

My Case for the Copyrightability of Some AI-generated Artworks



Dallin Johnson

I created the image above using OpenAI's DALL•E 2 system last year. The image's title is JUPER, and I consider myself to be its author. I fixed JUPER in a tangible medium of expression when I exported the final version of the image with my signature from Photoshop as a .png file, after which I printed a copy of it at my local FedEx store to frame and hang in my hallway. Because JUPER is an "original work[] of authorship," is "fixed in any tangible medium of expression," 17 U.S.C. § 102(a), and, unlike the phone directory in *Feist*, demonstrates "the modicum of creativity necessary to transform mere selection into copyrightable expression," *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 362 (1991), I believe the image is eligible for copyright protection in the United States. Accordingly, I submitted JUPER to be registered with the United States Copyright Office on November 9 and received a Certificate of Registration in the mail shortly thereafter with a decision date of November 14.

In theory, I now have a copyright registration I can use as prima facie evidence should my copyright to JUPER be infringed and I decide to bring suit, but, as with many legal issues, the answer to whether I would succeed in such an infringement case is less straightforward. Importantly, the hypothetical infringer's legal team would likely challenge the copyrightability of JUPER on authorship grounds, relying on a recent letter from the U.S. Copyright Office Review Board to Steven Thaler's lawyer reiterating its position that a copyright claim for which Thaler identified "Creativity Machine" as the author could not be registered because it "lacks the human authorship necessary to support a copyright claim." Letter from U.S. Copyright Office Review Board to Ryan Abbot, Esq. (Feb. 13, 2022), <https://www.copyright.gov/rulings-filings/review-board/docs/a-recent-entrance-to-paradise.pdf>.

If I were to rely on Thaler's reasoning, I don't believe I would succeed in an infringement case. Rather than argue that he or any other human is the author of the work in question, he

insists the work was “autonomously created by artificial intelligence without any creative contribution from a human actor” and instead argues “the human authorship requirement is unconstitutional and unsupported by either statute or case law.” *Id.* The Copyright Office Review Board rejects his argument entirely and cites the *Compendium of U.S. Copyright Office Practices*, multiple Supreme Court decisions, and federal agency practice to conclude “that Office policy and practice makes human authorship a prerequisite for copyright protection.” *Id.*

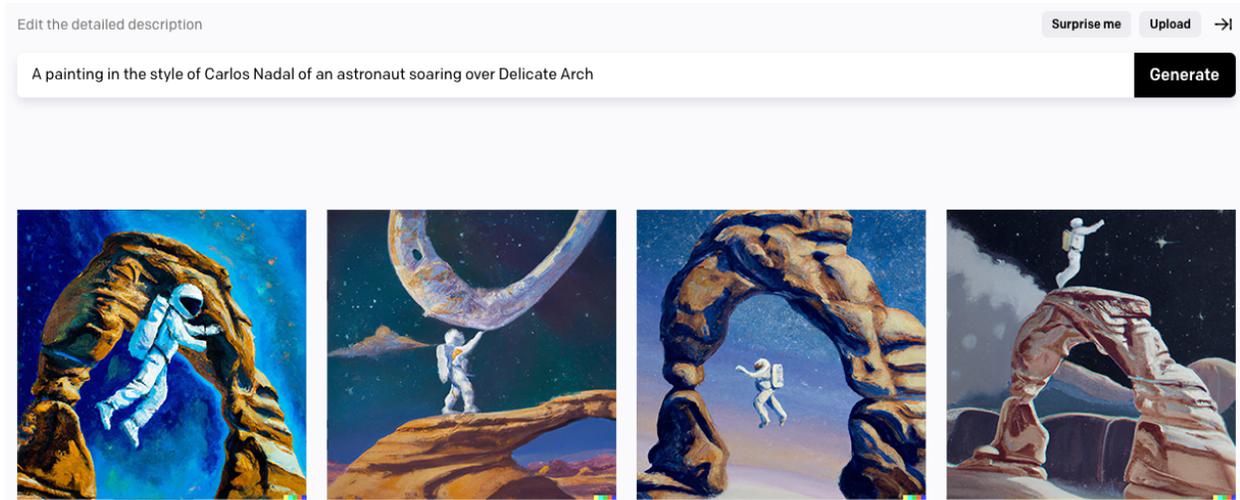
If I were to rely on reasoning where I frame myself as the author of JUPER, however, with DALL•E 2 being analogous to a paintbrush, a camera, or Adobe Photoshop—tools people have historically used to create original works of two-dimensional art—I believe I would succeed in an infringement case. Rather than push back on the idea that human authorship is required for copyrightability, my reasoning accepts this precedent and instead argues that I authored this work with the help of a tool that has drastically sped up the creative process. Even though individual elements of the work as a whole may not be copyrightable due to a lack of human authorship, enough creative decisions were made along the way to satisfy copyright law’s “requisite level of creativity,” which the Supreme Court highlights is “extremely low; even a slight amount will suffice.” *Feist*, 499 U.S. at 345.

