

## Preparing for Post-Truth Technologies

Jackson Pacheco - 10 February 2018

According to a 2016 report by Influence Central, the average age at which a child now gets their first phone is 10.6 years old. The average age at which they get their first social networking account is 11.4. That means that well before puberty, children are already tweeting selfies and sending Snapchats.

What these impressionable kids might not understand, and what will only become increasingly harder to teach them, is that the latest iPhone's seven-megapixel front-facing "TrueDepth" camera allows for a portrait mode that uses artificial intelligence to better understand a subject's face and decide what parts should be in hyper-focus and which parts should be blurred. And the Snapchat filters, which can render a selfie goofier or quirkier through the addition of dog ears or flower crowns, often make a subject's jaw look subtly sharper and more defined, or make their skin look slightly clearer and more vibrant. This is why, perhaps closer to puberty, they might be frustrated with the disparity of their self-image between the camera roll and the mirror.

Improvements in photo and video technology do not only have the potential to affect the self-confidence of future generations: they have the potential to affect everyone's confidence in the truth. The neural networks that allow for Snapchat to make your face into a hippo's? They are also currently being used to convincingly insert anyone's face into porn, and generate videos of Trump appearing to say things he never said. And it will sound like he said them, because these reality-shattering advancements aren't just limited to photo and video: Adobe recently premiered a demo of VoCo, an app commonly referred to as "Photoshop for voice", allowing a user to create an audio clip of someone saying something they never did, requiring input of only minimal sample clips. The people doing this aren't in Hollywood at Industrial Light & Magic. They're at home, using readily available open-source software.

What happens then, when the ability to not only alter, but to synthesize an audiovisual artifact that not even twenty years ago would have been taken as absolute proof of occurrence becomes nearly universal? Recent, executively-promoted hysteria about "fake news" may lend an answer: apathy at best, violence at worst.

As made-up news stories became commonplace in our Facebook feeds, the President began to use the idea that there was some fake news to dismiss any news that he didn't like, because the mere existence of a content-accelerating platform that could spread misinformation at such a large scale opens up the possibility, and evokes a new breed of skepticism that can't be undone. People are willing now more than ever to refuse information that doesn't suit their beliefs. Confirmation bias thrives as fake news has, to some extent, irreparably damaged the way people view reporting.

And that's just among the people who remain inactive as lies spread. But fake news has inspired real life actions. In December of 2016, a North Carolina man drove up to Washington, D.C. and fired an assault rifle inside of a pizza restaurant because he saw a fake news story that Hillary Clinton was running a child-sex ring there, and he decided to intervene. If rather than falsified leaked e-mails there were generated clips of Hillary Clinton discussing the pedophilic activities, imagine how much worse Welch's investigation could have gone.

Rapidly-improving technologies threaten to send us into a post-truth age. The generation that grows up accustomed to and perhaps dependent on the algorithms that power these threatening tools will likely be growing up in a world eradicated of evidence and apathetic toward inquiry, where everyone will by default stand insufficiently informed to participate in a democracy.

Since these technologies already exist, the only thing that can be done now is demand any and all possible safeguards, and promote research into counter-tools that could help verify the legitimacy of a video or audio file. Adobe's VoCo was met with deserved concern, and has not been demoed since 2016 as a result. Message boards where celebrities were being non-consensually inserted into porn using the Deepfakes software have since been shutdown, but the content is still out there. This technology paves a one-way street, and once it becomes available there is no way to undo its effects. These tools must continually be met with the appropriate disapproval that considers the dangerous implications that greatly outweigh their commercial use.