeches and acts. Deepfake does not create new films, but is based on material that already exists online and is reworked accordingly. The computer tracks the face, identifies dozens of key anchor points there and links them into a network making it possible to modify them in motion. [...] A video has been made where the former US President Barack Obama calls his successor Donald Trump a 'dipshit'. [...]

'Deepfake on the Internet – what is it?' [Deepfake w Internecie – co to jest?], 18 June 2020 [accessed 10 December 2020]. Available at Puffa.pl: http://www.puffa.pl/2020/06/18/deepfake-w-internecie-co-to-jest/.

Source B

In recent years, technology [...] has become omnipresent, making it possible for people across the world to instantaneously receive photos and films. This is reflected [...] in the ability of even relatively unqualified users to manipulate and distort the message of visual media. While much manipulation is done for fun or artistic purposes, it can also be used to serve propaganda or create disinformation campaigns. This multimedia manipulation is possible due to the broad availability of advanced applications that edit sound and visuals as well as the automated manipulation algorithms that facilitate editing in a way that is very difficult to discern visually. [...] Such videos are a potential threat to the internal security of each state and,

additionally, they may become a tool that impacts on election results. A fabricated video may jeopardise national security and have an impact on public opinion, a field exploited by fraudsters wishing to interfere in, for instance, the political views of societies; it is becoming a weapon in information warfare.
The technology in question is going to be a natural tool used by states in order to manipulate public opinion and carry out disinformation campaigns, as well as to undermine trust in existing institutions. Consequently, with the emerging and very advanced methods of face tracking and video manipulation comes a new era of disinformation.

At a time when the public's trust in the media and politics is already fragile, the possibility that all we watching online may be a convincing form of fraud invented by someone with a powerful PC may undermine democracy even further [...]

Olga Wasiuta and Sergiusz Wasiuta, 'FakeApp as a new political and information security threat' [FakeApp jako nowe zagrożenie bezpieczeństwa politycznego i informacyjnego], Annales Universitatis Paedagogicae Cracoviensis. Studia de Securitate, 2019, no 9(3), p. 136 [accessed 10 December 2020]. Available at Studia de Securitate: https://studiadesecuritate.up.krakow.pl/wp-content/uploads/sites/43/2019/10/9-1.pdf.

Source C

Using an artificially generated voice of the CEO of a large company, the criminals called the director of one of its subsidiaries asking for a money transfer. They managed to extort 243,000 dollars that way. [...] According to an expert, the criminals used artificial voice generation software. [...] they could edit excerpts of authentic recordings of the CEO's voice. Making use of the technology was showcased, for instance, at last year's edition of the Black Hat conference where scientists proved that the already existing tools enabled the reconstructing of anybody's voice in order to break the voice identification safeguards used by banks, for instance. They claim that sound quality does not have to be perfect to defy such security measures. They also proved they could commit such a fraud within ten minutes.

'They recreated the voice of the head of the company. They scammed $243,000' [Odtworzyli głos szefa firmy. Wyłudzili 243 tys. dolarów], 6 September 2019 [accessed 10 December 2020]. Available at Konkret24: https://konkret24.tvn24.pl/tech,116/odtworzyli-glos-szefa-firmy-wyludzili-243-tys-dolarow,967072.html.

Source D

Apollo II's landing on the Moon on 20 July 1969 was a breakthrough in the history of space. Yet what if it had failed? A new MIT project shows the power of deepfake [...] 'Fate has ordained that the men who went to the Moon to explore in peace will stay on the Moon to rest in peace,' says President Nixon in a fake film, referring to the astronauts Neil Armstrong, Buzz Aldrin and Michael Collins [...]. It took the MIT experts around half a year to prepare the convincing seven-minute recording combining NASA's footage with Nixon's fake speech. Artificial intelligence's deep-learning technologies were used to ensure that the voice and the movements of the president imitated his real ones. That video is the first one developed in the project 'In Event of Moon Disaster' aimed at showing people how dangerous the impact of manipulated video footage can be. [...]

Klaudia Stawska, 'Is the moon landing a lie? Just listen to the president of the United States' [Lądowanie na Księżycu to kłamstwo? Wystarczy posłuchać prezydenta USA], 21 July 2020 [accessed 10 December 2020]. Available at Tech.wp.pl: https://tech.wp.pl/ladowanie-na-ksiezycu-to-klamstwo-wystarczy-posluchac-prezydenta-usa-6534416849188481a

[...] The project 'In Event of Moon Disaster', however, aimed at creating an alternative course of events. For that purpose, the scientists used not just an original recording featuring Nixon but also archival material showing those past events. Then artificial intelligence kicked in to make fiction look real. The resulting deepfake is a true gem. While delighting the viewer, it also terrifies them showing how advanced deepfake algorithms already are. MIT engineers make no secret of the fact that the project's objective is to issue a warning as to the direction in which that technology may develop and the unimaginable havoc it could wreak in web-based media. As regards historians, their major fear is that fake videos about key historical and current events may be published on YouTube, for instance, manipulating public opinion and consequently causing social unrest.

'The faked disaster of the Apollo 11 mission – check out this amazing DeepFake' [Sfałszowana katastrofa misji Apollo 11. Zobaczcie ten niesamowity DeepFake], 22 July 2020 [accessed 10 December 2020]. Available at Geekweek.pl: https://www.geekweek.pl/news/2020-07-22/sfalszowana-katastrofa-misji-apollo-11-zobaczcie-ten-niesamowity-deepfake-film/.

Source E

Deepfake technology holds positive potential for education. It could revolutionise our history lessons with interactivity. It could preserve stories and help capture attention. For instance, in 2018 the Illinois Holocaust Museum and Education Centre created hologrammatic interviews. So, visitors could talk to and interact with Holocaust survivors. They could ask questions and hear their stories. As deepfake technology advances, this kind of virtual history could become achievable on a much wider scale.

[...] Deepfake technology can fill the role of CGI [computer generated imagery], recreating the likeness of unavailable past actors. So, the character doesn't have to pass away with their actor. For example, the recreation of the late Peter Cushing in Star Wars: Rogue One (2017), who passed away in 1994. [...] AI technology could help us create virtual museums. [...] Deepfake technology could even allow us to resurrect dead artists. For instance, Salvador Dalí at the Salvador Dalí Museum in Florida.

'Yes, positive deepfake examples exist' [accessed 10 December 2020]. Available at ThinkAutomation: https://www.thinkautomation.com/bots-and-ai/yes-positive-deepfake-examples-exist.