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Below are two excerpts from my undergraduate thesis titled *Deepfakes: from Fake Nudes to Fake News*

In late 2017, a pornographic video featuring actress Gal Gadot was posted online. Leaked celebrity sex tapes are not new, however the video posted anonymously to Reddit represented a different breed of video content on the platform. Gal Gadot's pornographic debut was in fact a fake, generated using an artificial neural network for the express purpose of realizing the creator's imagination. Known as "deepfakes," the technology has developed considerably since the inaugural sex tape, becoming more accessible to a wider audience of consumers as the means of producing deepfake have experienced rapid democratization. At this point in the development of deepfake technology, the tools required to create photoreal simulacra are easily accessible, tutorials and support online are abundant, and the hardware required is available at a consumer price point.

Long regarded as the utmost standard for substantiating truth, the aesthetic complexity of video has made it all but impossible to fabricate, until now. The Gal Gadot fake was the first of its kind and signaled a paradigm shift in how media consumers perceive digital content. Since then, tens of thousands of deepfake videos have been produced in what is now referred to as "involuntary pornography." But the possible effects of this technology span far beyond photorealistic celebrity pornography. Undermining the authenticity of video jeopardizes all digitized and documented identities. With just a few hundred pictures of a person's face, a deepfake can be created, abducting the agency of the individual and blurring the lines between reality and fiction. The technology has the capacity to make public figures say or do anything imaginable, leaching into areas of politics, the justice system, expectations of privacy, the ownership of identity, and the very foundation of truth. Deepfakes present a new and pressing threat in the Post-Truth world, affording fake news a new and photorealistic sensory aspect with an aptitude to distort and deceive its viewers. There is no precedent for the kind of manipulation that deepfake fabrications have realized. No laws are in place to defend the identity, and no central authority exists to debunk falsities. There is no especially high barrier to entry for the creation of fakes, nor is there any infrastructure for tracking fakes as they spread online. These deepfake videos have produced photorealistic reimaginations of unprecedented quality and as of now, the gross majority of the population are entirely unaware of the threats that this innovation has produced.

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Although it is possible to create a deepfake with just a few hundred images of a person's face, it remains that those with an established public identity are most likely to fall victim to exploitation by way generated video. This is something that has already been realized in full in the area of pornography wherein famous female actors are depicted in real life pornographic scenes. Debasing the agency of the individual as seen with this technology marks the beginning of a much greater trend to come, deepfakes designed with explicit intentions to misinform will become a part of our political landscape as well as daily lives. However, those who are most vulnerable to the practical implications of deepfakes are those whose identities are already established in digitized formats. An extreme example of this escalation could be observed by combining the technology used by the now incumbent Prime Minister of India Narendra Modi during his 2014 campaign for office wherein he campaigned by way of projection and illusion. Box trucks outfitted with screens and mirrors designed to create a hologram effect appeared all throughout India where a digital Modi materialized, greeted and spoke with the Indian people allowing the candidate's message to reach even the most remote parts of the country.[29] Magically appearing in multiple

[29] "Modi 2014 Campaign Embraces Hologram Technology | By Musion," portfolio, accessed April 10, 2019, http://musion.com/?portfolio=narendra-modi-campaign-2014.

places at once, the technologically advanced Modi won over the Indian people; many attribute the Prime Minister's success to his innovative campaigning method. However, it is this established and verified digitized form that leaves Modi in a particularly vulnerable position. By convoluting his digital and physical identities and endorsing the messages of this verified inauthentic representation, Narendra Modi has made it easy for anyone with access to similar technology to recreate the Prime Minister and exploit the gravity of his portrayal through the use of Deepfakes. Unleashing deepfake technology in such a way and on a populous whose access to information already leaves much to be desired could have lasting effects on not only Indian politics, but politics at large. How does one both appear publicly, yet preserve the authenticity of their identity? The short answer is, politicians will become the target for significant attacks to character and slanderous fakery as public and powerful figures often are to date. Likewise, democratic discourse will be greatly effected by this process as photoreal fakes will leave impressions on a populous, eroding intuition and making informed opinions less easily accessible. This asynchronous relationship growing between perception and reality will very likely have lasting effects on political processes prone to this sort of manipulation. The possibility to abduct a politician's identity to promote the faker's (or anyone else's) agenda is already completely within reach and a threat that is still, at this time inconceivable to many. However drastic or imaginative political deepfakes may be, an equally great threat lies in the subtle fake; rephrasing or recontextualizing content could slowly alter the politician's image in a way that may be internalized whether the fake is exposed or not. A subtle fake could be used to make a politician appear more or less confident than they are or convolute their message in a way that makes civilians uncertain about a candidate.