To illustrate the creativity involved in creating JUPER, I’ll break down the process.

How JUPER Came to Be

JUPER began with a single prompt I plugged into DALL•E 2: “A painting in the style of Carlos Nadal of an astronaut soaring over Delicate Arch.” This prompt is what OpenAI’s Terms of Use define as “Input,” and the images the service generates based on Input are defined as “Output.” *Terms of Use*, OPENAI. <https://openai.com/api/policies/terms/> (Nov. 3, 2022). With

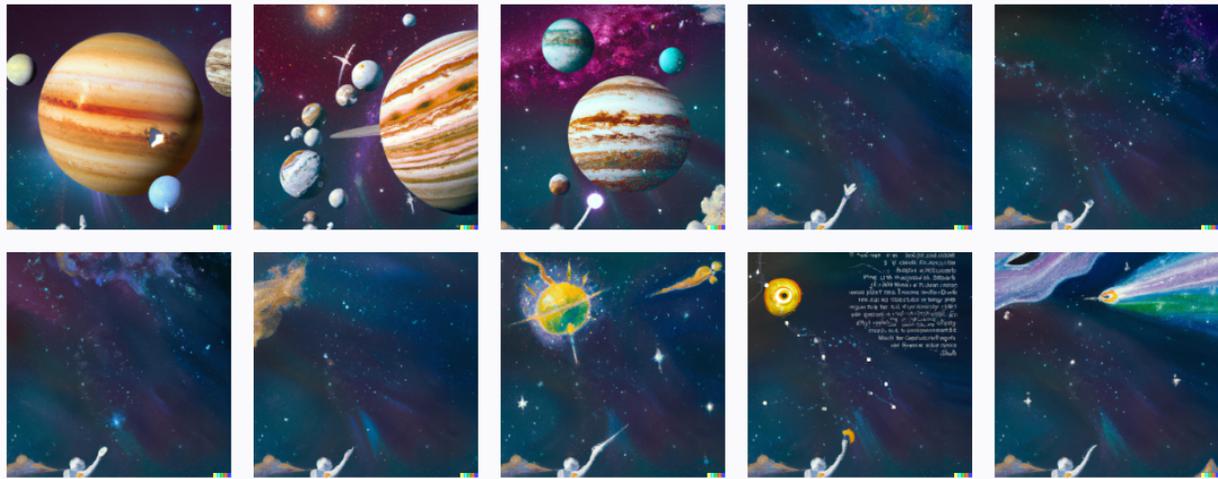
each Input, DALL•E 2 generates four different Outputs. Below are the four Outputs generated by my first Input:



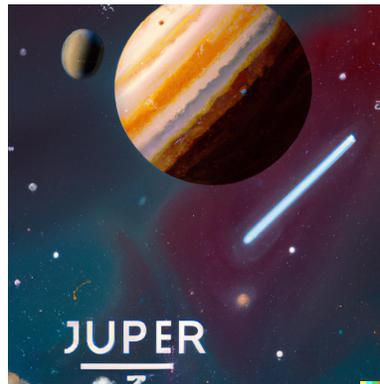
Of these four Outputs, the second was my favorite, but I didn't love what DALL•E 2 added to the sky. Was it supposed to be the Moon? And if so, why was it so close to the ground? It didn't make sense to me, so I used DALL•E 2's edit feature to remove it and fill the rest of the sky with stars:



I wasn't sure exactly where I wanted to go from here, but I did like the idea of an astronaut reaching into a clear sky toward something. I moved the generating frame up and began experimenting with different Inputs:



I really liked the way Jupiter’s colors contrasted with the dark sky, but I didn’t love the first few Outputs it gave me, so I tried an Input similar to my first (“Add the planet Jupiter, painted in the style of Carlos Nadal”) and DALL•E 2 eventually gave me something I liked:

