

Sketching the Future with AI Image Generators: Implications on Visual Arts Higher Education

Jann Gabriel T. Javier, Sherilynne Shane C. Sim, and Franchesca Arriane P. Faylona
(St. Paul University Manila)

Abstract

The researchers aimed to examine the perspectives of 10 conveniently sampled visual artists on AI image generators to infer a future where humans and AI can collaborate peacefully. The researchers particularly focused on understanding visual artists' perspectives on AI image generators. Conducted via Discord in Metro Manila, Philippines, the study utilized purposive sampling to ensure diversity across various art forms and artist backgrounds. Data collection methods included Focus Group Discussions and a creative output session, allowing participants to express their views transparently and integrate AI art into their work. Thematic analysis (Robinson, 2018) was employed to identify common themes and patterns in participants' sentiments towards AI image generators. The results indicate that visual artists have mixed perceptions of AI image generators. Participants expressed concerns about exploitation, ethical issues, and the current inefficiencies of AI in generating accurate and soulful artwork. Nevertheless, they acknowledged AI image generators' potential to expedite creative processes, generate inspiration, and aid in technical aspects. However, participants emphasized that AI in its current state is inadequate as a reliable reference tool due to inaccuracies. In the context of higher education, integrating AI image generators presents opportunities to enhance technical skills, foster innovation, and prepare students for future careers in digital arts and related fields.

Keywords: Artificial intelligence, AI image generators, Visual artists' perspectives, Thematic analysis, Ethical considerations, Academic integration

Introduction

The rise of artificial intelligence (AI) image generators prompts the question, "How can AI image generators and visual artists coexist in the future?" and "What are the advantages of human coexistence?" Firstly, we must have a clear definition. According to the Encyclopedia Britannica, artificial intelligence is defined as "the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings" (Encyclopedia Britannica, n.d.).

More established uses of AI include language processing, navigation systems for self-driving cars, and virtual assistants. In these use cases, AI simply automates tasks for humans by following set patterns and instructions. Generative AI, however, aims to create entirely new information with minimal human input.

According to Hong and Curran (2019), AI is a topic of heated discussion. This is no surprise as AI has been taking over the world, especially in the art industry. They also mention how the labor market will be impacted by AI, with many people worried that AI will take their jobs. More specifically, visual artists are concerned about the potential of AI image generators to replace them commercially. This is due to several factors, such as the relatively low cost of AI art solutions compared to human artists and the speed at which AI is learning and developing.

AI Image Generators

Artificial Intelligence (AI) image generators have emerged as powerful tools in the realm of visual arts, offering capabilities to produce images autonomously or assist artists in creating new artworks. These systems utilize deep learning algorithms to analyze vast datasets of images and generate novel visuals based on learned patterns. For instance, StyleGAN, developed by Nvidia, is renowned for its ability to generate high-quality, realistic images that mimic various artistic styles and compositions (Karras et al., 2019).

AI image generators are revolutionizing creative processes by automating repetitive tasks and offering new avenues for artistic exploration. They can generate diverse visual outputs quickly and efficiently, potentially reducing production costs and time constraints in industries ranging from advertising to entertainment (Wang et al., 2020). However, the integration of AI in art creation has sparked debates regarding

its impact on artistic creativity and the role of human artists. Critics argue that reliance on AI may diminish the uniqueness and emotional depth traditionally associated with human-created art (Owens, 2021).

Moreover, ethical concerns surrounding AI image generators include issues of authorship, ownership, and bias in algorithmic decision-making. As these technologies become more prevalent, questions arise about the implications for copyright laws and the ethical responsibilities of AI developers and users (Brynjolfsson & McAfee, 2017).

While AI image generators offer unprecedented opportunities for innovation and efficiency in the visual arts, they also present challenges that need careful consideration. Balancing technological advancements with artistic integrity and ethical considerations will be crucial in shaping the future coexistence of AI and human artists in creative endeavors.

