Programming Picasso: AI-Generated Art and Intellectual Property Laws

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We have reached the time when computer pixels and algorithms, ones and zeros, can create a masterpiece good enough to compete with the most famous artists of all time. Today, any person can utilize a plethora of AI programs to input a few keywords and have the machine create a new original work of art. Now consider this: When a digital artist is creating something new with the use of generative AI, who is actually holding the brush, and who has the right to claim the canvas? The art world and computer science are undergoing a profound transformation with the accelerated advancements of artificial intelligence (AI). As AI continues to evolve, a critical message emerges: How do current and evolving intellectual property laws and copyright regulations consider human contributions versus AI, and to what extent do these rules aid or hinder the interests of artists, developers, and the public? Due to the substantial advancements in AI, this essay examines how intellectual property laws and copyright regulations impact creators, developers, and the general public, as well as explores the ethical dilemma of protecting the interests of human creativity while addressing the authorship of AI-generated art.

Current copyright rules, instead of contributing clear guidelines, often hinder digital artists and program developers. Intellectual property and copyright regulations are the foundation of protecting creators and their original works of art. However, with the development of new sophisticated AI programs, existing copyright standards face new challenges. According to Mahari, Fjeld, and Epstein (2023), copyright law necessitates “meaningful creative input,” which is satisfied by human creators, but potentially also AI programs that rely on input data from a human. For instance, the case of Jason Allen, who used an AI-generative program, Midjourney, to create a work of art that won first place at a Colorado state fair in 2022, raises questions about the amount of creative input that is required to meet current copyright standards. Allen claims

that his artwork is not fully automated and required close to one thousand iterations and more than eighty hours of his time to achieve his desired outcome. Allen was able to keep his first place title because the rules of the contest did not specify whether or not AI was allowed. He also did not attempt to copyright his work as it does not hold up to current copyright standards. Many people were upset that an AI-generated work won over art that was solely created by a human. Yet, his experience demonstrates the substantial human effort that can go into creating AI-generated art, similar to the work invested in other digital editing tools like Photoshop.

Likewise, the evolving abilities of AI technology, as discussed by Somaya and Varshney (2020), call for ongoing evaluations and revisions of policies to keep up with the rapidly advancing AI capabilities. They believe that AI will become essential to creativity and other innovations that currently are only represented by human intelligence. The United States Copyright Office agrees as well that evaluations need to take place. Suzanne Wilson, general counsel and associate register of copyrights for the United States, is heading an inquiry into these exact topics called the AI Initiative. Their mission is to "explore the copyright policy questions surrounding AI, including hosting public listening sessions and planning events and opportunities for public engagement (2023). The already existing forms of AI-generative programs call into question the basic tenets of current intellectual property laws. Copyright standards are designed to encourage creators to continue contributing their art to society while protecting their efforts. These laws have always prioritized human creators and artists at the core of the creative process, which testifies to the consensus about creativity's inherent humanity. As a result of recent AI breakthroughs, these assumptions are now being reconsidered. This opens the door for consideration of copyright allowances given to AI developers as well.

For example, about five years ago, a French art collective sold a work of art at an auction house for $350,000. The piece, “Edmond de Belamy, from La Famille de Belamy,” was the first of its kind to ever be auctioned. It was a portrait generated by AI that “fetched hundreds of thousands of dollars more than works by Andy Warhol and Roy Lichtenstein offered in the same auction” (Somaya & Varshney, 2020). A programmer named Robbie Barrat immediately contested the authorship of the work, claiming that he designed and programmed the code used to create the art. Barrat went on social media to proclaim that the art was made using an algorithm that was solely created by him, that he shared online and was not intended for commercial use. This scenario adds another layer to the question regarding original authorship of intellectual property. If the AI developer can be considered as part of the creative origin, then he would be entitled to at least partial authorship. He could then argue that he would also be entitled to a portion of the original sales price. Miernicki and Ng of AI & Society further expand on that thought stating that this could be considered similar to the problems faced with co-authorship, where more than one person works on a piece of art (2021). Like co-authorship, it is not always clear who does what work regarding the final output. A potential option would be to create a category of contributors rather than only deciding on authorship. When used for AI-generative art, it could mean that developers or program users could be listed as contributors rather than authors with copyright claims. However, if intellectual property laws were to include developers of the creative AI systems, then developers could potentially be granted partial intellectual property rights over their innovations as well as any products created by their AI, in addition to copyrights granted to artists and other users of AI-generative art programs. Somaya et al. call for the continuous evolution of policies to keep pace with this fast-growing industry of technology. Without additional defined copyright protections for developers and digital artists, the creative

potential of these groups may be hindered, and innovation may slow or even come to a halt (2020). The alternative is that many AI users might not disclose that their work was created using an AI-generative program. Unlike a co-authorship, where the co-artist could contest claims, it would be nearly impossible to verify and contest if an AI user claimed to be the sole author of a digital art piece. Because of such scenarios, Miernicki and Ng express concern that "the use of AI can have far reaching consequences and many problems are still not fully explored" (2021).

Although there is validity to the claims of the digital artist and AI developers, there is another side to the story: that of original artists who are the source of the AI's initial coding. If intellectual property laws were to change to allow AI artwork to be copyrighted, this could negatively impact original artists and possibly discourage them from continuing to be creative. As it stands, intellectual property laws actively protect the interests of these original artists who created works of art without the aid of AI. During the process of programming AI generative programs, developers must train the AI what art is. To do this, programmers use images sourced from the internet. Each image will include keywords that create understandable categories for the AI, such as the name of an artist, painting style, mood, genre, or art period. Helyer (2023) indicates that some AI generators are programmed to gather information from the internet, potentially without the consent of the artist, leading to alleged copyright infringements. This action has been coined "scrubbing". Helyer advises that any user of an AI-generative program should always assume that copyright infringement is involved in the output product of the AI program and never use the end products for commercial purposes (2023).

