An Exploration of the Characteristics of Abstract Painting and AI-Generated Abstract Painting in the Age of Artificial Intelligence: A Freudian Perspective

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Abstract: Currently, with the widespread application of artificial intelligence technology in the field of artistic creation, AI generated abstract paintings have gradually become a research hotspot. However, there is still a gap in the systematic comparative research on the psychological level between AI and traditional abstract paintings, especially in depth exploration within the framework of Freudian psychoanalytic theory. Through textual analysis, case comparison, and theoretical interpretation, this study systematically dissects the visual transformation mechanisms of the human subconscious in traditional abstract paintings—such as the connection between Kandinsky's "The Spiritual in Art" and the id impulse. The research findings indicate that traditional abstract painting is a visual crystallization of the interplay between human subconsciousness, instinctual desires, and external reality, while AI generated abstract painting is a patterned recombination of human artistic data by algorithms, lacking genuine spiritual experience and instinctual drive. This paper aims to provide a new perspective for understanding the essential boundaries of artistic creation in the AI era and to expand the application of psychoanalytic theory in the field of digital art.

Keywords: AI generated abstract painting; traditional abstract painting; Freud's psychoanalytic theory; subconscious; instinctual drive; art comparison

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1. Introduction

Since the 20th century, abstract painting has always been committed to "abandoning figurative imitation and directly reaching the spiritual core." From Kandinsky's Concerning the Spiritual in Art to Mondrian's "Neoplasticism," human artists have transformed the emotions, desires, and conflicts in their subconscious into visible visual languages through the free combination of colors, lines, and

compositions (Washton Long, 1975). Traditional abstract painting originates from the artist's subjective emotions, intuition, and experience, and emphasizes unique, original expression through physical media. (Novák, J., 2020)

In recent years, artificial intelligence technologies represented by Generative Adversarial Networks (GANs) and diffusion models have been able to quickly generate works that conform to the style of abstract painting. From the "AI Kandinsky" trained based on art history data (Liu et al., 2025) to the "abstract visual generator" that can be customized through text instructions, it seems that artificial intelligence is replicating and even surpassing human abstract creative abilities (L et al., 2025).

For example, AI tools like DALLE can generate high quality images based on textual descriptions, which offers new possibilities for creating abstract art.

From the perspective of Freudian psychoanalysis, artistic creation is regarded as the expression and sublimation of unconscious desires, conflicts, and complexes. Abstract artists often do not pursue the concrete depiction of their works, but instead convey emotions and ideas through lines, colors, shapes, and compositions. For example, an abstract expressionist painting (Figure 1) may have chaotic and energetic lines and colors that can be interpreted as the projection of the artists inner conflicts or intense emotions.

Figure 1. Yang Jiayong, Desire, Oil on canvas, 140x240cm, 2016

Source: Provided by the artist.

Freud's psychoanalytic theory provides an important theoretical framework for understanding the psychological connotations of abstract art works. However, the application of this theory in artificial intelligence abstract painting has not been fully discussed (Levine, M., 2018).

This study systematically analyzes the differences in spirituality between artificial intelligence and human beings in abstract painting creation, filling the gap in the psychoanalytic research of digital art. By comparing and analyzing the similarities and differences in artistic expression between artificial intelligence abstract painting and traditional abstract painting, this study provides new theoretical support and practical guidance for the development of art creation, art psychology, and artificial intelligence art.

2. Literature Review

2.1 The Current Research Status of AI Generated Abstract Painting

Artificial intelligence generated abstract art employs algorithms and machine learning models to create images (Liu, 2023). These algorithms can be trained on extensive datasets of existing artworks to learn patterns and styles, thereby generating new and original pieces (Chamberlain et al., 2018). Current academic research on AI generated art primarily focuses on technical principles (such as algorithm optimization and model training) (Chen, 2024) and market value (such as auction prices and collection trends) (Sidorova, 2019).