Theoretical Framework

Constructivism, in the context of art and technology, explores how knowledge and understanding are actively constructed by individuals through their experiences and interactions with the world. When applied to the use of AI image generators by visual artists, constructivism suggests that artists engage with these technologies not merely as tools but as dynamic components in their creative processes. According to Dewey (1934), learning and creativity are interactive processes where individuals actively construct their knowledge and understanding, adapting and refining their skills through experimentation and reflection.

AI image generators, powered by deep learning algorithms, exemplify this interactive learning process by providing artists with novel tools to explore artistic expressions. These systems learn from vast datasets of visual information and generate outputs that artists can manipulate and integrate into their creative workflows (Karras et al., 2019). This interaction between artist and AI fosters a collaborative approach where both human creativity and machine learning capabilities contribute to the artistic process (Wang et al., 2020).

However, the integration of AI in artistic creation also raises questions about the role of the artist in relation to the technology. Constructivist perspectives

emphasize that artists actively shape their artistic practices based on their interactions with materials and tools (Dewey, 1934). In the context of AI image generators, artists must navigate how these technologies influence their creative decisions and aesthetic choices. They may adopt a critical stance, questioning how AI-generated art aligns with their personal artistic vision and expression (Owens, 2021).

Moreover, constructivism encourages artists to reflect on the broader implications of AI in art, including issues of authorship, creativity, and cultural significance. As artists engage with AI image generators, they contribute to shaping the discourse around the ethical and philosophical dimensions of AI in creative industries (Brynjolfsson & McAfee, 2017).

As such, constructivism offers a framework for understanding how AI image generators are integrated into artistic practices as dynamic tools that artists actively engage with to construct new forms of artistic expression. This perspective underscores the importance of artists' agency and critical reflection in harnessing the potential of AI while preserving the integrity and uniqueness of human creativity in the digital age.

Statement of the Problem

In this study, the researchers aimed to examine the perspectives of visual artists on AI image generators to infer a future where humans and AI can collaborate peacefully. Such collaboration could offer opportunities for visual artists in a competitive market, including enhancing the creativity of artwork and improving efficiency (Smith & Johnson, 2023). However, it could also impact the artists' creativity, as some may feel that AI image generators are taking control over the creative process. Additionally, concerns about the use of AI image generators, such as potential bias or discrimination in AI algorithms, need to be addressed (Brown, 2020).

The study's findings will be helpful to visual artists who adopt this new technology and will help them understand how it will influence their work (Jones et al., 2021). In doing so, it will open up a new path that allows AI image generators and visual artists to work alongside each other. The research was based on both answers collected in a focus group discussion and findings from previous research articles on how humans perceive AI-generated art (Davis, 2019).

The researchers aimed to learn more about visual artists' perspectives on AI image generators to create a future where AI and human collaboration is more realistic. This study will allow artists to better understand the potential benefits and challenges of using AI image generators (White, 2022). It will also allow future researchers to gauge the impact of AI art. This also helps education administrators by encouraging their support of visual artists in their use of AI image generators. Hence, it is expected to make a significant contribution to understanding the perceptions and experiences of visual artists towards AI image generators.

Methodology

The researchers particularly focused on understanding 10 conveniently sampled visual artists' perspectives on AI image generators. A creative activity, conducted via Discord in Metro Manila, Philippines, involved the use of AI named Ideogram that allowed them to create a drawing, edited photograph, painting, or any preferred visual medium. The creative activity was conducted inside a Discord voice call with cameras and streams on, ensuring that the researchers knew the participants were the creators of the output. Once the participants had finished their artworks, they sent their AI-generated images, and their answers to the researcher's questions privately through Discord or Messenger private message. The study utilized purposive sampling to ensure diversity across various art forms and artist backgrounds. Data collection methods included Focus Group Discussions and a creative output session, allowing participants to express their views transparently and integrate AI art into their work. Thematic analysis (Robinson, 2018) was employed to identify common themes and patterns in participants' sentiments towards AI image generators, aiming to uncover barriers and opportunities for fostering a collaborative relationship between visual artists and AI technology.

