

Exploring the interplay of AI-generated art and its creative potential in digital media

Convergence: The International
Journal of Research into
New Media Technologies
2026, Vol. 0(0) 1–23
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Abstract

This research explores and analyses the relationship between AI and the concept of creative expression within the realm of games art, as well as whether AI can potentially benefit or harm this form of expression in the industry. To do so, this dissertation investigates existing research relevant to this topic, as well as various case studies of digital media products that have already been impacted using AI-generated art. These findings will then be applied to a comprehensive comparison process, in which AI-generated artistic components will be viewed alongside assets made without the use of artificial intelligence by research participants so that various factors can be analyzed. Through this empirical research, factors such as production time, ethical considerations, accuracy and aesthetic appeal are discussed to shed light on the broader implications and benefits of AI-generated art on the creative landscape.

Keywords

artificial intelligence, creative expression, digital media, human–AI collaboration, automation, generative art, machine learning, authorship, authenticity

Introduction

As the nature of Artificial Intelligence continues to redefine potential methods of how tasks can be completed in various industries, its role in the Digital Media sector could be truly revolutionary. AI tools have the potential to dramatically ease the pressure of tight deadlines in digital media by streamlining various tasks, such as brainstorming, asset creation, and general design processes. However, while their integration can allow for faster production and reduced stress, it can also raise new challenges that must be considered. AI-generated art is a notable example, as it is a relatively

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new practice that has taken the world by storm, demonstrating the incredible ability to transform computer power into stunning, artistic pieces using written prompts from human users. Naturally, such purposes can of course extend into television, film, or games development, including making computer-generated imagery, seamless textures, 3D models, or even concept art for characters, objects, and environments. However, its capabilities are not without imperfections, as AI-generated art often lacks the emotional depth and originality that comes with human-made work.

That being said, non-AI workflows come with issues as well, such as the pressure of rushed production schedules which can limit creative risk-taking and reduce opportunities for truly innovative ideas. AI art tools and how they are used may prove to be a way to overcome such obstacles, which is why its usage and whether it is even worthwhile to integrate it to an extent is so widely debated. While some previous studies have explored the potential of AI for efficiency gains and the ethical implications this can come with, few have examined how these factors can generally affect artistic creativity and integrity in digital media production. This study helps with addressing that gap through an analysis of case studies, as well as comparison of projects with varying levels of AI involvement. In light of these considerations, this research also proposes that while AI-generated art holds the potential to significantly enhance efficiency and accessibility in digital media creation, it can come with ethical and creative challenges such as copyright and authorship. A balanced approach in which the enhancements and efficiencies of AI technology are effectively balanced with human creativity is ideal, as this would not compromise artistic integrity.

Considering these challenges, this research paper seeks to answer that approach is feasible, as well as investigate how it can be implemented. In order to do so, this article will investigate existing research relevant to this topic, as well as analyze various case studies of games, television shows, and films that have already been impacted by the use of AI-generated art. A practical component will also be provided, involving the production of both human-made and AI-generated artworks, which will then be evaluated using Leder et al.'s model of Aesthetic Appreciation and Aesthetic Judgement as the theoretical framework to assess their creativity and artistic quality. Additionally, both artworks will also be analyzed by a total of 50 University students from Games Development and Computer Science courses to determine whether participants can distinguish between the two, as well as to gather their general perceptions on originality, emotional depth, and overall artistic value.

Literature review

Defining AI-generated art and creative expression

The way AI-generated art is produced is by no means a secret, as it essentially involves a process in which computer algorithms and training data are used to analyze styles/patterns in existing images or videos, and then using relevant data and context to generate artwork based off it (Mazzone and Elgammal, 2019). By doing so, users can harness their imagination to quickly produce images for a wide range of purposes, including concept art, graphic design, and even customized content for various digital platforms if needed. However, by making art this way, one could argue that artificial intelligence is essentially copying or recreating existing artwork, making changes based off of the instructions provided by the prompts but often lacking originality, nevertheless. That being said, scholars are in agreement that AI can mimic aspects of human creativity (Mazzone and Elgammal, 2019), while proponents argue that humans have always borrowed, reworked or remixed cultural materials (Jenkins, 2006). Products can still succeed when they are essentially a combination of different elements in unexpected ways, and AI tools can facilitate this to a great extent (Gangadharbatla, 2021). This is where AI challenges traditional notions of creativity, as new ideas

can potentially emerge from algorithms. In essence, AI art creation can mirror how human artists learn from previous works so that new pieces can potentially be created as well as new styles (Lee, 2022).

Creative expression is a powerful aspect of human culture and identity, in which creators convey thoughts, emotions, and ideas through their work (Misra et al., 2006). This is where the debate on whether Artificial Intelligence can be capable of creative expression becomes complicated and multifaceted. While some comparisons can be made (Figure 1), It is important to remember that machines are different, in that they lack consciousness, emotions, and intentionality. As artwork generated by artificial intelligence is generated based on algorithms and data, there is no real understanding or emotional connection to the work (Boden, 2016). Perhaps in the future, artificial intelligence can be more capable of mimicking the human brain, allowing for the possibility of machines becoming closer to exhibiting behaviors resembling thoughts and emotions (Tegmark, 2017). However, this is something that has not yet been achieved, and only time will tell if this idea does become a reality. It's also worth noting that audience perceptions and cultural contexts are still underexplored to an extent, which may have a big factor on how AI technology may change in the future (Van Hees et al., 2025). One could argue that many human artists can work in a similar way, where they essentially take what they know and make revisions. That does not entirely mean that some cannot actually be creative and come up with unique and original ideas. In fact, while true innovation may become more challenging due to new and big ideas becoming harder to find (Bloom et al., 2020), that does not mean products that are only slightly different than already existing

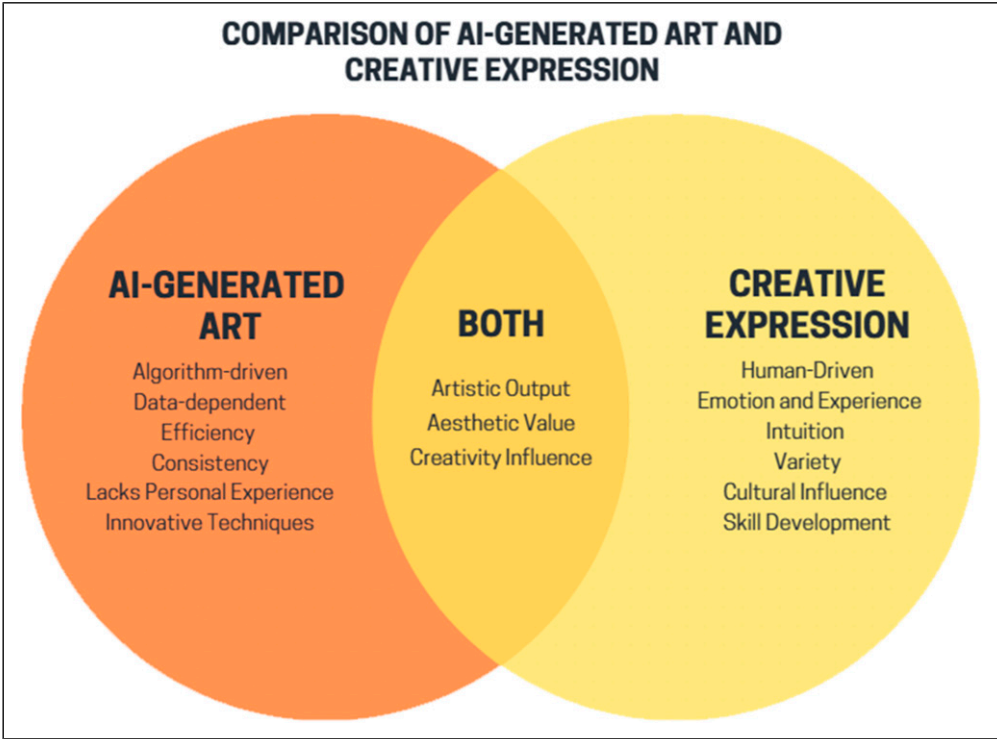


Figure 1. A Venn diagram comparing the similarities and differences between AI-generated art and creative expression. Visual made with Canva.