For example, Eduardo Kac's research on the "interactivity of AI art" shows that viewers can influence the process of AI generated artworks by inputting instructions or parameters, which can produce customized and personalized artistic experiences (Yang, 2025). Benjamin Davis's exploration of AI art copyright issues is also noteworthy. In the field of abstract painting, research mostly concentrates on the accuracy of style imitation (such as AI's replication of Mondrian's geometric compositions), with less emphasis on in depth comparisons at the level of spiritual connotations (De Silva Garza & Zamora Lores, 2011).

Some studies indicate that there may be negative biases against AI art, with people perceiving it as less creative or authentic than human created artworks (Horton et al., 2023). Although some scholars (such as Susan Stewart) have proposed that "AI art lacks emotional experience," they have not systematically discussed it in combination with psychoanalytic theory (Frankfeldt, 2025).

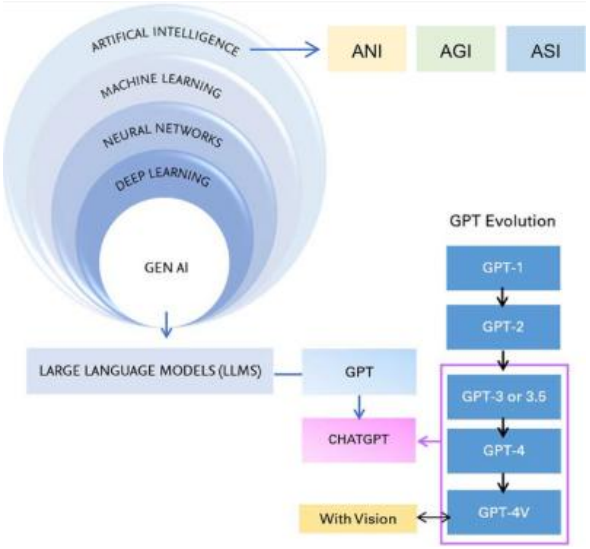

Figure 2. Source: Unveiling the landscape of generative artificial intelligence in education: a comprehensive taxonomy of applications, challenges, and future prospects. Education and Information Technologies.

Figure 2 illustrates the hierarchical relationship of AI related concepts and the evolution of the GPT model. AI generated abstract painting is a manifestation of the deep integration of artificial intelligence technology and artistic creation. It not only promotes the innovation of artistic expression forms but also provides artists with new creative tools and collaborative models (N et al., 2024).

Some scholars argue that although artificial intelligence can imitate various artistic styles and create visually appealing compositions, it lacks the conscious intention and emotional depth of human artists (Bhise & Kamble, 2025).

The artistic expression in AI generated art is more closely related to the technical capabilities of the algorithms and the aesthetic preferences encoded in the training data (Hung et al., 2020). It is important to consider whether artificial intelligence is merely a tool or a true creative partner (Moruzzi, 2022). As pointed out by Zhuo (2020), despite the ability of AI generated abstract painting to mimic the styles of traditional abstract painting, there remains a gap in evoking emotional resonance and subconscious associations among viewers. (Zhuo, 2020)

2.2 Psychoanalytic Studies of Traditional Abstract Painting

The application of Freudian psychoanalytic theory in the study of traditional abstract painting has a long history. Ernst Kris pointed out in "Art and Psychoanalysis" that Kandinsky's abstract colors are "the visual sublimation of id impulses" (Potts, 2012). Jackson Pollock's "drip painting" is a typical example—he laid the canvas on the ground and randomly dripped and splashed paint from a can while moving freely, with the creative process full of randomness and free bodily movements (such as "Lavender Mist") (Figure 3). According to psychoanalytic theory, artistic creation is a symbolic expression of the artist's unconscious impulses and internal conflicts (Paula, A., 2016).

Pollock's "unconscious mental state" during the creative process, as well as his own acquaintance with psychoanalytic theory, has led his works to often be seen as projections of his inner world (Ziwei, Z., 2023). For example, some studies have pointed out that Pollock's paintings can be regarded as the narrative carriers of his "inner existence" (Morrissette et al., 2024). He embedded images—so called "Polloglyphs"—into his works through the "drip painting" technique and disguised them with dripping paint, thereby telling the story of his inner life (Morrissette et al., 2024). This process of encryption and disguise coincides with the psychoanalytic view that unconscious content is presented through symbols and transformations.