Results

Perceptions of visual artists on AI image generators

During the discussion, most participants provided similar answers, with the majority citing the exploitation of AI image generators and associated ethical concerns

as their initial thoughts when AI art or AI image generators are mentioned. Concerning the exploitation of AI image generators, their responses revolved on companies exploiting legal loopholes that people can abuse, as well as copyright issues related to artists' commercial use of AI image generators.

Regarding ethical issues in AI art, participants discussed cost-cutting through the use of AI image generators, resulting in the creation of smudgy and unprofessional artworks that devalue artists as a whole. This devaluation manifests itself in several ways. Firstly, there's the infringement of artists' intellectual property, whether deliberate or not. Secondly, there's the perception of art as a commodity rather than a creative endeavor. This devalues artists because companies view them as a business expense rather than a vital part of a creative vision. In addition to these prevalent opinions, respondents also discussed how AI image generators can be a great tool depending on how they are used. However, at the moment, AI image generators still need time to learn and develop due to the art they generate still having many imperfections.

Challenges of collaboration between visual artists and AI image generators

According to the participants, some of the downsides of image generators in art include humanity's ability to exploit AI image generators for their own personal gain. They note that AI image generators are legally questionable due to copyright issues and their lack of regulation, allowing companies and individuals with ulterior motives to exploit them. Additionally, they highlight ethical issues concerning how AI image generators may foster a false sense of ownership among users. Moreover, AI image generators not only devalue artists by unethically using their work as a database to generate images but also by diverting clients away from real artists, presenting themselves as a cheaper and quicker alternative. Lastly, AI image generators' inaccuracy in generating images is also a concern. Due to this inaccuracy, AI art becomes an ineffective learning tool for beginner artists, and it may even instill a lack of creativity because the AI only knows what it has been taught. Moreover, more knowledgeable artists would find no use for the program since it would only lead to more complications in their artworks rather than streamlining the process.

Thus, participants believe that the main challenges hindering artists from collaborating with AI image generators include the potential for exploitation, lack of regulation, inefficacy as a learning tool, and hindrances to art processes.

Opportunities of collaboration between visual artists using AI image generators

In the discussion, everyone agreed that AI image generators have the potential to make a positive impact on art. Artists considered them useful for inspiration and reference in various ways, such as generating different color palettes, poses, ideas, backgrounds, and more. The majority of participants emphasized AI image generators' ability to expedite the art creation process by generating specific references in a matter of minutes, compared to the traditional method of searching for the perfect reference or compiling multiple images.

However, after conducting the creative output, participants noted that referencing using AI image generators is currently not viable due to its inaccuracy. Nonetheless, they believed that it could still improve with more time and development. Despite this, participants believed that the program could still be useful for generating base ideas, compositions, and inspiration during art block. Artists can also utilize AI image generators for color referencing, as the AI model's current understanding of color theory and balance is already at a usable level. Additionally, AI image generators can facilitate communication in commissions with customers. One participant mentioned the difficulty for commissioners to communicate a specific design for a commission. Through AI image generation, the commissioner can effectively convey their desired design to the artist by generating a sample, thus saving time on the artist's workload.

Therefore, participants generally hold a positive outlook on the future of AI image generators and their potential to become an important part of their workflow. However, they emphasized that AI in its current state cannot satisfactorily assist them.

Visual artists thoughts after using AI image generators to create their artworks

During the discussion, most participants expressed their disgust and guilt for using AI image generators in their artworks due to concerns about the images being

stolen. Many participants felt that the generated images were unreliable, and some even found them eerie due to their perceived lack of soul. Additionally, participants were concerned about beginners using AI image generators as a learning tool, fearing that the inaccuracy of the generated images could stunt the growth of young or beginner artists trying to understand art techniques. When participants generated their artworks, some were successful in finding the desired image, while others were not as fortunate. This demonstrates that AI image generators still have a long way to go in terms of development. Some artists found using AI art as a reference more cumbersome than looking for references online, while others found it useful for quick ideas. Despite their varied experiences, all participants agreed that although AI image generators were not yet reliable enough as reference tools, they still had potential, particularly in generating base ideas and for color referencing.

To put it shortly, the participants' positivity about the potential future of artist and AI collaboration was overshadowed by their sentiments towards using it, ranging from discomfort to disgust, and even guilt.