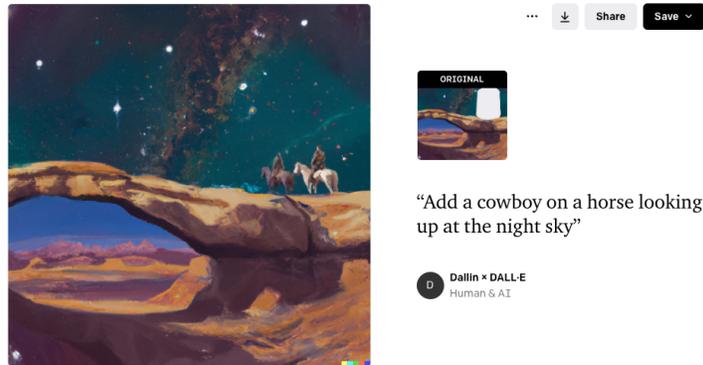


It was perfect, in part because the planet appeared exactly how I envisioned it, and in part because DALL•E 2 unintentionally gave me the title for the piece. As of this writing, DALLE•2 struggles to generate actual words, but to its credit, it came pretty close to spelling Jupiter.

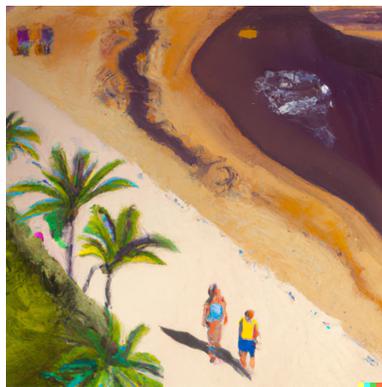
From here, I wanted to expand the landscape a bit, so I moved the generating frame to the right and plugged in “Extend the landscape, add Delicate Arch in the style of Carlos Nadal:”



The landscape seemed a little empty, so I decided the astronaut on top of the arch needed some cowboy friends. Fourteen Inputs and 56 Outputs later, DALL•E 2 eventually gave me something that matched what I envisioned:



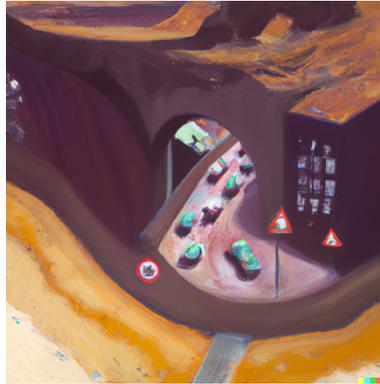
The bottom left of the piece needed something now, and it would have been pretty boring for the entire scene to be in the desert, so I decided to “Fill in the landscape, adding a beach:”



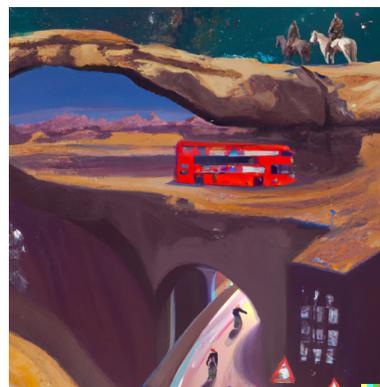
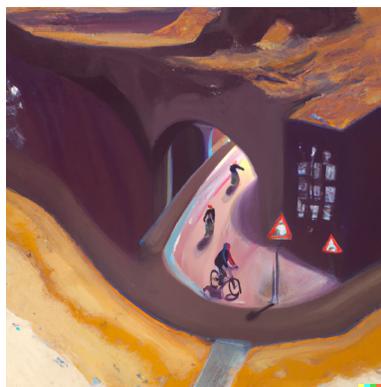
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Again, it was perfect. DALL•E 2 added the beach exactly as I envisioned it, and in a way that blended perfectly with the existing landscape. I could have done something similar in Photoshop, but this was a far quicker way of achieving this.

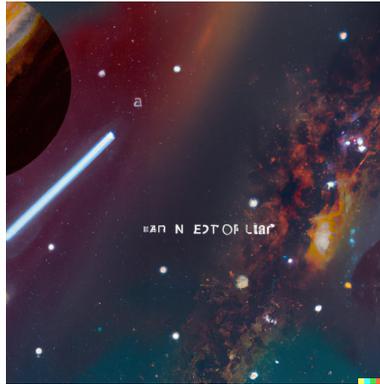
The piece was nearing completion, but a few more ideas popped into my head during the process. First, I had already juxtaposed desert with beach, astronaut with cowboy, and landscape with the heavens—why not juxtapose rural with urban as well? “Add a London Underground station,” I typed:



I liked this, but I’m much more of a bike and public transportation guy than a car guy, and fortunately DALL•E 2 was able to both replace the cars with bikers and add one of London’s red buses to the scene:



The last element I wanted to incorporate (“Add a nebula in the shape of a guitar”) ended up being too much for DALL•E 2 to handle, but it gave me an Output I found interesting enough that I accepted it and called the work as a whole complete:



What am I the Author of, Exactly?