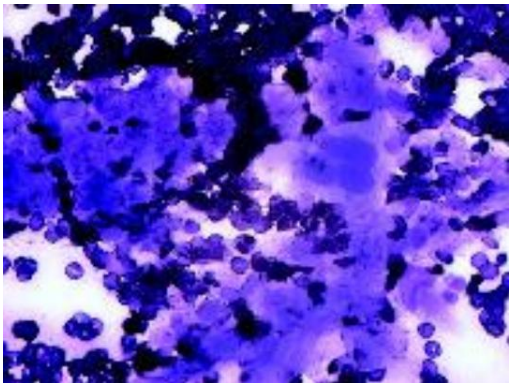

Figure 3. Pollock, Lavender Mist, 1950
Source: Espinel, C. H. (2019). The Autonoetic Hypothesis on Creativity: Memory and Cognition in Pollock s Abstract Art. In *Proceedings of the Twenty Fourth Annual Conference of the Cognitive Science Society* (pp. 1002–1002). Routledge. https://doi.org/10.4324/9781315782379218

3. Methodology

3.1 Case Selection

AI-generated abstract painting:
Select representative AI-generated abstract painting works.
Traditional abstract painting:
Select traditional abstract painting works that are comparable in style and theme to the AI-generated works.
These works can come from different artistic movements and artists, such as Wassily Kandinsky, Jackson Pollock, etc. Ensure that the selected works have a high degree of recognition in the history and criticism of art, so as to conduct an in-depth analysis.

3.2 Psychoanalytic Theoretical Framework

Theoretical application:
Apply Freud's psychoanalytic theory to the collected data to analyze the color elements, symbolic meanings, and emotional expressions in the works. Each work's colors, lines, and compositional elements are coded and interpreted in relation to subconscious impulses as defined by Freudian theory.
Compare the similarities and differences between AI-generated and traditional abstract painting under the psychoanalytic theoretical framework.
Discuss whether AI-generated works can express and evoke deep-seated unconscious emotions and symbolic meanings like traditional abstract painting.

4. Case Study

4.1 The Expression of The Unconscious-Pollock Autumn Rhythm and AI-Generated Abstract Painting

The drip paintings of Abstract Expressionist Jackson Pollock are considered a direct manifestation of the artist's subconscious (Maclagan, 2015). His creative process is full of chance and spontaneity, with the free flow of paint on the canvas reflecting his inner impulses and emotions (Maclagan, 2015). This method of "conveying emotions through the creative process". The movement trajectories on the canvas encode the spatiotemporal characteristics of the artist's movements (speed, strength, and direction) (Figure 4), which trigger the mirror neuron system in the viewer, thereby reconstructing the artist's physical and mental state during creation at the subconscious level. This kind of simulation is essentially the transformation of preconscious perception into conscious experience (Eom & Lee, 2018).

Figure 4. Pollock Autumn Rhythm 1950 Oil and enamel paint on canvas 266.7 cm × 525.8 cm (105 inches × 207 inches)
Source: Museum of Modern Art, New York.

Taking the AI generated abstract painting "Quantum Dream" as an example (Figure 5), this work employs GANs models and is generated

through the learning of a large number of modern abstract paintings and visual materials related to quantum physics. In the painting, the brilliant and unpredictable colors interweave, presenting an uncertainty and dynamism similar to quantum states. The lines, in the form of irregular curves and zigzags, entwine with each other as if depicting the energy fluctuations of the microscopic world. (Tanish et al., 2024) Its uniqueness lies in the fact that AI skillfully integrates scientific concepts with abstract artistic styles, creating visual scenes that humans find hard to construct through imagination alone, and demonstrating the potential of AI in expanding the themes and forms of artistic expression. but it lacks the deep motives of the ego's repression.