Discussion

The integration of AI image generators into the academic formation and skills development of students in higher education involves several major considerations given the findings:

Ethical and Creative Integrity. Visual arts students need to understand the ethical implications of using AI image generators, including issues related to intellectual property, copyright, and the potential devaluation of artistic creativity. It is crucial to foster a balanced perspective that encourages ethical use while preserving the authenticity and originality of artistic expression (Dewey, 1934).

Educational Value vs. Dependence. AI image generators can be valuable educational tools for students, offering opportunities to explore different artistic styles, experiment with compositions, and gain insights into color theory and design principles. However, there is a risk that students may become overly reliant on AI for creative inspiration or technical execution, potentially hindering their own artistic growth and development (Wang et al., 2020).

Skill Enhancement and Innovation. Incorporating AI image generators can enhance students' technical skills in digital art production, providing them with practical experience in using cutting-edge tools that are increasingly relevant in contemporary art and design practices (Karras et al., 2019). It also encourages innovation by enabling students to explore new artistic possibilities and push boundaries in creative expression.

Critical Engagement and Evaluation. Educators play a pivotal role in guiding students to critically evaluate AI-generated artwork. This involves analyzing the strengths and limitations of AI image generators, understanding biases in AI algorithms, and discerning when and how to integrate AI tools effectively into their artistic process (Owens, 2021).

Preparing for Future Careers. Exposure to AI image generators prepares students for careers in fields where AI and automation are becoming more prevalent, such as digital media, advertising, and entertainment industries. Students equipped with AI literacy alongside traditional artistic skills may have a competitive edge in the job market (Wang et al., 2020).

Given these, while AI image generators offer significant potential benefits in enhancing learning experiences and technical skills in higher education, educators must navigate ethical considerations, foster creative integrity, promote critical engagement, and prepare students for evolving career landscapes. By integrating AI responsibly and purposefully, educators can empower students to harness the transformative power of AI while preserving the essence of human creativity in the arts.

References

- Brown, A. (2020). The impact of AI on creativity in visual arts. *Journal of Artificial Intelligence and Art, 12*(3), 45-62.
- Brynjolfsson, E., & McAfee, A. (2017). *Machine, platform, crowd: Harnessing our digital future*. W. W. Norton & Company.
- Davis, P. (2019). Human perceptions of AI-generated art: A review. *Art and Technology Review, 5*(2), 112-129.
- Dewey, J. (1934). *Art as experience*. Minton, Balch & Company.
- Encyclopedia Britannica. (n.d.). Artificial intelligence. Retrieved from <https://www.britannica.com/technology/artificial-intelligence>
- Hong, L., & Curran, K. (2019). AI in the art industry: A comprehensive review. *Journal of Creative Technologies, 8*(1), 18-27.
- Jones, M., Smith, R., & Johnson, T. (2021). Exploring the intersection of AI and visual arts: A focus group study. *Visual Arts Quarterly, 34*(4), 211-225.
- Karras, T., Laine, S., Aittala, M., Hellsten, J., Lehtinen, J., & Aila, T. (2019). A style-based generator architecture for generative adversarial networks. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*.
- Owens, C. (2021). The rise of AI art and what it means for humanity. *Artificial Intelligence and Ethics, 1*(2), 57-63. <https://doi.org/10.1007/s43681-021-00006-z>
- Robinson, S. (2018). Thematic analysis in qualitative research: A practical guide. *Journal of Qualitative Research Methods, 7*(2), 81-101.
- Smith, R., & Johnson, T. (2023). Opportunities and challenges of AI in the visual arts: Perspectives from artists. *Journal of Artistic Expression, 15*(2), 30-48.
- Wang, M., Ma, K., Wang, X., & Wang, W. (2020). AI in arts and humanities: A survey. *Artificial Intelligence Review, 53*(8), 5397-5415. <https://doi.org/10.1007/s10462-019-09774-5>
- White, E. (2022). Understanding AI in visual arts: Implications for artists and educators. *International Journal of Art and Design Education, 41*(1), 55-68.