WHIPLASH DRUM DEVICE

THE CREATION OF ARTISTIC MEDIA BY ARTIFICAL INTELLIGENCE AND ITS EFFECTS ON HOW HUMANS PERCEIVE CREATIVITY

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SOCIOTECHNICAL SYNTHESIS

Artificial intelligence (AI) is in the process of replacing humanity in all industries, including creativity. The technical research project, titled "Whiplash", is a device that can play a physical drum to the beat of an input song. The idea of the project was to have a device that could represent a drummer in a band when a human drummer is not present. The STS paper aims to study the effects of artificial intelligence on our perceptions of creativity. The purpose of the research is to understand the position humans are placing themselves in for the future of creative AI. Whiplash is a bridge technology that could be further developed to contain its own AI and fully replace a traditional drummer. The implications of new technology replacing humans in the creative industry are important to understand when trying to navigate the future of AI.

The problem Whiplash solves is having a practice partner that will never tire or stray from the practice routine. The device was able to take an audio source into the microcontroller, read the beat of the audio, and turn a drumstick to the beat via two servos. The device functioned mostly optimal; however, there were moments where latency issues caused the device to output beats with a delay. In its current state, Whiplash may not replace any human musicians, but the concept can be expanded to have the device play an entire drum set.

The research question for the STS paper is as follows: how has artificial intelligence affected the way we perceive creativity? The paper also aims to understand the role AI takes in the creation of art. The Actor-Network Theory (ANT) framework is used to investigate the interactions between human and non-human entities in the development process for AI. To explore the research question, multiple experiments and studies are analyzed for their intent and outcome.

Several major events have shaped our perceptions of AI on creativity. Two cases that turned people against AI were two artist that won awards in art competitions after submitting AI-generated pieces. After extensive research, it seems there are two schools of thought for AI: that AI is simply a tool humans use to express themselves, and that AI is an independent entity capable of creating original works. The outcome is highly dependent on how much an AI is anthropomorphized in addition to the language used to explain the functionality of the AI. Major ethical and legal concerns arise as well in terms of copyright and the protection of human artists.

AI has shifted our perception of creativity and challenged the role of the artist in the creative and legal process. Further concerns involve the originality and authenticity of AI art and the potential replacement of humans in the field. The technical project, Whiplash, and the ANT framework both help us understand the implications and reasons for development of AI technology. The ability to implement AI into a wider range of software or hardware will fundamentally change the relationship humans have with machines. Further research and time will be necessary for a deeper understanding of the true effects of AI on humanity.

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