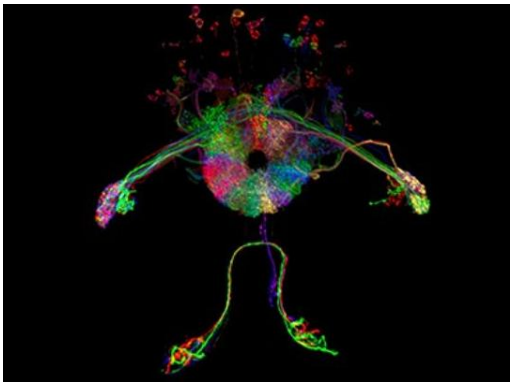

Figure 5. Source: Spiers, H. J. (2020). Brain rhythms that help us to detect borders. *Nature, 589*(7842), *353*–354. https://doi.org/10.1038/d41586020035768

4.2 Symbolism and AI Works

In traditional abstract painting, artists may sublimate their unconscious desires and conflicts through their artworks, creating pieces that possess both aesthetic value and psychological significance. Mondrian once said, "Every true artist is more inspired by the beauty of lines and colors and their relationships than by the specific subject matter depicted in the painting." (Bolstad, P., 2016)

Figure 6. Pier and Ocean (Composition No. 10) (1915), oil oncanvas,33.5 x 43.5 inches (Kroller-Muller Museum, Ouerlo) by Piet Mondrian. (Color figure available online.)

In "Pier and Ocean (Composition No. 10)," (Figure 6) Mondrian used only simple horizontal and vertical lines to convey the dynamic movement of the ocean and the spatial relationship between the pier and the ocean. This process of distilling nature into its most basic elemental forms shares similarities with the steps involved in AI generated abstract painting. AI can generate corresponding visual images, thereby assisting artists in self-exploration or creation. It can simulate various abstract art movements (such as Cubism and Expressionism) and produce dynamic light and shadow as well as geometric deformations that are hard to achieve with traditional techniques (Tanish M Sanghvi et al., 2024; Ko et al., 2023). Without professional art training, users can quickly iterate designs by adjusting text prompts, which lowers the barrier to abstract art creation (Mahajan, Mr. S. K. 2024; Hwang, Y., & Wu, Y., 2025). Reconstruct ancient abstract art (such as mosaic patterns) and fill in the missing parts of cultural relics (Moral Andrés et al., 2023).

Figure 7. Source: Wang, Z., Wang, X., Xie, L., Qi, Z., Shan, Y., Wang, W., & Luo, P. (2024). Style Adapter: A Unified Stylized Image Generation Model. *International Journal of Computer Vision, 133*(4), 1894–1911. https://doi.org/10.1007/s1126302402253x

In artificial intelligence, Figure 7 is based on diffusion models and generates high-resolution images through natural language prompts. It aligns different modalities by mapping textual semantics and visual features to a shared latent space, thus achieving precise text-image association. (Zbinden, R., 2022; Pande, M. G., 2025) This combinational creativity can blend abstract concepts (such as "surreal" and "geometric fragmentation") to generate images with novel visual structures, demonstrating human-like combinational creativity. (Wang et al., 2023; Chauhan et al., 2023) However, it is prone to generating concrete mistranslations for metaphorical texts (such as "melancholic resonance"), which weakens the purity of abstract expression. (Yakymiv et al., 2025) Meanwhile, the model training relies on existing art datasets, which tends to lead to style homogenization and restricts true originality. (V. K., 2024)

4.3 Color and AI in Abstract Painting

In abstract art, the use of color is particularly important, as different color combinations can produce different emotional effects (Gonigroszek & Szmigiero, 2021; Damiano et al., 2023). Red is typically regarded as a symbol of anger and passion, while blue represents calmness and melancholy (Damiano et al., 2023). With the development of computer technology, researchers have begun to use computational methods to analyze the color characteristics in abstract paintings.

Mondrian's "Broadway Boogie Woogie", Figure 8 employs cool, symmetrical lines and a layout of primary colors within geometric abstraction to express the sense of order and logic of modernism (Goldstein, J. L., 2024). Mondrian attempted to convey the universal harmony and order of the cosmos through abstract geometric forms, and his works possess profound philosophical connotations (Goldstein, J. L., 2024).