products will always fail. This is especially true in the digital media industries, where many games, television shows and films are essentially variations on well-established themes and genres (Jenkins, 2006). It is no secret that many popular entertainment products follow similar structures or incorporate familiar tropes, but this doesn't mean that those with only slight alterations to existing ideas cannot offer enjoyable experiences to audiences. In fact, tropes and character identification are often essential elements that play a role in regard to how audiences respond to media content, as they can help shape narratives as well as affect how viewers understand specific elements (Bergstrand and Jasper, 2018).

Understanding techniques and tools involved for AI art

The process of producing AI-generated art can involve different techniques, and it is also worth noting that there are a variety of different tools and software for users to work with. The available technologies not only showcase what is possible in terms of artistic content creation but can also make producing professional results a far easier to achieve goal. It is also worth noting that artificial intelligence has the potential to not only create artwork based off prompts and analyzing existing data but can also modify and improve existing artwork as well. The level at which the software is evolving is rapid, showcasing significant development at a notably fast pace. Not only does AI-generated artwork have the potential to produce artistic pieces quickly, but at the rate its ability to do so is advancing, it is only a matter of time until AI-generated art evolves to an extent where it can produce art past the capabilities of human artists, enhancing overall creativity. The emergence of these new tools is promising for many reasons, notably due to how they can enable new ideas to experiment with, as well as making traditionally challenging ideas (such as stop-motion animation) more feasible. In relation to techniques involved for generating AI artwork, the one often considered the most influential is known as Generative Adversarial Networks (GANs). This is a class of machine learning frameworks that were initially developed by Ian Goodfellow and his colleagues (2014, pp. 2672–2680). GANs consist of two neural networks: the generator, which creates images from random noise and the discriminator, which evaluates them against real images while also providing feedback (Huang and Le, 2021). This process can allow for highly realistic results but can also produce abstract or stylized work depending on the preferences of the user. One could argue that they are play a notable role in the field of digital art and creative technology.

The popular chatbot and virtual assistant developed by OpenAI known as ChatGPT uses an AI system known as DALL·E for image generation, doing so by learning from extensive datasets so that visuals can be produced based on prompts (Ledig et al., 2017). However, DALL·E does not use a generator and discriminator in its setup, instead opting for a single transformer model trained to predict pixels or image patches from text. This can come at the cost of image realism, diversity, handling of high-fidelity and high-resolution tasks, and efficiency in resource use. This method does offer advantages as well, such as a stable and consistent training system, more effective handling of complex textual inputs, as well as the ability to produce more accurate image generation based on provided prompts. Notable examples of AI tools that do use GANs are BigGAN, which was developed by Google, and some NVIDIA-developed tools, such as GauGAN and StyleGAN. A different but notable technique that can be involved in the process of AI-generated art is style transfer, which involves analyzing the artistic style of one image and then applying it to another (Tang, 2022). This technique involves working with convolutional neural networks (CNNs) to separate and recombine content with styled elements from different images to understand styles. After doing so, it can then separate them from the chosen reference image and then combine its unique elements with another chosen image. Methods such as this can fall under

the novelty-usefulness framework, which suggests that creativity can emerge from ideas that are both meaningful and recognizable (Runco and Jaeger, 2012). Supporters argue that style transfer aligns with this framework as novel works can essentially be produced while still being recognizable. For instance, if one wanted to, they could use this technique to take a photograph and have it essentially mimicked the art style of a specific artist, blending the techniques of one of their works and combining them with their supplied photograph. This can allow for a wide range of possibilities but can most notably make adhering to a specific style, genre or theme significantly easier. It is worth noting that this process is somewhat possible with DALL-E, although it can only attempt to mimic existing styles for new images, without letting users upload and edit their own (Figure 2).

Enhancing creativity through AI collaboration

While some may argue that because AI lacks intentionality, consciousness and emotions (Sarkar, 2023), this doesn't inherently mean that its usage can only stifle creativity. In fact, Art produced through AI-generation from human prompts can still be produced to an excellent standard, often during instances when a combination of elements is used in unexpected ways to great effect. Additionally, theorists raise the point that when factoring in good datasets, diversity and user control, AI tools can actually allow for the amplification of underrepresented styles, which can foster more diversity (Michelessa et al., 2025). Providing artificial intelligence is used as a tool by a human and not solely creating something in it itself, the impact of human oversight can allow for a creative idea to essentially be brought to life. By supporting a process in which artificial intelligence works on the repetitive and tedious tasks that are then modified through human revision, time is saved, and the result can still meet expectations (Gangadharbatla, 2021). The use of style transfer, for instance, can save artists a significant amount of time without compromising ethics in the process. Styles and genres cannot be claimed by copyright, as doing so would limit ways that others can create products. In essence, one could simply take their own work and have it been modified to fit their preferred needs, without infringing on the work of others. Using artificial intelligence tools can allow creators to make their existing work more consistent with a set theme, saving time and enhancing the overall quality of the art. This is a task that would have been previously needed to be performed by humans

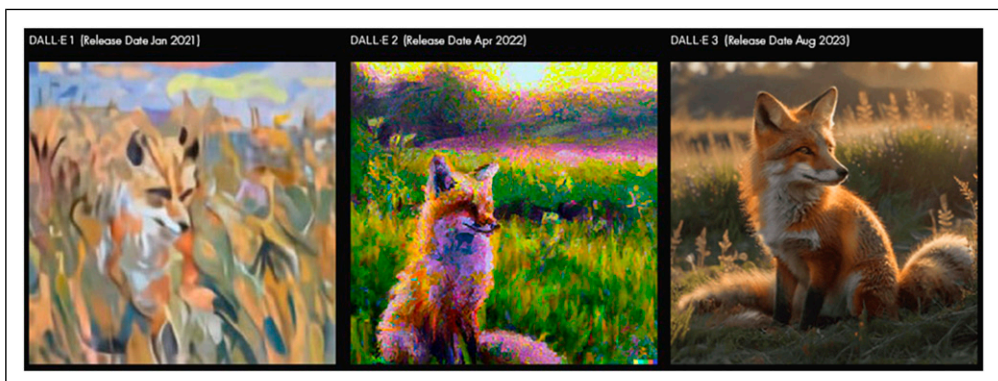


Figure 2. A Comparison Showcasing the Evolution of DALL-E I (2021) to DALL-E 3. Prompt Used: "A painting of a fox sitting in a field at sunrise in the style of Claude Monet". (Image credit: OpenAI).

anyways, so using artificial intelligence to do so can speed up the process and make it less difficult to achieve overall, allowing smaller groups to make content with ease with results that can still look highly professional. By doing so, more creators can achieve previously unattainable dreams that would have been potentially too demanding, expensive or time-consuming to do before.

