

Machine learning algorithms as is are still vulnerable in numerous ways. They are data hungry, sensitive to adversarial attacks and garbage data and have a reputation for being 'black boxes' that are unaccountable and unexplainable. Additionally, humans are vulnerable to the large-scale deployment of ML algorithms in society. We have seen facial recognition fail to correctly classify black persons as well as having the ability to classify homosexual people solely based on appearance. Deepfake algorithms have been shown to cause political distress even if they are of low quality, human jobs are being replaced by more efficient technologies and humans have begun forming meaningful relationships with virtual/robot companions. Thus an important question we must consider are the legal relationships between the producer and consumer of such algorithms. One answer to this question is formulated through the Theoretical Human Rights Framework. Human rights are rights possessed by human beings in all times and at all places, simply in virtue of their humanity. According to the Fundamental Conditions Approach, human rights protect the fundamental conditions for pursuing a good life; these include security, liberty, expression, etc and universal rights imply a universal duty to uphold these rights. As such, producers of these ML algorithms must act in a way as to not violate fundamental human rights, for example government entities deploying facial recognition for the purpose of national security could be hazardous towards our right to liberty and security. The trolley problem is a classic normative ethical dilemma where a moral agent must choose between killing one person or letting five others die. Consequentialists would choose to kill the one person as it maximises best consequences. Recently this has become a more relevant topic as it relates to the behaviour of self-driving cars for when they are in a scenario where killing is unavoidable.

Robot companions mostly fulfil a specific role in society that provides companionship to elderly persons that aren't provided the interaction with loved ones that they need. While there are cases of young people with the same type of relationship such as the marriage between a Japanese man and Hatsune Miku (a manga character), it is not common amongst young people to desire, pursue or nurture relationships with these companions.

As robots become further integrated as companions, people may start to desire specific traits in their companion i.e. they will look for specific personalities or forms that may suit who they are and who they enjoy being with. It is not uncommon nowadays with the invention of online dating and social media for people to be more stringent on the people they choose to associate/be in a relationship with. Although robot companions are most commonly seen amongst the elderly due to societal abandonment, many young people these days report increasing feelings of disconnection and loneliness. How are younger people affected when they have monetary access to robot companions that act as both a friend or a partner.

I believe that if/when such beings exist, adolescents will not necessarily choose to have robot companions as their first choice of loved ones. This is because growing up is a huge part of the development of one's behaviour and growing up alongside your friends and loved ones provide

room to grow and learn from each other. However, adults may be more tempted to buy these companions as it takes less (or no) time to form these relationships with personalities you enjoy.