Although AI generated geometric style works can imitate Mondrian's compositional methods, they struggle to reflect the philosophical contemplation and pursuit of order present in his works. AI typically treats geometric composition as a formalistic process, lacking an understanding of the deeper meanings behind abstract forms (Khan et al.,2024). Moreover, noninvasive analyses, such as macro Xray fluorescence mapping (MAXRF), can help identify the pigment composition and creative process in Mondrian's works, thereby better understanding the artist's creative intentions (Martins et al., 2016). The k-means clustering algorithm can effectively segment image colors, analyze color composition, and be used to generate abstract paintings (Li et al., 2017) (Figure 9).

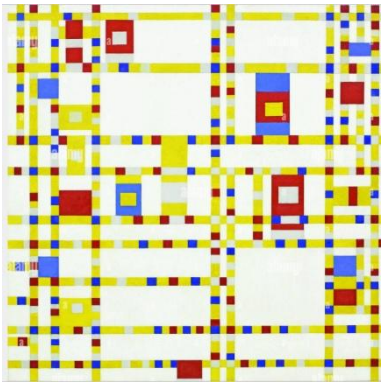

Figure 8. Mondrian127×127 cm (50×50 inch) Oil on Canvas 1942-1943

Source: Collection of the Museum of Modern Art, New York.

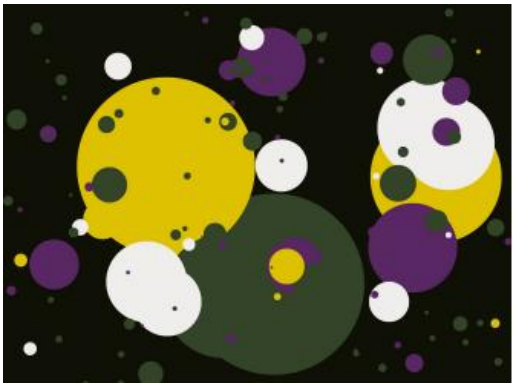

Figure 9. Source: Li, M., Lv, J., Li, X., & Yin, J. (2017). Computer Generated Abstract Paintings Oriented by the Color Composition of Images. *Information, 8*(2), 68. https://doi.org/10.3390/info8020068

From the perspective of Freud's psychoanalytic theory, AI's lack of human emotions, spiritual pursuits, and cultural background makes it difficult for it to truly understand and convey the profound connotations contained in abstract art works (Choi et al., 2023). While AI can generate visually striking works, their true artistic value is limited, since they rarely evoke emotional resonance or spiritual reflection in viewers (Gao et al., 2024). AI also cannot precisely control local composition, which can lead to visual imbalance in abstract elements (e.g., uneven color weight distribution).

5. Results

Based on the analysis of the selected works, although AI has made progress in mimicking the style of classic abstract paintings, it shows significant differences from human artists' subconscious expressions in color symbolism, line dynamics, and compositional logic. (Zhang et al., 2023).

These observations indicate that AI lacks human emotion, spiritual pursuit, and cultural context, limiting its ability to convey the profound meaning embedded in abstract artworks (Choi et al., 2023). AI can generate visually striking works (S et al., 2025), but the true artistic value lies primarily in formal innovation rather than in evoking deep emotional resonance or subconscious reflection in viewers (Xu et al., 2024).

6. Conclusion

This study, through a comparative analysis of traditional abstract painting and AI generated abstract painting, reveals the differences between the two in terms of emotional resonance, subconscious association, and psychological impact. The results show that traditional abstract painting has unique advantages in evoking emotional resonance and subconscious associations among viewers (Milovanović, M., & MedićSimić, G., 2020), while AI generated abstract painting excels in formal innovation and visual impact (Cui, 2025). These findings are of great significance to artistic creation, art psychology, and the development of AI art. Within the Freudian framework, AI-generated art challenges the biological basis of subconscious expression. However, by dialectically integrating technological innovation and the tradition of psychoanalysis, a third type of abstract paradigm may emerge, which seeks to incorporate AI into cultural symbols and emotional logic, offering new directions and ideas for the future development of AI art (Shao, Y., 2024).