On top of saving artists time when producing work, AI can also be beneficial when used as a tool for making concepts and prototypes. Its ease of access can provide an accessible option for people to visualize what their ideas may look like, which can be extremely valuable in terms of verifying whether it could be suitable for a purpose (Değirmenci, 2024). As a result, AI-generated art can be incredibly useful, as not only can it enhance productivity and efficiency, but it can also work as a potential method for inspiring new art forms and genres (Figure 3). As a result, this collaborative dynamic between artificial intelligence and human creativity can support a new era of digital art where creators are simply only limited by their imaginations. While the availability of AI tools has allowed for more people to produce creative artistic pieces with less effort, it is a controversial topic due to its impact on human artists and their job prospects. Throughout history, the invention of new products has made others redundant, while also leading to new jobs entirely (Mokyr et al., 2015). A notable example comes from the automobile industry, which led to the rise of many new jobs, but also made tasks that involved horses and carriages entirely redundant. The existence of AI tools is similar, as their availability now may allow for situations in which teams will require less artists, but that can also potentially lead to new roles and opportunities within the creative industry. For instance, positions such as ethics consultants, AI art curators and tool developers are now available at major companies, such as Google and Adobe (Anantrasirichai and Bull, 2022; Frank et al., 2019). This suggests that AI has more potential to enhance creativity as opposed to compromising it, as a big part of creativity thrives on tools, new possibilities and lowered barriers to entry.

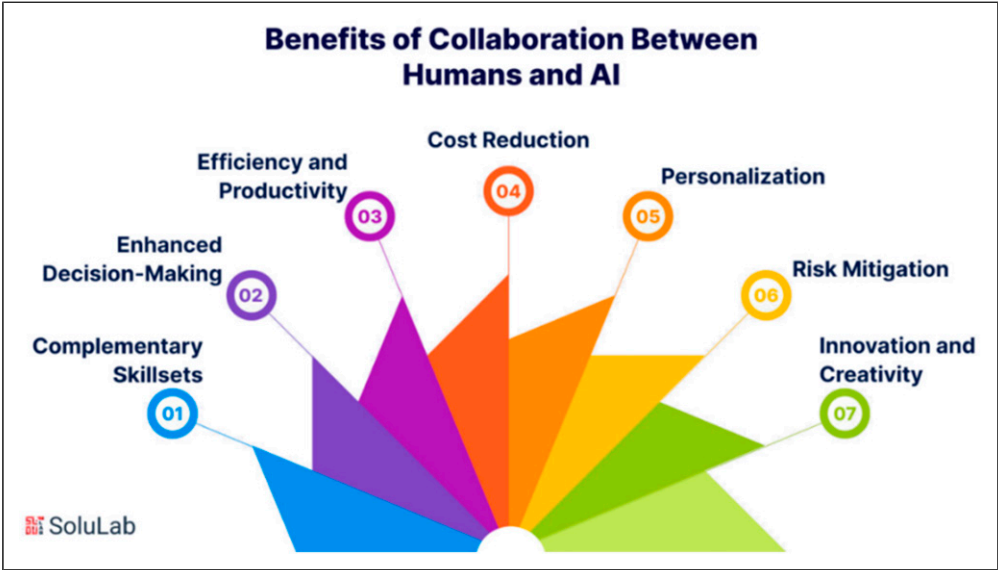


Figure 3. A visual showcasing the benefits of collaboration between humans and AI. Visual produced by SoluLab (Sehgal, n.d.).

Case studies

Observing instances of AI-generated art in TV and film

Due to the overall potential for AI tools to speed up the production process in various industries, it comes as no surprise that they have been used to facilitate a faster development process for television and films, as well as for promotional purposes. For instance, AI-generated posters are now becoming very frequent for advertising television shows and films, with [Fallout \(2024\)](#) and [Civil War \(2024\)](#) being notable examples. HBO's *House of the Dragon* (2022) series took this concept further, where the creators promoted a "Raise Your Banners" digital character poster generator that allowed audiences to create AI-generated art of themselves as characters in various settings of the show. By doing so, the developers were able to engage audiences through a successful marketing campaign, supporting further interest in the show. On top of posters, AI-generated art has also been used directly as part of the viewing experience, whether it be for scenes or even intro sequences. That being said, its integration raises the question as to who is the "creator" in cases when AI does most of the production, as authorship can become blurred when machine learning systems take vast datasets and make new outputs ([Epstein et al., 2020](#)). In the case of making AI-generated posters, the "true" creator could arguably be the AI model developers who designed the algorithm, the original artists whose work informed the training data, the marketing team that advertised the images, or even the audiences providing the text prompts that guided the generation process ([Rabago, 2024](#)).

Another popular use for AI in television and film is the process of deep faking, where an AI algorithm digitally manipulates images, videos, or audio to convincingly replace one person's likeness with that of another ([Dazed, 2022](#)). This can be especially helpful when trying to make a character look younger or resemble another real-life actor or actress who may have unfortunately passed away. Having the option to de-age characters or revive deceased actors through deep faking can allow for more flexibility in storytelling, as well as allow actors to have more control. For instance, people who wish to remain anonymous in documentaries can use deep faking to appear differently as a method for obscuring their identities, a process that was utilized during the production of the 2020 film, *Welcome to Chechnya*. Alternatively, celebrities who wish to have their likeness featured without being present for the production process can do so by using AI to copy their faces onto someone else's body. This is a strategy that has been incorporated by many notable companies for advertising purposes, such as with Nike and Puma ([Nike, 2023](#), [Puma, 2023](#)).

Notably, it was also used to generate various elements of the opening sequence for the television miniseries, *Secret Invasion* (2023), based on the 2008 Marvel Comics storyline of the same name ([Figure 4](#)). Its usage was during a time when AI art was considered creepy, but the show used this to support its unsettling, mysterious theme involving aliens hiding amongst humans. The backlash to AI-usage in this show highlights concerns over what has been described as the "loss of aura," the idea that mechanical or digital reproductions of artworks can strip uniqueness and authenticity ([Di Placido, 2023](#); [Benjamin, 2008](#)). However, lack of emotional depth and authenticity ties into the shows themes, so its usage here essentially turns a technological weakness into a suitable aesthetic. The film studio 20th Century Fox also incorporated AI into its production process, using it as a storyboarding tool for the trailer of the film *Morgan* ([Heathman, 2016](#)). Instead of having AI generate art as part of the footage, it was instead given the task of analyzing existing scenes from hundreds of horror films to find the most efficient method for creating a trailer that could evoke fear from viewers. This method helped improve the overall quality of the footage while saving time, demonstrating how AI tools can help streamline the development workflow when used for specific tasks. This process also aligns with [Runco and Jaeger's \(2012\)](#) *novelty–usefulness* definition of



Figure 4. A screenshot from the introduction sequence that plays during the show *Secret Invasion*, produced by Marvel for Disney Plus.

creativity, where innovation is linked to practical value as well as originality. Both [Morgan \(2016\)](#) and *Secret Invasion* (2023) are both clear examples that highlight how their impact on creativity depends less on the technology itself and more on how it is integrated into the creative process. [Morgan \(2016\)](#) demonstrates how AI can be used as a creative support tool, with its impact shaped largely by editorial decision-making rather than the technology itself ([Heathman, 2016](#)). Similarly, *Secret Invasion* (2023) highlights that the creative outcome of AI integration depends on how such tools are embedded within existing production workflows, rather than on AI capabilities alone. When AI functions as a collaborative partner as opposed to a replacement mechanism, it can allow for new opportunities as opposed to compromising authenticity.

