

Sociotechnical Synthesis

The general problem relates to the relationship between AI Art and traditional artists (*The Guardian*, 2022). More specifically, the debate stems from the argument that the methods of data acquisition for AI infringe on fair use copyright laws meant to protect artists, and that said infringement could potentially endanger the lives of creators on a global scale on an irreparable level (Rubio, 2023). Both the STS and technical problem aim to look for alternative arguments and solutions, where there could be safe alternatives for AI to be incorporated into the art process rather than being excluded altogether; The technical problem proposes an alternative approach to conventional AI art by eliminating the need for external data, while the STS problem encompasses the actor-network theory framework of artists by taking apart the roles of both the artist and AI while analyzing the various lens the arguments are scrutinized under.

The technical problem called into question the ethical legitimacy of using other artists' work as data to feed into a machine. Therefore, I proposed an algorithm that takes data strictly from the user, and no one else, thus negating the risk of copyright infringement while giving the artist a direct role in making their art. The goal of this technology is to be able to integrate the works of the artist with programming. From a proposed design illustrated in my capstone project, I found that it is possible to protect the copyright laws desired by artists by incorporating the artist's own work into the AI rather than from external sources. More specifically, by implementing a custom program that traces the artist's own style, AI can assist artists in making their own art instead of plagiarizing off of others, even expanding on them and helping them throughout the process.

As for the sociotechnical problem, I sought to look for arguments that AI could be used for good and counteract the argument proposed by artists could be addressed by incorporating legal and practical definitions of AI into the arguments for the field. In this research endeavor, I found that artists can legally work with AI in multiple ways beyond image creation. By taking apart the roles of the artist and the AI, I found that the two roles are much more interconnected than they appear to be on the surface. Regarding the raw power of AI, they can be used to track finances, extract details, and analyze works of art (McCoole, 2023), assets which can greatly benefit artists. A prominent example is an algorithm devised to create inversions and distortions of a given architectural layout, intended to be used to give architects extra perspectives in designing their layouts (Ploennings, 2023) As for the art itself, the AI generates parts of painting or image, such as the background or sketch of an object, so that the artist can focus on the more important parts. In addition, we found that legally, AI cannot hold the same rights as people, since by design, these machines cannot be said to be creating their own work since they were made without direct human interference (Yavuz, 2023). Through all of these arguments, I found that AI has a place in the art world despite its numerous controversies.

We succeeded in both aspects of research; for the technical problem where we were able to create a draft for a prototype AI add-on that lets artists auto-generate pre-rendered images of the background of a canvas. For the research problem, we found assertions for three main counterarguments calling for the suspension of AI in art, where we tackled the framework for the argument from three perspectives, addressing the legal and long-term implications for both parties. It is during this research that we were able to find traces of a case calling for the implementation of AI in the field, especially during its infancy. We now call for researchers to look more into the field and observe the incorporation of such technology with artists over the next few decades.