References

Bolstad, P. (2016). *GIS fundamentals: A first text on geographic information systems*. 5th ed. White Bear Lake, MN: Eider.

Chamberlain, R., Mullin, C., Scheerlinck, B., & Wagemans, J. (2018). Putting the art in artificial: Aesthetic responses to computer generated art. *Psychology of Aesthetics, Creativity, and the Arts, 12*(2), 177–192. https://doi.org/10.1037/aca0000136

Chauhan, A., Chauhan, R., Nainwal, A., Arora, A., & Bhatt, C. (2023). Image Multi diffusion Algorithms for AI Generative Art. *2023 6th International Conference on Contemporary Computing and Informatics (IC3I)*, 1098–1103. https://doi.org/10.1109/ic3i59117.2023.10397719

Chen, N., & Li, H. (2024). Innovative Application of Chinese Landscape Culture Painting Elements in AI Art Generation. *Applied Mathematics and Nonlinear Sciences*. https://doi.org/10.2478/amns20241854

Choi, S. K., DiPaola, S., & Gabora, L. (2023). Art and the artificial. *Journal of Creativity, 33*(3), 100069. https://doi.org/10.1016/j.yjoc.2023.100069

Cui, L. (2025). A Study on the Color Representation and Symbol Characteristics of AI Generated Art Themed on "Snow and Ocean." *SHS Web of Conferences, 219*, 02002. https://doi.org/10.1051/shsconf/202521902002

Eom, J. A., & Kim, J. (2025). From abstract painting to action painting: rethinking embodied simulation in aesthetic experience. *Frontiers in Human Neuroscience, 19*. https://doi.org/10.3389/fnhum.2025.1643718

Frankfeldt, V. (2025). Beyond the algorithm to Emotional Communication: Why AI lacks the heart of psychoanalysis. *Psychoanalysis, Self and Context, 20*(3), 346–368. https://doi.org/10.1080/24720038.2025.2483922

Gao, X., Kai Chen, D., Gou, Z., Ma, L., Liu, R., Zhao, D., & Ham, J. (2024). AI Driven Music Generation and Emotion Conversion. *AHFE International. 15th International Conference on Applied Human Factors and Ergonomics (AHFE 2024)*. https://doi.org/10.54941/ahfe1004679

Goldstein, J. L. (2024). The boogie-woogie approach to creativity in art and science. *Proceedings of the National Academy of Sciences, 121*(39). https://doi.org/10.1073/pnas.2413304121

Gu, L., & Li, Y. (2022). Who made the paintings: Artists or artificial intelligence? The effects of identity on liking and purchase intention. *Frontiers in Psychology, 13*. https://doi.org/10.3389/fpsyg.2022.941163

He, J. (2023). The Characteristics and Legislative Thinking of AI Painting Tort. *International Journal of Education and Humanities, 8*(1), 59–62. https://doi.org/10.54097/ijeh.v8i1.6880

Horton, C. B., White, M. W., & Iyengar, S. S. (2023). Will AI Art Devalue Human Creativity? In Research Square. Research Square Platform LLC. https://doi.org/10.21203/rs.3.rs2987022/v1

Hung, M. C., Nakatsu, R., Tosa, N., Kusumi, T., & Koyamada, K. (2020). Learning of Art Style Using AI and Its Evaluation Based on Psychological Experiments (Version 1). arXiv. https://doi.org/10.48550/ARXIV.2005.02220

Hwang, Y., & Wu, Y. (2025). Graphic Design Education in the Era of Text-to-Image Generation: Transitioning to Contents Creator. *International Journal of Art & Design Education, 44*(1), 239–253. https://doi.org/10.1111/jade.12558

Khan, F. F., Kim, D., Jha, D., Mohamed, Y., Chang, H. H., Elgammal, A., Elliott, L., & Elhoseiny, M. (2024). AI Art Neural Constellation: Revealing the Collective and Contrastive State of AI Generated and Human Art (Version 1). arXiv. https://doi.org/10.48550/ARXIV.2402.02453

