Status and Usage of Deep Fakes affecting Society

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**ABSTRACT**

My project is going to be about deep fakes, what is a deep fake and the status of deep fakes currently. I will be creating a deep fake and doing research on why deep fakes were not used as much this political election. Also, the hardware and software used to create a deep fake.

Summarize your entire project in 3-5 sentences.

# INTRODUCTION

One of the primary challenges with studying gear shifting is keeping track of how many times and when a cyclist shifts gears. With the introduction of Shimano's Di2 electronic shifting [1], it is now possible to record the entire gear history of a ride.

# BACKGROUND

A deepfake is a synthetic media technology that uses advanced machine learning techniques, specifically deep learning algorithms, to create highly realistic fake images, videos, or audio that mimic the appearance, movements, or voice of a real person. The term”deepfake” is a blend of “Deep learning” and “fake.” Deep fakes usually involve the use of generative adversarial networks (GANs), a type of machine learning framework. A GAN consists of two neural networks: The Generator and Discriminator.

Chesney, B., & Citron, D. "Deepfakes: A Looming Challenge for Privacy, Democracy, and Security." California Law Review, vol. 107, no. 6, 2019. https://doi.org/10.15779/Z38RV0D15J.

# METHODOLOGY

**In this section, describe how you plan to carry out your project.**

I plan to research what a deep fake and learn about how they are used in this current time period. Read articles and reports about deep fakes to help get an understanding of how they work, rather legal or illegal. Lastly, gather all of that research and create a deep fake on my own.

Some of the tools, I plan to use to create a deepfake is DeepFaceLab, which is one of the most popular tools for deepfake creation, DeepFaceLab is widely used for high-quality video generation. ([2] Iperov. "DeepFaceLab: The Leading Software for Creating Deepfakes." GitHub Repository, 2018. <https://github.com/iperov/DeepFaceLab>.) Another tool that can be used to create a deep fake is FaceSwap, which is an open-source deepfake creation tool, FaceSwap provides a user- friendly interface for swapping faces in images and videos. It relies on deep learning libraries such as TensorFlow and Keras. ([3] Deepfakes. "FaceSwap: Open Source Deepfake Software." GitHub Repository, 2017. <https://github.com/deepfakes/faceswap>.) Last tool that can be used to create a deep fake is Adobe After Effects (with Plugins). It is not specifically a deep fake tool, Adobe After Effects can be used in conjunction with plugins like EbSynth to enhance video synthesis and create more polished results. ([4] Adobe. "Adobe After Effects: Industry-Standard Motion Graphics and Visual Effects Software." Adobe, 2024. <https://www.adobe.com/products/aftereffects.html>.)

## Data Collection (DO NOT USE THIS SUBTITLE UNLESS YOU ARE COLLECTING DATA … think of a subtitle that makes sense for your methodology)

This is the first part of your algorithm, your software design, your database design, etc… Come up with a section heading that matches your project. If you need a database for your project. You could probably call this “Database Design” and then give the design of your database or at least a thorough description of what data you need to collect/store

## Extracting the Gear Shifting Data (Same comment … adapt this subtitle to make sense for YOUR project

Ditto[[1]](#footnote-1) the previous section

## Displaying the results (Same comment … adapt this subtitle to make sense for YOUR project)

The last part of our approach will be to display graphs and figures that demonstrate something interesting about the collected data.

# EXPECTED OUTCOME

I anticipate a personal creation of a deep fake and its further impact that it could have on the world in the future, positive or negative

# SUMMARY

Deep fakes have been around for about 10 years and to get a pulse of where it is currently. Is it still being used, is it more of a niche thing, is people still playing with it and not doing anything serious with it. I plan to have all the answers to those questions and more, including a deep fake design of my own.

# REFERENCES (DO SOME RESEARCH and include some references, cited within your proposal … these can all be websites or ideally you find some academic papers via Google Scholar)

1. Cooney, C. *Creating sexually explicit deepfakes to become a criminal offence*. BBC News, 16 April 2024. <https://www.bbc.com/news/uk-68823042>
2. BBC News. *Southport man jailed for making 'violating' deepfake images*. BBC News, 23 October 2024. <https://www.bbc.com/news/articles/c5y3820nq7zo>

1. [↑](#footnote-ref-1)