My theory of authorship assumes each of the individual Outputs DALL•E 2 generated may not be copyrightable. I may be the author of JUPER and have a valid claim to copyright protection to the piece as a whole, but each of its elements, such as the original Output generated by my “A painting in the style of Carlos Nadal of an astronaut soaring over Delicate Arch” Input, were not created by humans and thus may not be eligible for copyright protection. My theory is consistent both with the Copyright Office Review Board’s position that “human authorship [is] a prerequisite for copyright protection,” Letter from U.S. Copyright Office Review Board to Ryan Abbot, Esq. (Feb. 13, 2022), and OpenAI’s Terms of Use, where OpenAI “hereby assigns to [users] all its right, title and interest in and to Output.” *Terms of Use*, OPENAI. <https://openai.com/api/policies/terms/> (Nov. 3, 2022).

The question of whether individual Outputs are copyrightable seems to have been settled by the Copyright Office Review Board, but it admittedly remains unanswered in litigation at the time of this writing. Regardless of the outcome of such litigation, OpenAI’s terms are crafted in a

way that would grant users control of Outputs generated by their Inputs. If Outputs are not copyrightable, then they are in the public domain, and anyone in the world, including the user who typed the Input, is free to do with them what they will. If Outputs are copyrightable, then Outputs have two potential authors: the user or OpenAI. If the user is the author, then they own the copyright to their Outputs and are free to do with them what they will. If OpenAI is the author, then all “right, title and interest in and to Output” has been assigned to the user, who is then free to do with Outputs what they will. In any case, a user is free to do with their Outputs what they will.

My theory of authorship then assumes each of the Outputs used to create JUPER are analogous to paints and other materials artists have historically used to create original works of two-dimensional art, with DALL•E 2 functioning analogous to paintbrushes, cameras, Adobe Photoshop, and other tools that have sped up the creative process. Once a work is fixed in a tangible medium of expression and assuming no underlying intellectual property infringements, the only hurdle an author needs to clear for the work to be protected by copyright is the originality requirement. The Supreme Court has highlighted that this threshold is “extremely low.” *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 345 (1991). While an alphabetical listing of names “lacks the modicum of creativity necessary to transform mere selection into copyrightable expression,” *id.* at 362, deliberate, creative decisions about where to take a digital art piece surely clear that hurdle.

For example, consider two additional pieces I created with DALL•E 2:



Each of these pieces began with a single Output generated by the Input “An oil painting of a cowboy with a jet pack soaring over Los Angeles, digital art.”



In creating each of these pieces, I followed the same process as JUPER, but I made different creative decisions along the way. For example, the sky in the first is occupied by a battle scene reminiscent of Star Wars, while the sky in the second is occupied by a portal surrounded by tacos and misspelled Welcome to Fabulous Las Vegas signs. I may have used one of the same Outputs

and the same DALL•E 2 service for each of them, but my creative decisions produced two entirely different scenes.

Given the assumptions in my theory, I am the author of the JUPER image as displayed on the first page of this paper and hold a valid claim to its copyright, memorialized in a Certification of Registration from the United States Copyright Office that can serve as prima facie evidence in an infringement case should I ever need to bring suit.

Where to From Here?

While I believe my theory of authorship to be sound, it has yet to be tested in litigation, and it will remain untested until and if someone infringes my copyright and I decide to bring suit.

Further, my theory has at least one weakness, and I allude to it when I say “assuming no underlying intellectual property infringements.” OpenAI has presumably been trained by works from painter Carlos Nadal, whose estate owns the copyrights to his paintings until 70 years after his passing, and there are arguments to be made that his estate owns at least some of the rights to works generated by an AI platform trained by his copyrighted material. My theory hasn’t fleshed this out, in part because I’m not convinced that a particular artist’s style is something that can or should be eligible for copyright protection. For example, would it be an infringement of the Andy Warhol Foundation’s copyrights for an artist to produce works reminiscent of the deceased artist’s style? Was Paul McCartney infringing copyrights when he wrote “I’m Down” in the style of Little Richard? The answer to me in either case is clearly no, in large part because art has always built upon the works and styles of earlier artists, and the constitutional purpose of copyright protection in the first place is to “promote the progress of science and useful arts.”

In any case, none of these questions will be answered with any degree of certainty until they can be tested in court, and in order for that to happen, someone needs to infringe my

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copyrights. It seems to me a perverse incentive for our legal system to be structured in a way that I need someone to infringe my copyrights in order to test a legal theory, but alas, here we are.