The rise in AI-art usage in the games

As standards in terms of visuals and gameplay are increasingly becoming higher, this is also putting a strain on developers, who are often expected to work overtime to ensure deadlines are met ([Larsson, 2018](#)). It is also worth noting that many of the most well-received games in the industry had the benefit of having flexible development times, allowing them to meet their full potential and push the hardware they are being released for to the limits of what they are capable of. Time is a very important factor in games development, which is why the issue of rushed and underdeveloped games is such a common occurrence in the industry ([Brogan, 2022](#)). The challenge of sticking to a budget is also very important when developing games, and the efficiency offered by AI tools can help keep costs feasible without sacrificing the quality of the final product. To put it simply, the release of AI tools can work as a valid solution that can help creators in various ways throughout a wide variety of areas in development. Ubisoft is a notable pioneer in terms of incorporating AI tools into the game development process, allowing for specific tasks to be streamlined. They use a variety of tools that incorporate AI for specific purposes, such as generating realistic and complex textures for game environments. By analyzing thousands of images of real-world textures so that they can be recreated and optimized for real-time rendering, a significant amount of time can be saved in comparison to manual texture creation. André Beauchamp, an R&D developer at Ubisoft, argues that specific, repetitive tasks in games

development, such as creating human heads, can detract from time available for other important areas of development that may require more creativity (2022). He then expands on this point by discussing that by outsourcing these types of tasks to a machine, other areas of production can be focused on improving the overall quality.

AI-Image generation tools can also be extremely useful for “remastering” artistic components in games, a process in which old assets using low-resolution textures are enhanced so that they can now look more modern and refined. This is a process that was notably done when remastering Grand Theft Auto: Definitive Trilogy (Rockstar Games, 2021) and Super Mario 3D All-Stars (Nintendo, 2020). However, in the case of Grand Theft Auto: Definitive Trilogy, the process of using AI tools to remaster textures was clearly done to a rushed extent with minimal oversight, leading to instances in which remastered textures had spelling mistakes where text was displaced, or were inverted and facing the wrong direction (Figure 5). In the original text, the resolutions for these textures were low, making them almost unreadable due to blurred wording. However, because of using AI to address this issue, the developers most likely failed to consider how doing so may lead to potential mistakes, as it’s evident that the tools used essentially misinterpreted specific words which resulted in them being spelled incorrectly. Essentially, the low-quality, error-filled textures diminish both the visuals and *creative identity* of the

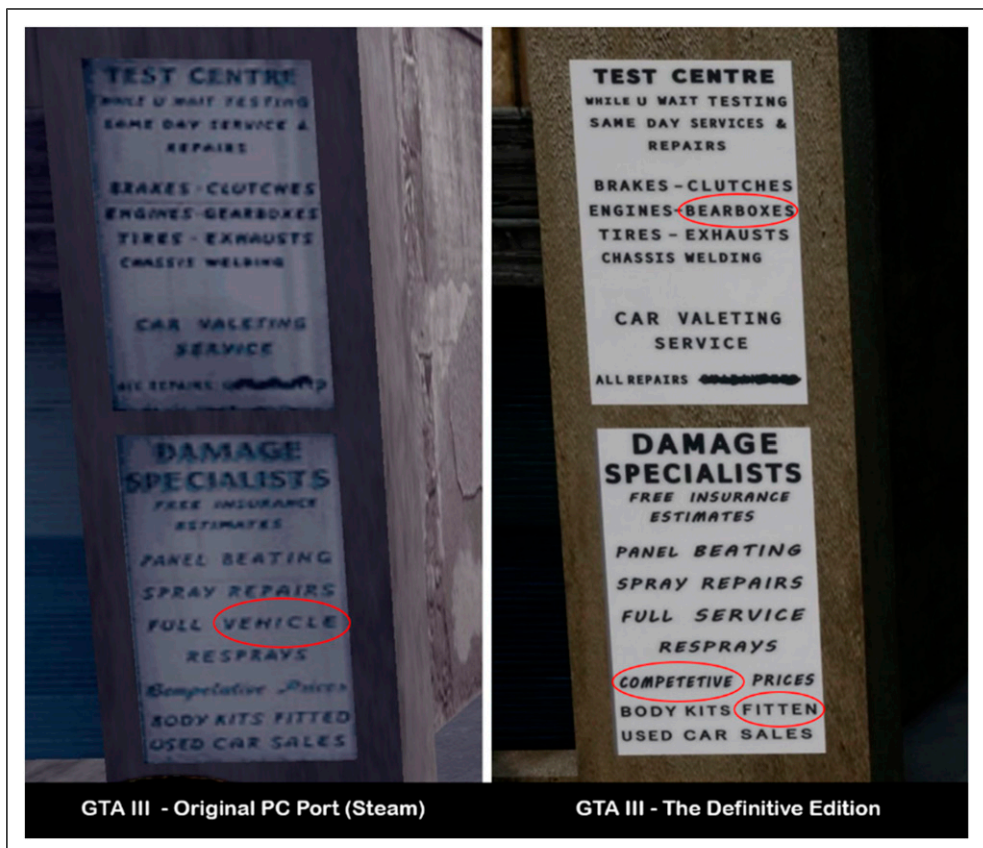


Figure 5. A Comparison Visual Showcasing the Original Textures in Grand Theft Auto 3 III (Rockstar, 2008) and Grand Theft Auto III - The Definitive Edition (Rockstar, 2021).

game world, showcasing how AI-integration can compromise authenticity and artistic integrity. This is a notable instance where too much reliance was placed on a machine to get the job done, which is why quality assurance is very important to consider when completing tasks correctly and effectively. Thankfully, this issue was addressed and resolved in future updates of the game.

This is also a task that could be viewed as repetitive and tedious for people to do, as it simply involves improving already existing work by increasing the resolution and raising its overall level of detail to more closely match modern standards in terms of visuals. AI can also be used for enhancing 3D models in a similar fashion, through the process of AI-based mesh refinement and reconstruction (Pan, 2019). This process can allow computers to determine methods of enhancing details of 3D models without losing their original shape. It is worth noting that on top of the potential for AI to reduce the amount of effort needed to produce artistic components such as 3D models and textures, it can also streamline the process of animation, programming and audio design (Anantrasirichai and Bull, 2022). By doing so, the overall quality of games can continue to improve, without coming at the expense of overworked employees and risky budgets. Its usage, however, has been fraught with criticism, as arguments have been made that using these tools for these purposes can violate copyright law due to their reliance on using existing online images and data.

