Deep Fakes, Artificial Intelligence & Eco Species

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ABSTRACT

Interestingly art is full of reproductions. Some are replicas, like Mona Lisa and others are fake or forgeries, like the 'Vermeers' painted by Han van Meegeren which was sold for $60 million (Kreuger and van Meegeren 2010). Now the distinction between real and fake is based on the concept of authenticity. The question is, is this artefact what it claims to be? The answer seems simple, but in reality, things are complicated. Today, the painting of the forger John Myatt is so famous that they are valued at up to $40,000 each, as 'genuine fake' (Furlong 1986). So technically, they are not what they say they are, but they are authentically painted by him and not by any other forger. And they are beautiful, *"a bit as if one were to utter a beautiful lie, not any ordinary lie."*

According to research out of cyber security company, *Deeptrace*, the number of 'deep fake' videos on the internet has doubled in just nine months from 7,964 in December 2018 to 14,698. Of these 'deep fakes', 96% were pornographic, often with a face of a celebrity morphed onto the body of an adult actor engaged in sexual activity. Accordingly, Facebook has invested $ 10M into research efforts to produce a database and benchmark for detecting deep fakes and is partnering with top research institutions such as MIT, UC Berkeley, and Cornell Tech. It is clear that deep fakes are alarming and firms like Facebook are doing something about it, but the question is what are deepfakes? And why are they alarming?

Due to the increased concentration of users around social media and the democratization of means by which deep fakes are produced, the web is seeing an increasing propagation of hyper-realistic deep fakes without technical understanding of machine learning, and their increased realism and scale is largely due to improvements in the organization of datasets being fed into machine learning algorithms, as well as the introduction of Generative Adversarial Network (GANs).