Because of this, it is important to consider the source of AI scrubbing. Concerning digital artist and developer rights, an opposing view presented by Heikkila (2022) challenges the

previously made arguments by pointing out that AI-generative systems cannot exist without the AI's training data coming from thousands, if not millions, of images sourced from the internet. One particular artist has been thrown into the center of this debate. A well-known, reputable commercial artist, Greg Rutkowski, has made an impressive living by creating original fantasy works of art for many companies in the video gaming industry. Rutkowski has made a name for himself through illustrations for games such as "Sony's Horizon Forbidden West, Ubisoft's Anno Dungeons & Dragons, and Magic: The Gathering" (Heikkila, 2022). Unfortunately, along with the popularity of his characteristic style, his name has become one of the most popular inputs for the newly released AI art generator Stable Diffusion. His name has also gained immense popularity in other similar programs such as Midjourney. If a user were to choose keyword prompts such as man, house, and Picasso, any of these AI-generative programs would create an output of varying differences. However, they all would have a man with a house, and the details would be similar to the easily identifiable art of Picasso. This predictable output is because the developer of each AI system created an algorithm that forced the AI to scrub many images created by Picasso so that it can understand what makes Picasso unique and apply those factors to the newly created output.

Rutkowski, as well as other artists, assert that the only possibility of AI programs being able to mimic their art based on a simple input of their name is because the AI has been trained by scrubbing their copyright-protected works and is using them without their consent. In less than a month after Stable Diffusion was available to access, Rutkowski's name was input almost 100,000 times into the generator. According to Heikkila, Rutkowski was not even upset at first. His initial impression was that his newfound popularity could be positive marketing for his art to "reach new audiences" (2022). Unfortunately, once he decided to search his name online, he

came across many works of art with his name attached to them that were not his original work. This problem can affect artists negatively in many different ways. First and foremost, it threatens their potential income. With so many works of art online that include the name of the inspiring original artist, it poses considerable risk. Fans of these artists could potentially unknowingly spend their money on products that are not authentic works of their favorite artists. This means that the original artists may never receive compensation from these fraudulent sales, which diminishes their income and negatively affects their livelihood. Secondly, the original artists are not in control of the AI-produced art. Any keyword inputs provided to the AI-generative programs could create art that misrepresents the original artist's creative intent, negatively affecting their brand and fan base. Artists may struggle to maintain their artistic integrity and safeguard their reputation in the face of AI-generated art beyond their control. Because of this, Rutkowski, as well as many other artists, assert that intellectual property laws should not only remain as a standard of protecting only human-art but create further regulations against commercially distributing AI-generated works until further research can be done to determine if copyright infringements have already taken place during initial AI scrubbing.

Concurrently, a third argument has been made, revolving around the fact that AI-generated outputs are not original human-made works of art and consequently should be officially categorized as public domain. Moran and Vézina (2023) of Creative Commons assert that AI-generated outputs should unanimously belong to the public domain, at least until there has been sufficient research to better understand the ramifications of any changes regarding intellectual property laws. Presently, a crucial debate is taking place revolving around whether AI-generated art can even be considered human-made work. If not, it should be categorized as public domain for fair use. Moran et al. further argue that currently, intellectual property laws'

originality requirement does not encompass any non-human entities. Santa Clara High-Technology Law Journal's article *I, Copyright,* agrees with the public domain sentiment stating:

> A limitation to copyright protections is that to obtain a copyright, one must be human, and since copyright is conferred upon an author who not only conceives of the work but also fixes the work, the work created by an artificial intelligence could, therefore, be treated as merely output or data, giving ownership to no one. (Huson, 2018)

With the fast-paced evolution of AI-generative programs, there are too many unknown factors to make a clear decision either way. They strongly argue that AI-generated works of all kinds should never be copyrightable. It is undoubtedly essential to consider the public interest when considering changes made to existing copyright regulation laws and how the laws have been applied in the past. While most people are debating whether the AI developers or the digital artists have authorship, Moran et al. remind readers that the originality requirement of intellectual property laws does not include non-human entities. In a previous court decision, which set a legal precedence, a photograph taken by an animal was legally determined to be the property of the public domain (2023).

To further support the claim for public domain, Somaya and Varshney (2020) explore a compromise of sorts. In the case of AI-generated art, if the digital artist, the developer, or even the original artist of inspiration is given some form of copyright, then it should be for a much more limited amount of time. A shorter duration would allow each party some protections but would ultimately put the AI creations into the public domain afterward. All of these mentioned scenarios and potential solutions each have their pros and cons. While individual cases will be tried at the state level, eventually through the appeals process, it is most likely that the issue will end up in the hands of the Supreme Court to make a final determination to give artists,

developers, and AI users a standard to follow. Society is in a rare transitional phase, not knowing what the outcome of such technologies will be.

All things considered, the recent evolution of AI-generated art sparks complex debates about intellectual property laws, copyright regulations, and the ethical dilemma about authorship. The impact of current and future laws on human creators, AI developers, and the general public has potential pros and cons for all sides concerned. As AI technology continues to evolve, intellectual property laws will try to adapt to keep pace with new innovations while attempting to ensure that all appropriate parties are protected. There is no doubt that AI is here to stay. The question of AI-generated art authorship will remain the subject of ongoing debate that will require continued reconsideration as technology and artistry come together in this digital age.

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