In fact, the PC Digital Games Distribution Service known as Steam notably issued a statement about the topic, stating that it would not allow games made with AI-generated art on its storefronts, citing that it is unclear if the underlying AI tech used to create AI-generated game assets has sufficient rights to the training data it uses (2023). Another common criticism of how AI-generated art is impacting games development is its overall potential to potentially replace jobs of artists in favor of machines while also encouraging lazy and inefficient production practices to get tasks complete. This is a concern due to how a lack of human oversight in the artistic process may lead to bland results in which the artistic components lack creativity, which can potentially lead to subpar games that could then go on to dissatisfy consumers (Iuhasz et al., 2013). A game that lacks a general art style could be seen as bland and unimaginative, which is one reason why moderation and human input is important, as the benefits of AI-Image generation can still be applied while avoiding the risks if precautions are taken. Overall, the growing criticism also ties into broader debates about authorship, authenticity, and creativity in digital art as many questions can be raised when AI-generated assets replace or overshadow human-created work. For instance, does AI-integration into the final product still allow for authentic creative expression? Shifting authorship from human artists to algorithms trained on vast datasets makes this a debatable topic (Mazzi, 2024), as doing so may save time and resources, but also risk homogenizing artistic styles and undermine the creative identities of the developers and artists (Ioannidou et al., 2024). This tension ultimately is what impacts the central question of whether AI-integration works as a catalyst for expanding creativity or as a force that limits authenticity and originality.

Public perceptions and notable examples

While artificial intelligence does offer creators in the digital media industry tools for saving time, this can come with advantages and disadvantages and has also notably led to controversy or praise depending on its usage. For instance, audiences have criticized studios for incorporating their usage into products, arguing that doing so unfairly takes away jobs from artists, as well as demonstrating lazy behavior that can negatively impact the overall creativity of products (Chamberlain et al., 2018). Others have argued that it's a revolutionary tool that can democratize creativity, allowing more people to produce artistic pieces while doing so by simply writing a prompt and pressing a button (Novozhilova et al., 2024). The topic of art that has been produced through artificial intelligence is a

debate with fair arguments made by both sides. From an ethical point of view, AI-generated art can also involve plagiarism, as it can sometimes involve scanning examples of work that may not be copyright free, raising questions regarding whether the use of AI art could be considered copying in some instances (Epstein et al., 2020). Many artists feel that their work and creative effort should not be used to train machines without their consent or financial compensation, which is why some argue that AI essentially produces artwork through theft. This issue has gotten so extreme that some artists have incorporated measures to prevent theft by AI, such as digital watermarks, as well as embedding metadata and copyright information within the digital files (Nadim, 2022). Some platforms also provide artists with the option to opt out of AI training sets, preventing artistic pieces from being analyzed and used by machines for the purpose of producing art. As the topic of AI-generated art can impact authorship and ownership, this is an area that needs legal scholars to address credit attribution as well as clear intellectual property guidelines for AI-generated works (Rabago, 2024).

One of the most notable criticisms of AI-generated art is that artistic pieces made by machines are produced through analyzing the works of others to find patterns, as opposed to creating work through the emotional resonance that can characterize human creativity (Gangadharbatla, 2021). As a result, many consider AI-generated art pieces to be unoriginal with an absence of meaning, relying more on recreating the works of others as opposed to drawing from personal experiences, cultural context or emotions to creatively express meaning through art (Chamberlain et al., 2018). AI is also less capable of experimenting with unconventional techniques and mediums, as it is constrained by programming data, often lacking the ability to try things not initially intended by developers. It's for this reason that some prefer to use it only for very specific tedious and repetitive tasks, allowing for the time-saving benefits of AI while still encouraging the creative potential of the human imagination (Bruns and Long Lingo, 2024). AI-generated art has captured public attention in other ways as well, with a notable example coming from the "Portrait of Edmond de Belamy," a portrait sold at an auction for \$432,500 in 2018 that was created by the Paris-based art collective Obvious using a GAN (BBC, 2018). This story showcased the potential value of artistic pieces produced by the work of a machine by proving they could be valued at a high price despite not being made by a human. Another notable instance comes from a case where a game designer by the name of Jason M. Allen managed to win first place in an emerging artists competition at the Colorado State Fair Fine Arts Competition by submitting an AI-generated art piece titled "Théâtre D'opéra Spatial" (Figure 6) (New York Times, 2022). This situation generated notable controversy online, with some making arguments that doing this is the equivalent of entering a robot on someone behalf in the Olympics, and that this artistic piece was essentially created by just pressing buttons. Together, both of these controversies highlight questions people have on authorship, authenticity, and creative agency, as AI can expand artistic possibilities in some respects while simultaneously diminishing originality and human expression in others. The fear of artists being replaced by machines does have merit, which is why an ideal perspective considered by many would be a future where these tools can effectively supplement human artists and enhance the quality of their artistic pieces without replacing or copying elements of their work.

Methodology

Overview of the data collection process

To determine the opinions of how users of digital media products view the integration of artificial intelligence during the production process, this research follows a methodology in which various examples are showcased to participants so that feedback can be obtained. Art produced solely



Figure 6. Artwork titled “Theatre d’Opera Spatial” produced through Midjourney that was used by Jason Allen to win the Colorado State Fair fine arts competition.

without the use of artificial intelligence was shown, although it is worth noting that they were still made using digital tools and software. On top of this, human art improved and modified through artificial intelligence tools were also showcased, whether it be art that was changed via style transfer, or images generated entirely through AI tools using GANs. As part of the process, similar artistic pieces were created through both methods, to determine whether participants could even determine whether art was AI-generated or not. This scaled in difficulty from more obvious examples to artistic pieces that were made through more recently developed tools, meaning that whether they were produced via AI was harder to tell. Existing research shows that audiences generally have a negative view of AI-produced digital media products for various reasons, noting that some feel that it is often due to its potential to replace human workers, as well as how machine-made art is far more reliant on recreating existing elements as opposed to creatively pushing new ideas (Ragot et al., 2020).

Despite this, audiences also feel very strongly about having high-quality digital media products being made quickly while maintaining a polished standard, as well as being reasonably priced. These are things that the integration of AI-generated art can allow for, so it is possible that some may view its usage as a necessary element to allow for well-developed films, television shows and games without the hassle of long development cycles. Allowing developers to use AI tools during the production process can also allow for artists to work in less stressful conditions, as the overall process of producing artistic components will be more about providing the ideal instructions as opposed to making frequent, manual changes. To determine whether AI-usage may be considered a more common and well-received option in the future, various questions were also asked to participants, such as whether using it for only very specific tasks would be more warranted, and whether its usage could be justified providing it allows for more frequent product releases. Prior to collecting data from participants, an ethics form had to be approved of, as well as another document for the

purposes of requesting consent and a participant information sheet. It is also worth noting that this research took place at a university and involved student participants from relevant courses, including Games Development and Computer Science. To an extent, they were all somewhat familiar with the topic of AI in relation to the digital media industry, which allowed for a more unique perspective.