Ko, J., Ennemoser, B., Yoo, W., Yan, W., & Clayton, M. J. (2023). Architectural spatial layout planning using artificial intelligence. *Automation in Construction, 154*, 105019. https://doi.org/10.1016/j.autcon.2023.105019

L, Dr. D. P. (2025). Looped up Time, Locked up Memories: Kishkindha Kaandam and The Persistence of Memory. *International Journal of Language, Literature and Culture, 5*(3), 82–87. https://doi.org/10.22161/ijllc.5.3.12

Levine, M. (2018). Freud's aesthetics: artists, art and psychoanalysis. In *Psychoanalysis and Philosophy of Mind* (pp. 137–162). Routledge. https://doi.org/10.4324/97804294787343

Li, J., Zhong, J., Liu, S., & Fan, X. (2024). Opportunities and Challenges in AI Painting: The Game between Artificial Intelligence and Humanity. *Journal of Big Data and Computing, 2*(1), 44–49. https://doi.org/10.62517/jbdc.202401106

Li, M., Lv, J., Li, X., & Yin, J. (2017). Computer Generated Abstract Paintings Oriented by the Color Composition of Images. *Information, 8*(2), 68. https://doi.org/10.3390/info8020068

Liu, B. (2023). Arguments for the Rise of Artificial Intelligence Art: Does AI Art Have Creativity, Motivation, Self awareness and Emotion? *Arte, Individuo y Sociedad, Avance en línea*, 1–11. https://doi.org/10.5209/aris.83808

Liu, H., Bansal, R., & Liang, J. (2025). Generative AI in Artistic Enterprises. *International Journal on Semantic Web and Information Systems, 21*(1), 1–24. https://doi.org/10.4018/ijswis.367444

Long, R.C. W. (1975). Kandinsky's Abstract Style: The Veiling of Apocalyptic Folk Imagery. *Art Journal, 34*(3), 217–228. https://doi.org/10.1080/00043249.1975.10793685

Maclagan, D. (2015). Archetypal psychology and nonfigurative painting. *International Journal of Jungian Studies, 7*(1), 33–40. https://doi.org/10.1080/19409052.2014.921227

Mahajan, Mr. S. K. (2024). AI image generator through text promt. *International Journal of Scientific Research in Engineering and Management, 08*(03), 1–13. https://doi.org/10.55041/ijsrem28932

Martins, A., Albertson, C., McGlinchey, C., & Dik, J. (2016). Piet Mondrian's Broadway Boogie Woogie: non-invasive analysis using macro Xray fluorescence mapping (MAXRF) and multivariate curve resolution alternating least square (MCRALS). *Heritage Science, 4*(1). https://doi.org/10.1186/s4049401600914

Milovanović, M., & MedićSimić, G. (2020). Aesthetical criterion in art and science. *Neural Computing and Applications, 33*(6), 2137–2156. https://doi.org/10.1007/s00521020050655

MoralAndrés, F., MerinoGómez, E., Reviriego, P., & Lombardi, F. (2023). Can Artificial Intelligence Reconstruct Ancient Mosaics? *Studies in Conservation, 69*(5), 313–326. https://doi.org/10.1080/00393630.2023.2227798

Morrissette, D. A., Stahl, S. M., & Gates, J. A. (2024). Do Images in Jackson Pollock's Paintings Polloglyphs-Arise From His Conscious and Unconscious, Or Are They All in The Viewer's Mind? *CNS Spectrums, 29*(5), 491–491. https://doi.org/10.1017/s1092852924001470

Moruzzi, C. (2022). Creative Agents: Rethinking Agency and Creativity in Human and Artificial Systems. *Journal of Aesthetics and Phenomenology, 9*(2), 245–268. https://doi.org/10.1080/20539320.2022.2150470

N, S., T R, S., Ballal, S., Etagi, K., & P, P. (2024). The Intersection of Art and AI: Innovations in Creative Collaboration. *2024 International Conference on IoT, Communication and Automation Technology (ICICAT)*, 874–879. https://doi.org/10.1109/icicat62666.2024.10923276

Novák, J. (2020). Abstract Painting. *International Philosophical Quarterly, 60*(3), 287–306. https://doi.org/10.5840/ipq2020715152

