

AI, Deepfake and The Inevitable Rise of AVs

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Abstract

Few new digital technologies are making it increasingly difficult to distinguish between real and fake media. One of the most recent developments contributing to the problem is the emergence of deepfakes which are realistic videos that apply artificial intelligence (AI) to depict someone say and do things that never actually happened. Teamed with the reach and speed of social media, realistic deepfakes can quickly reach millions of people and have negative impacts on our society. The paper investigates the deepfakes via varied perspectives that include media, society, and politics. The paper also analyzes the advancement of autonomous vehicles and some hypothetical situations that they will be involved in, to examine just how far the technology has improved and the future of our society with AVs.

Keywords: Artificial Intelligence, Deepfake, Ethics, Autonomous Vehicles

The hi-tech innovations in the recent years have made it easy to create what is now called “deepfakes”, a false image or video that seems deceptively real. Deepfake technology can generate, for example, a funny, adult, or political video of a person saying anything, without the consent of the person whose image and voice is used. Recently, American actor and director Jordan Peele released on the internet which has former President Obama say things that he never would’ve imagined proving just how easy it is to spread false information in the age of technology. It was done using deepfake technology by transferring Jordan Peele’s own facial movements to Obama’s facial characteristics. (Vincent, 2018). For Luddites this may seem real, and they might react unimaginably.

Let’s now talk about Synthesia, a London based startup that makes deepfake videos featuring synthesized talking heads for corporate clients including Accenture and SAP. “Making a video with Synthesia’s tools can take seconds. Select an avatar from a list, type the script, and click a button labeled “Generate video.” The company’s avatars are based on real people, who receive royalties based on how much footage is made with their image. After digesting some real video of a person, Synthesia’s algorithms can generate new video frames to match the movements of their face to the words of a synthesized voice, which it can create in more than two dozen languages. Clients can create their own avatars by providing a few minutes of sample footage of a person and customize their surroundings and voices too”. (Simonite, 2020)

Since the making of a deepfake video is simple, almost anyone with a computer can fabricate fake videos that are indistinguishable from trustworthy videos. “People working to commercialize deepfakes say they are proceeding with caution, not just rushing to cash in. Synthesia has posted ethics rules online and says that it vets its customers and their scripts. It requires formal consent from a person before it will synthesize their appearance and won’t touch political content”. (Simonite, 2020)

Ethics are hard to define, implement and enforce. Even though Synthesia has a set of ethics rules there is a question that needs to be answered: How can these ethical standards be defined and applied throughout the world? Especially because this is a cross cultural, ever evolving world with bad actors spread evenly and where misinformation thrives. Another issue that arises with these deepfake videos is copyright issue. “Lilian Edwards, professor of law, innovation, and society at Newcastle Law School, is an expert on deepfakes. She says that one issue surrounding the commercial use of the technology that hasn't been fully addressed is who owns the rights to the videos. "For example, if a dead person is used, such as [the actor] Steve McQueen or [the rapper] Tupac, there is an ongoing debate about whether their family should own the rights [and make an income from it]," she says.” (Debusmann Jr, 2021)

An autonomous car is a vehicle that can sense its environment and move with little to no human guidance. For this to happen, a gigantic amount of data needs to be collected by various sensors across the car all the time. These are then processed by the vehicle's autonomous system to safely maneuver from start-point to destination. It must also undertake a considerable amount of training for understanding the data it is collecting and be able to make correct decisions in any given mundane traffic situation. Human beings make moral decisions daily while driving a car. Imagine a situation where a jaywalker is crossing the street, a driver will be making a moral decision whether to apply breaks and shift the risk from the pedestrian to the people in the car. Now imagine the same situation but this time it's not the driver who decides but an autonomous car with failed breaks. What would the car's algorithm choose to do in this situation? This is a classic ethical dilemma, that depicts the value of ethics in the development of autonomous technologies.

“If a small tree branch pokes out onto a highway and there's no incoming traffic, we'd simply drift a little into the opposite lane and drive around it. But an automated car might come to a full

stop, as it dutifully observes traffic laws that prohibit crossing a double-yellow line. This unexpected move would avoid bumping the object in front, but then cause a crash with the human drivers behind it.” (Lin, 2013) Human drivers may be forgiven making bad split-second decisions, but the developers of autonomous cars don’t have that kind of luxury because they have the time to get it right and therefore shoulder more responsibility for unfortunate outcomes. These are the type of situations that programmers need to keep in mind while creating the algorithm for driver-less cars.

We, as a society, are aware that law and ethics often diverge. What is considered ethically correct need not be legally correct. For example, in an emergency, a driver might break the speed-limit to reach the destination on time. Should self-driving cars never break the law? If so, will it drive when a headlight is broken, in the daytime when it’s not needed? Developing an autonomous car to obediently do what is legal, for certain instances, can be dangerous. The developers need to include ethics, along with laws, right from the beginning instead of reacting defensively after public criticism.