Producing art with both traditional and AI-generated techniques

As someone with a strong background as a game's artist, I decided to use my skills to produce artistic pieces suitable for digital mediums and then recreate them from scratch using AI tools by simply using detailed prompts that described my work. This way, the challenge for participants would be to determine which of the work was produced in which way, as well as what artistic piece they preferred, and if they believed the greater speed at which the AI-produced work was worth the lack of human oversight. It is worth noting that some AI-generated artwork can have notable flaws that can range from being easy to being hardly noticeable, so seeing whether participants will even notice these elements or if they even exist may prove interesting. I wanted to ensure that each artistic piece I produced had a clear theme, setting and art style. Computer-generated imagery used to develop television, films and games can vary quite widely in terms of how they look, with some using different shading techniques, color schemes or overall aesthetics. By creating three very different artistic pieces, it could then be compared to how AI tools would handle the same task, as some art styles may choose to emphasize certain elements in different areas, such as how stylized visuals tend to have the creative choice of being more expressive or exaggerated in comparison to photorealistic visuals, a concept that AI may either find easy or difficult to replicate. After an extensive development process involving coordination with two fellow artists, we managed to produce a painting, drawing and 3D render, as well as AI versions of each art piece that mimicked the original styles using Microsoft Image Generator 2024 (Figure 7).

Evaluating the artworks via a creativity framework

To support the process of effectively comparing both the AI and Non-AI artworks, a structured evaluation was performed using an existing framework adapted from Leder et al.'s (2004) model of Aesthetic Appreciation and Aesthetic Judgement. By doing so, a multi-stage process was provided to make it clearer regarding how individuals can understand, appreciate and engage with the showcased visual art. In addition, a further comparison could be made for perceptual clarity, technical skill, and both emotional and cognitive depth. By applying this framework, a good baseline analysis of the strengths and weakness can be shown, allowing for a theoretical counterpoint to the responses from participants. Leder's model consists of five key stages of art appreciation, starting with perceptual analysis, which assesses the formal visual elements such as line, shape, color, and technical rendering. This is then followed by the second stage, which is memory integration, a process that refers to how familiar or genre-typical the artwork appears based on prior experiences of viewers. The third stage then emphasizes explicit classification, focusing on the ease of which viewers can categorize artwork within known genres and themes. Cognitive mastering is the fourth stage, which involves interpreting how effectively the artworks encourage meaning-making or conceptual engagement. For context, meaning-making refers to the process by which individuals assign significance to experiences, whereas conceptual engagement involves cognitively linking new ideas to pre-existing mental frameworks (Bruner, 1990; Mezirow, 1991; Chi and Wylie, 2014). The final stage involves using aesthetic emotion to capture the emotional impact of the artwork, such as mood, tone and resonance. Each of the artworks used in the study (three pairs consisting of AI and

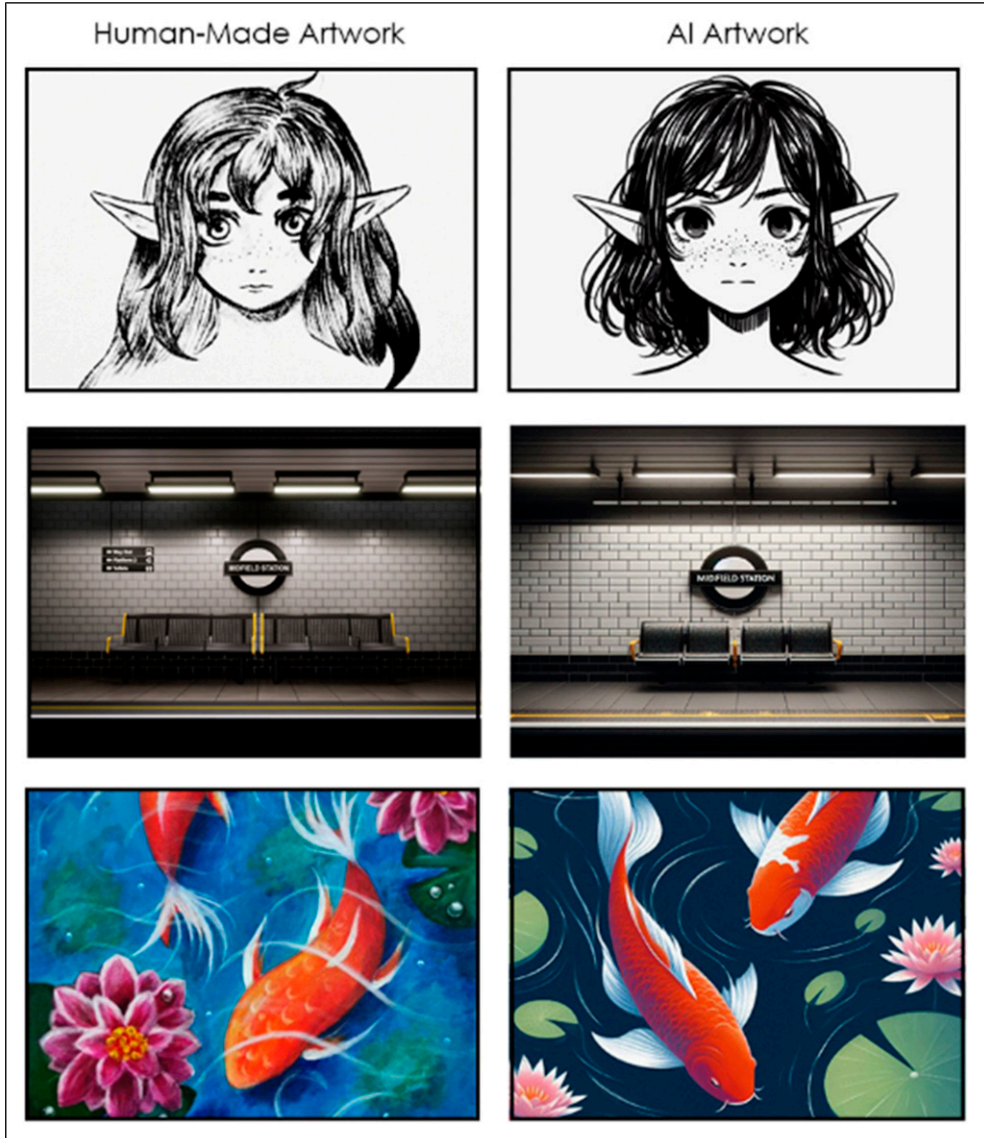


Figure 7. Photos of AI (Right) and human-made (Left) artworks.

Non-AI images artworks) were assessed according to these five criteria using a three-point scale with 1 being low, 2 being medium and 3 being high. They are labeled as described (Table 1): the elf character portrait, the urban subway station 3D environment and the koi fish painting. The overall goal was to identify which dimensions AI tools excel in, which include polish or genre conformity, due to how these areas still rely on human creative input.

The provided analysis suggests that while AI-generated artworks can frequently match or exceed human-made pieces in terms of visual clarity and adherence to conveying a clear style, they have weaknesses in areas tied to emotional impact. A notable example comes from the AI-generated elf,

Table 1. Evaluation of AI and human artworks using Leder et al.'s Model of Aesthetic Appreciation and Judgment.