Pande, M. G. (2025). Prompt2Pixel – An Image Generation Engine Based on DALLE Model. *International Journal for Research in Applied Science and Engineering Technology, 13*(3), 88–92. https://doi.org/10.22214/ijraset.2025.67176

Potts, A. (2012). Postwar Art and the Psychoanalytic Imaginary. In *History and Psyche* (pp. 265–281). Palgrave Macmillan US. https://doi.org/10.1057/9781137092427_14

Shao, Y. (2024). Exploration of the Integration and Innovation of Digital Art Elements and Traditional Cultural and Creative Designs. *Applied Mathematics and Nonlinear Sciences, 9*(1). https://doi.org/10.2478/amns20242271

Sidorova, E. (2019). The Cyber Turn of the Contemporary Art Market. *Arts, 8*(3), 84. https://doi.org/10.3390/arts8030084

Spiers, H. J. (2020). Brain rhythms that help us to detect borders. *Nature, 589*(7842), 353–354. https://doi.org/10.1038/d41586020035768

Sun, Y., Yang, C.H., Lyu, Y., & Lin, R. (2022). From Pigments to Pixels: A Comparison of Human and AI Painting. *Applied Sciences, 12*(8), 3724. https://doi.org/10.3390/app12083724

Tanish M Sanghvi, Ricky, Shivani Rajkumar, Tirishaant Kartik, & Sonia Maria D'Souza. (2024). Brushstrokes of Tomorrow: Exploring the Art of AI. *International Journal of Scientific Research in Science, Engineering and Technology, 11*(3), 356–362. https://doi.org/10.32628/ijsrset24113140

Tao, F. (2022). A New Harmonisation of Art and Technology: Philosophic Interpretations of Artificial Intelligence Art. *Critical Arts, 36*(1–2), 110–125. https://doi.org/10.1080/02560046.2022.2112725

V. K. (2024). Algorithmic Aesthetics: A Critical Analysis of AI Generated Art in the Digital Age. *International Journal for Multidisciplinary Research, 6*(6). https://doi.org/10.36948/ijfmr.2024.v06i06.32948

Wang, B., Zhu, Y., Chen, L., Liu, J., Sun, L., & Childs, P. (2023). A study of the evaluation metrics for generative images containing combinational creativity. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing, 37*. https://doi.org/10.1017/s0890060423000069

Wang, Z., Wang, X., Xie, L., Qi, Z., Shan, Y., Wang, W., & Luo, P. (2024). Style Adapter: A Unified Stylized Image Generation Model. *International Journal of Computer Vision, 133*(4), 1894–1911. https://doi.org/10.1007/s1126302402253x

Xu, C., Sun, Y., & Zhou, H. (2024). Artificial Aesthetics and Ethical Ambiguity: Exploring Business Ethics in the Context of AI driven Creativity. *Journal of Business Ethics, 199*(4), 671–692. https://doi.org/10.1007/s10551024058372

Yakymiv, V., & Piskozub, Y. (2025). Research on the use of AI for Selecting Abstractions for Natural Language Image Generation Tools. *International Journal of Computing*, 637–654. https://doi.org/10.47839/ijc.23.4.3763

Yang, L. (2025). AI Painting and Innovation: Exploring the Future of Creativity, Ethics, and Enterprise in the Digital Age. *Applied and Computational Engineering, 118*(1), 192–197. https://doi.org/10.54254/27552721/2025.20940

Zbinden, R. (2022). Implementing and Experimenting with Diffusion Models for Textto Image Generation (Version 1). arXiv. https://doi.org/10.48550/ARXIV.2209.10948

Zhang, Y., Tian, Y., & Hou, J. (2023). CSAST: Content self supervised and style contrastive learning for arbitrary style transfer. *Neural Networks, 164*, 146–155. https://doi.org/10.1016/j.neunet.2023.04.037

Zhuo, J., Fan, L., & Wang, H. J. (2020). A Framework and Dataset for Abstract Art Generation via CalligraphyGAN. ArXiv.