Now let’s open a can of worms by joining both the topics we discussed till now, Deepfake and Autonomous cars. A main question that needs to be answered is that: Can an AV (Autonomous Vehicle) identify the difference between an actual person and a deepfake projection? Deepfakes are hyper-realistic, human beings are finding it hard to differentiate between real and fake videos, can the robotic car find the difference and make life altering decisions? For instance, a grandma and a child are jaywalking across the street from opposite directions, the driver-less car makes a moral decision and chooses the lesser evil (avoids the child), but it turns out, the child is a deepfake projection and grandma got hit and suffered serious injuries. Who should be held accountable in this situation? The person who just got hit? The person who created the deepfake of a child? The programmer that designed the algorithm? Definitely not the programmer because he/she has included ethics in the algorithm to choose the lesser-evil. The fact that there are not many severe impacts, so far, of deepfakes is because they are still in their early stages of

development. To address the issues relating to deepfakes, a combination of technology, education, training, and governance is urgently needed.

We're now going to apply the ethical theories we've learnt in class to the situation we have here.

In basic terms **Relativism** is a concept where there are no universal standards of right and wrong. It is a belief that there's no absolute truth, only the truths that a particular individual (**Subjective Relativism**) or culture (**Cultural Relativism**) happen to believe. Let's consider this from the situation we have at hand. People who create AV's or deepfake do so because they intend to get some happiness/advantage out of it. The consequences of those actions don't matter, so they are morally correct when it comes to relativism.

Ethical Egoism, in philosophy, is an ethical theory according to which moral decision making should be guided entirely by self-interest. An action is morally right if it helps a person with maximum long-term benefits. Even though there will be some negative comments/feedback/usage, the programmers of AV's and creators of deepfake's will eventually be applauded for their work making them reap maximum benefits. So, according to Ethical Egoism they are ethically correct.

Simply stated, in **Divine Command Theory**, an action is considered good and moral if it is in accordance with the will of God, and an action is immoral and wrong if it is against His will. In this theory The Holy Books are used for determining morality and thus, act as a moral and ethical guide. But there are several Holy Books and not a single book that address our current situation. There is nothing even remotely related to AV's and deepfake's in any of the books making it practically impossible to judge our issue based on the Divine Command Theory.

Kantianism, formulated by Immanuel Kant, has two formulations:

1. 'Act only by that maxim by which you can, at the same time, will that it be a universal law'. "In other words, when working out what you should do you must ask yourself 'would it be OK if everyone took this type of action?'" (Misslebrook, 2013). According to this, if every person in the world ends up using AV's and/or deepfake's, it'll just be a disaster waiting to happen all around the world. By applying the first formulation it will be ethically wrong if everyone started using AV's and/or deepfake's.
2. "' So act as to treat humanity, whether in your own person or in that of any other, in every case as an end in itself, never as a means only'. Other people should never be seen just as a means to an end" (Misslebrook, 2013). It is hard to generalize our topic with this formulation because some people might use deepfake's just for the sake of entertainment (ethically correct) and some might have hidden motives and use other's while creating fake videos (ethically wrong). We need to use this formulation to decide on a case-to-case basis.

Act-Utilitarianism holds that, an action is good and moral if its results are more beneficial than harmful. I honestly believe, despite some anomalies here and there, AV's will be a good addition to the world in terms of environmental impact etc. So, in my opinion using AV's is ethically correct.

Rule-Utilitarianism states that, 'We ought to adopt moral rules which, if followed by everyone, will lead to the greatest increase of total happiness over all affected parties.' Just like in Kantianism, if everyone started using AV's sooner or later there will be an incident which will eventually lead us into a world of dystopia. Therefore, they are ethically wrong.

According to the **Virtue Ethics**, "A right action is an action that a virtuous person, acting in character, would do in the same circumstances. A virtuous person is a person who possesses and

lives out the virtues. The virtues are those character traits human beings need in order to flourish and be truly happy” (Quinn, 2015, p.90). We cannot decide if an AV is ethically correct or not because it depends on the Virtues of the developer who wrote the algorithm for the AV. Therefore, we need to determine the morality on a case-to-case basis.

In conclusion, we can't really anticipate what our autonomous car future will look like, but we can already see that there is work that needs to be done. A car is the most dynamic technology in the world, forever changing the cultural, economic, and political landscapes. They've made new forms of work feasible and enhanced the pace of business, but they also waste our time in traffic. They're also the reason for some environmental and social problems. Similarly, automated cars have the potential for unimaginable benefits and unintended accidents, the technology is coming either way. Change is inevitable but not necessarily a bad thing in itself. But wherever possible, accidents should be anticipated and avoided, with a blend of legal and moral measures.

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