Criteria	Elf Character (Human)	Elf Character (AI)	Subway Scene (Human)	Subway Scene (AI)	Koi Fish (Human)	Koi Fish (AI)
1. Perceptual Analysis (Clarity, Visual Execution)	2 – Hand-Drawn Quality; Slight Roughness	3 – Smooth Lines, Clean Polish	3 – Photorealistic and Sharp	3 – Highly Rendered, Technically Accurate	3 – Rich Texture and Contrast	3 – Balanced and Clean Finish
2. Memory Integration (Genre/Style Familiarity)	2 – Somewhat Stylized, Not Overtly Genre-typical	3 – Strong Anime Conventions	3 – Fits Real-World Subway Visual Lexicon	3 – Consistent With Real-World Design	2 – Painterly Style; Unique Aesthetic	3 – Common Digital Design Cues
3. Explicit Classification (Genre/Theme Clarity)	3 – Clearly Fantasy/Manga	3 – Same Genre Signposting	3 – Obvious Metro Transit Imagery	3 – Same Clear Context	3 – Clearly Evokes Koi Pond Scene	3 – Same Theme Communicated Well
4. Cognitive Mastering (Interpretive Meaning Making)	3 – Evocative Facial Expression; Textured Detail	2 – Lacks Nuanced Emotion/Symbolic Depth	2 – Realistic Details Invite Narrative (e.g., Signage)	1 – Feels Sterile; Fewer Cues For Engagement	3 – Brush Textures Suggest Deeper Artistry	2 – Lacks Depth, More Decorative
5. Aesthetic Emotion (Emotional Response Evoked)	3 – Melancholic, Expressive Look	2 – Polished but Emotionally Neutral	3 – Slightly Cold But Immersive	1 – Too Clean; Lacks Ambiance	3 – Peaceful, Meditative Feeling	2 – Visually Nice But Less Emotionally Resonant
Total Score	13	13	13	11	14	13
Verdict	Tie		Human Wins		Human Wins	

which had smoother linework but lacked the cues and depth that supports both the expressiveness of personality and emotions that can come with hand-drawn work. Similarly, the AI subway scene was visually clean, but had subtle flaws and lacked atmospheric depth, making it feel quite sterile. The koi fish artworks demonstrated a similar pattern, in which both artworks were visually appealing, but the human-made work felt and looked more aesthetically pleasing due to its organic qualities (brushwork) and sense of authenticity. Such qualities are often challenging for machines to replicate without appearing overly mechanical (Hertzmann, 2018; Manovich, 2013).

Creating a survey to collect empirical data

To showcase an analysis of AI-generated art and its impact on creativity in digital media, a survey was conducted for the sole purpose of gathering data from willing participants, including students. However, it is important to acknowledge that the sample was limited to University students studying courses relevant to this topic, with Computer Games Development and Computer Science being the most common. This was by design, as the familiarity with both Digital Media and emerging technologies offered a valuable perspective, although it's worth noting that as a result, this study does not fully capture the views from those in other areas, such as professional artists, industry practitioners or just general audiences with less of an understanding of the topic. As such, the findings may be influenced by academic context as well as pre-existing technical expertise as opposed to broader societal attitudes, although this still provides valuable insight into how emerging professionals may consider AI-integration for creative workflows. Prior to data collection, an ethics approval process was obtained through the university's formal review process to ensure compliance with standards. Alongside the initial application form, participant information sheets and consent documents were also prepared and provided to ensure that all students who took part were well aware of the study's purpose, procedure and their rights. Students were allowed to withdraw at any point if they wished, and they were informed that all data collected would be stored in accordance with institutional research ethics standards.

The primary focus of this survey was to capture various opinions on the benefits, challenges, and ethical concerns surrounding AI-generated art, while also exploring whether or participants could even differentiate the differences between Non-AI and AI-generated art. To do this, the survey was designed and structured into two main sections, with the first exploring respondents' familiarity with AI tools, their perceptions of AI-generated art and whether they had opinions regarding the ethical considerations involved with this technology. Such ethical considerations included concerns with plagiarism, lack of originality, and its potential to replace workers. These questions also focused on other aspects of AI in the creation process of art, such as its efficiency in terms of speed and the level of detail it can achieve. For the second section of the survey, an emphasis was placed on a comparative analysis for AI-generated and human-created artworks. Participants were shown pairs of images and then asked to select which they believed were AI-generated, allowing for the research to assess how well respondents could differentiate between AI and human-made pieces based on various factors such as style, depth and perceived creativity. After, respondents were then able to justify their choices through questions that allowed for text-based responses, which allowed them to offer insights as to how they interpret specific visual cues. This yielded very interesting results, as some participants factored in flaws in the AI-generated artwork and asserted their belief that such errors made the artwork more likely to be human-made. Additionally, participants were also able to explain which artwork they found more aesthetically pleasing, as well as which they believed conveyed a stronger creative message. Most participants were students from various disciplines, including Games Development and Computer Science. Participants were also asked if they had

varying levels of experience making digital or non-digital art, which helped ensure a more diverse range of perspectives. The survey was administered online and was made to be both accessible via mobile devices and computers through a combination of Likert scale questions and open-ended responses to capture both qualitative and quantitative data. This way, the responses could be far more specific and detailed, allowing for many different points of view. I believe that by collecting and analyzing this data, this survey works to contribute empirical insights to the broader discussion of how AI can play a notable role in Digital Media.

Practical review

Overall, I believe that the survey was effective, in that it managed to provide valuable insights into what perspectives students have on AI-generated art, as well as how well they can tell the differences (Figure 8). The participant sample consisted of 38 students (majority male) from Games Development, 10 from Computer Science, and 2 from Cyber Security and Forensics, providing a range of perspectives across related digital media disciplines. They were primarily aged between 18 and 24 years old (born 2000–2006), with a small number of older participants born before 2000. In terms



Figure 8. Responses from participants in survey data showcasing answers from questions.

of prior art experience for making both digital and non-digital art, 16 identified as beginners, 17 as intermediate, 4 as advanced, 1 as expert, and 12 reported no previous art experience. That being said, 40% of participants agreed or strongly agreed that artificial intelligence has significant potential for improving time efficiency, aligning with the idea that AI can enhance creativity by freeing artists from repetitive tasks. This also suggests that it could allow developers of digital media products to produce high-quality content far more quickly than through conventional methods, even though 28% remained neutral and 32% expressed concerns about possible trade-offs with creativity and originality. However, participants also acknowledged that these benefits come with reservations, as 46% rated the aesthetic quality of AI-generated artworks lower than human-created works, while 34% rated it about the same and 20% rated it higher, suggesting an overall view that AI art as lacking the quality and originality traditionally associated with human creativity. This supports the idea that AI can compromise creativity in some ways, echoing Benjamin's (2008) concept of "loss of aura" in mechanized production. In addition, most respondents (66%) were quick to bring up significant ethical concerns that could arise because of AI-integration in the creative process, particularly with examples such as plagiarism (60%) and job displacement (80%). Many expressed their discomfort with how AI can tend to have a reliance on datasets of existing art, noting that this could potentially lead to cases of infringement for the creative rights of human artists. Participants were particularly concerned about job displacement, citing how employment opportunities could be heavily reduced because of AI-integration in the creative industries.

