CS461 HW 4

Group Name: X-WORD

Can ÖZGÜREL Fuad AGHAZADA Çağatay SEL Utku Mert TOPÇUOĞLU Kaan KIRANBAY

Rebutting the Arguments of a Philosopher About Artificial Intelligence

Artificial intelligence is a topic that has fueled many arguments throughout the period that it was existent in our lives. The aforementioned arguments usually break out because of the lack of attribution that AI suffers from, in spite of its positive qualities that have been and still is being utilized in countless areas of science and technology. Among these controversial topics, creativity is one that baffles the minds of those who try to tackle the problem of humanization of AI. In the article "A Philosopher Argues That an AI Can't Be an Artist" from the March/April 2019 Issue of MIT's *Technology Review* magazine, the author, Sean Dorrance Kelly, does exactly what is being stated in the title and argues that creativity is solely a human attribute and cannot be attained by an AI.

First and foremost, a summarization is in order, for the purpose of further analyzing the contents of the article. Kelly starts with a brief explanation of what creativity is and how it applies to the principles of greatness and intelligence, and he uses the example of the sound of a punch that gets thrown during a brief quarrel becoming the most aesthetic aspect of a concert. Kelly uses the said example to support his idea that creativity and greatness is achievable through accidental discoveries only. He states that the social embedment of creative human accomplishments is going to terminate the submission of the said accomplishments to the ones that are being achieved by AI; and also that having a counter argument would mean that our creative nature as humans is being misunderstood. Kelly handles the topic of creativity in 3 subcategories (namely music, games and mathematics) in his article in order to approach the problem with a "divide and conquer" mentality in mind. He explains the source of creative ability among musicians by giving the example of an AI that can produce compositions in the musical style of Bach through sampling and deep-learning techniques. Kelly disagrees with the notion of this accomplishment being considered creative, as he states that it is merely some sort of mimicry; and that creativity must induce a shift, in the world-view of society and valuable qualities, through accidental means. Further on, he judges the success of a famous AI,

AlphaGo. Kelly's statements amount to the understanding that although AlphaGo utilized strategies that were unbeknownst to even the most advanced players and revolutionized the game of Go, its achievements cannot be considered an indication of creativity as the realm of Go is a limited "toy domain" which cannot be seen as a scalable replica of the real world. To finish off, Kelly goes on to suggest that mathematical proofs made with the assistance of, or solely by, AI cannot be considered creative as they are either based on repeated calculations or the application of preexistent solving methods. He adds that for a mathematical proof with relations to an AI to be considered creative would bring about overly complex steps, which would ruin the purpose of having proven the problem in the first place, as it would not be understandable by the experts of the field.

To begin the rebuttal of Kelly's ideas, one may take a look at the connections that were established by him between AI and art. To call the actions of an AI, which were taken in order to construct recreational mechanisms, unoriginal steps; and to label AI as a creator of mimicry is a contradiction. Kelly, in essence, is describing AI as an apprentice of art. An AI acting as a "learning artist" is solely perpetrating its main purpose, learning, which is a stepping stone for the creative steps that it is meant to take later on. Kelly completely sunders AI from creativity in the beginning, yet he starts to back down from his original idea as the article progresses by replacing the complete lack of creativity with the deficiency of certain sorts of creativity. In addition, not only does Kelly disregard the works of great artists by stating that greatness only occurs in the wake of accidents, he can also be detected nitpicking as his criticisms start changing their targets from AI as a whole to a few parts of AI, such as certain algorithms that are used. In summary, AI does not have to purposefully become a replacement of, or a substitution for, human creativity; since it can still possess and extend creativity as a tool or an autonomous entity.

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