It's evident that these concerns reflect a strong anxiety regarding the role of automation and its potential to heavily change how products in creative fields will be made, as well as whether humans will even be the ones making them. During the section in which participants were instructed to compare the AI-generated art with the human-made pieces, the survey results indicated that the

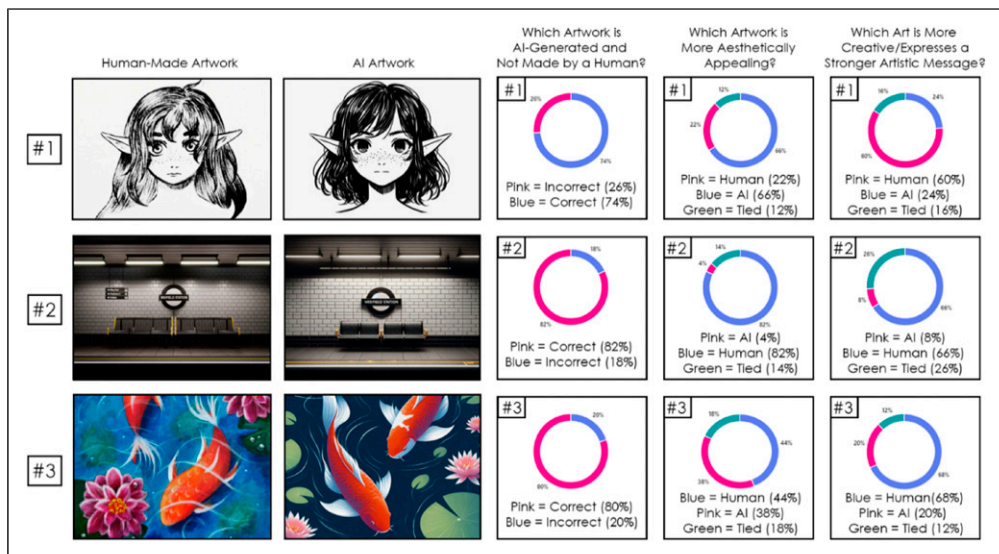


Figure 9. Photos of AI and Human-made Artworks alongside survey data showcasing answers from all participants involved in this project.

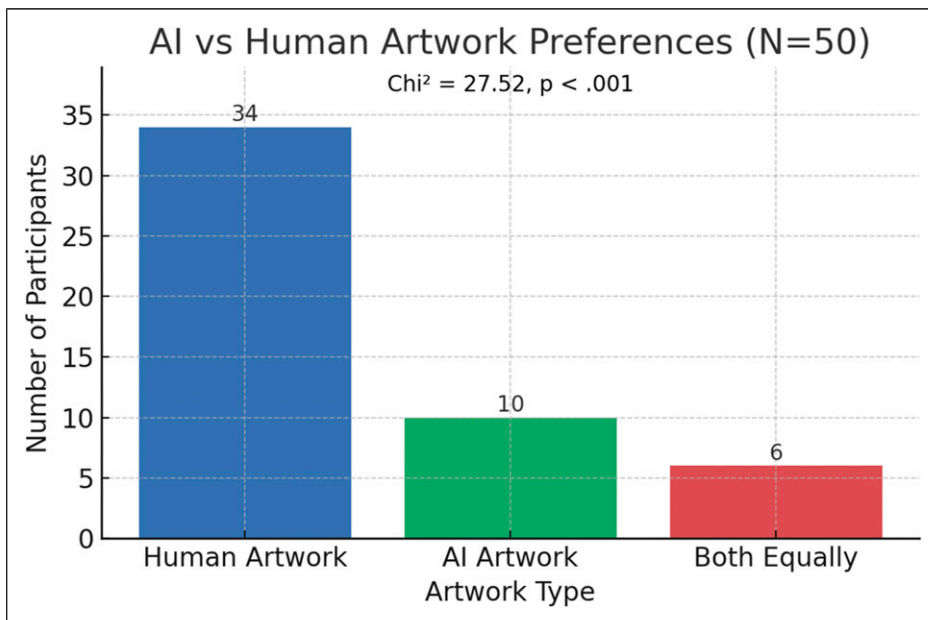


Figure 10. Chi-Square test results indicated a strong preference for Human-Produced artwork.

majority were able to note which is which, as the correct result was selected 70-80% of the time (Figure 9). A chi-square test also confirmed that the preference for human-made artwork was statistically significant, $\chi^2 (2, N = 50) = 27.52, p < .001$, indicating that participants overwhelmingly favored human-created artworks over AI-generated ones rather than responding at random (Figure 10). In addition, the participants also often gave detailed answers justifying the choices they made, providing excellent points regarding specific visual cues that allowed for the differences to be noted, such as a lack of intricate detail or an overly refined aesthetic. In some cases, AI-generated works were rated as highly, or even more favorably than human-created pieces, with comments noting how precise and detailed AI-artworks could look despite being made so quickly. This suggests that artwork produced with AI tools can still allow for high-quality and appealing work, even if AI-usage is not universally accepted as a substitute for human creativity.

Although some participants shared positive views on the AI artwork, others remained skeptical of its ability to evoke the same emotional responses that traditional art can bring, even going as far as to express doubt over whether AI could ever fully replicate it. This highlights an important distinction that can be made between the achievements of such tools and how audiences may feel regarding the importance of having artworks that can convey emotions, ideas and experiences to resonate with viewers. It is evident that the survey results reflect a complex and evolving relationship between AI and creativity in the field of digital media, with varying opinions on whether its usage can do more harm than good. AI tools may demonstrate efficiency and accessibility, but this comes with concerns of originality, ethics, and job security. This practical review of the survey data highlights the importance of determining a balance between the potential of AI in the field of creative media while also preserving the human elements that can make art meaningful.

Conclusion

Overall, this research has explored the intersection of AI-generated art and creativity in digital media, essentially highlighting both the opportunities and challenges they present in the process. It also contributes to existing research by combining case studies with empirical participant data, offering new insights into how audiences and creators view integrating AI into creative workflows and to what extent does it affect efficiency, originality, and authenticity from their point of view. Through a strong analysis of existing research, case studies and through the process of collecting empirical data from participants, this study has shown how people understand AI tools, as well as view the impact they have in the entertainment industry. While it's evident that AI has demonstrated potential for enhancing efficiency as well as providing a more accessible option for the development of assets that non-artists can work with, AI can enable faster production of products as well as open new opportunities. This research also highlights the importance of addressing the ethical and practical concerns and challenges that come with AI tools, such as through the widespread apprehension participants had on artistic originality, job security and ethical ownership.

Furthermore, the risk of plagiarism, as well as the concern of displacing creative professionals to make products faster and cheaper could come at the cost of overall quality, as well as make it so that the produced artwork lacks emotional depth and human touch. It is evident that such key challenges must be overcome carefully as to ensure that AI supports creativity as opposed to undermining it. Overall, this study also suggests that while AI-generated art tools can work as a powerful method for enhancing creative output, their integration into the digital media industry needs to be approached thoughtfully. In addition, striking a balance between efficiency and the preservation of both artistic and creative integrity needs to be considered when introducing AI tools into the creative process. At this current moment in history, AI tools still produce artwork with flaws, as well as homogenize works due to their reliance on algorithms. Future studies should examine the long-term industry practices associated with AI-integration, such as how it can be ethically regulated and creatively integrated without displacing jobs, as it could serve as a supplement to improve creative outputs as opposed to substituting human creativity entirely. While collaborative efforts do offer potential if AI is leveraged to assist or inspire rather than replace, it will be essential for industry leaders, policymakers, and creatives to determine how AI can be responsibly and ethically incorporated without compromising the human touch.

Acknowledgments

The author gratefully acknowledges Dr Daphne Economou for her guidance and feedback on this paper, as well as her support with the survey design and administration. The author also extends sincere thanks to Stefana Coroiu for granting permission to include their painting, and to Lysander Schlumpf for granting permission to include their drawing in this paper. Thanks are also extended to the University of Westminster and the student participants. This research received no external funding.

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Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Declaration of conflicting interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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