# Artistic Intelligence: Distinguishing Human From Ai-Generated Art Through Perception

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**Abstract**: With the new advances in technology, the ability of AI to produce human-like art questions established notions of creativity, authorship, and artistic value. This study explores the differences between human-created artwork and AI-generated artwork using human experience. We analyze whether or not AI-generated art can be distinguished from human-created art consistently based on qualities such as emotional effect, aesthetic depth, and originality. Our methodology involves a perception study where people rate and attempt to classify images as human or AI-created. The rating criteria are emotional effect, perceived beauty, detail richness, and subjective creativity. We also ask participants to see if they can identify common signs of AI-generated images, such as over-smoothing transitions, blurred details, and unnatural or flat viewpoints. We measure the accuracy of human classification, comparing the degree of consistency or inconsistency in their judgments. This transdisciplinary project aims to shed light on core differences in perception and structure between AI and human creativity. It also raises broader ethical and philosophical questions about creativity, ownership, and cultural value in this AI age. In particular, we question whether AI art models that have been trained from copyrighted content can produce original images that are just as good as human artwork. By comparing subjective human judgments, this research will seek to shed light on how AI art is understood, evaluated, and possibly distinguished from traditional human imagination. The results of this research will contribute to current discussions at the intersection of technology, art, and ethics, providing a foundation for more open and ethical AI art production.

**Keywords**: AI-generated art; human perception; artistic intelligence; art authenticity; ethics in AI; digital art.

## 1. Paper Overview

### 1.1 Conceptual Framework
Our framework is structured around two analytical layers:

- **Perception Layer – Human and AI Art Convergence**: Our perception study integrates human ratings of both AI and human-created art. This establishes a baseline for how humans distinguish art origins based on subtle perceptual cues.
- **Ethical and Philosophical Layer – Societal and Conceptual Views**: The reliance of AI art on vast, often copyrighted, datasets raises questions about intellectual property, ownership, and the value of human creativity. This layer reframes the art world as a critical ethical and philosophical space.

## 2. Problem Background

### 2.1 Review of Prior Events
The increasing integration of AI into creative fields has demonstrated both efficiency gains and security challenges. Prior incidents show how AI art systems are vulnerable to disruption. For example, generative AI models are susceptible to prompt injection and data poisoning, enabling attackers to create biased or malicious outputs that undermine artistic integrity (Perez & Ribeiro, 2022; Greshake et al., 2023). Research also shows how AI-generated images can mislead public perception, causing confusion about authorship and the value of human art. These findings indicate that digital art, while technically effective, is exposed to adversarial manipulation.

The digitization of creative assets has created a second vulnerability frontier. Cloud-hosted repositories of human art are sensitive targets, and models trained on these uncredited datasets raise critical questions about copyright and fair use. The public backlash against the Guess campaign in Vogue, which used a hybrid human-in-the-loop and AI workflow, illustrates how public perception is heavily influenced by prior knowledge of the content's origin (Chitrakorn, 2025). This incident shows that disclosing AI involvement can trigger public skepticism and reframe creative work as an ethical problem.

Beyond art, the ethical implications of AI extend to other domains. The work done in "AI-Driven Cybersecurity Strategies for ISPs" (Singh & Kumar, 2025) explores how AI is used for threat mitigation and monetization. Similarly, the research in "Impact of AI in Social Media" (Kumar et al., 2025) addresses how AI on social media platforms is used in cybercrime and influences gender dynamics. These studies, like ours, underscore the necessity of a nuanced understanding of AI's societal role.

## 2.2 Limitations in Existing Approaches

Most current approaches to AI art prioritize technical functionality over a holistic understanding of its societal impact. While generative AI models produce aesthetically pleasing images, they often lack transparency regarding their training data, making them vulnerable to intellectual property disputes and ethical challenges that threaten the livelihoods of human artists.

A second limitation is the minimal consideration of how human perception is influenced by non-visual information. With AI art's increasing use in commercial campaigns, its exposure to public backlash is a significant blind spot. The work of Kumar, Crowe, & Gu (2025) on the perception gap between designers and practitioners in security standards highlights a similar issue.

## 3. Methodology

### 3.1 Research Design

The core of this study is a quantitative human perception study combined with computer image analysis. Our architecture includes a diverse collection of AI-generated and human-created images. Participants rate these images on several dimensions, including visual appeal, emotional impact, and perceived originality.

### 3.2 Data Collection and Analysis

The study uses a varied collection of images. We produced 10 unique images with popular generative AI models like Midjourney and DALL-E 3, and selected 10 human-created artworks from online platforms and museums that match the AI styles.

For the human perception study, we will recruit at least 25 participants from Texas A&M University. Participants will view a random sequence of 20 images and perform two tasks for each:

- **Perceptual Rating**: Rate each image on a 5-point scale for visual appeal, emotional impact, and originality.
- **Source Identification**: Identify the art's origin (Human, AI, or Unsure) and provide qualitative feedback.

We will analyze the human perception data using statistics, including descriptive stats for ratings and confidence. **Correlation analysis** will check the link between ratings and correct identification rates. Qualitative answers will be analyzed by coding common themes.

## 4. Results and Analysis

### 4.1 Evaluation Criteria

The evaluation of human perception outcomes was based on three criteria: accuracy of classification, consistency of ratings, and perceptual tells. Preliminary pilot data from a small group of 8 participants showed humans correctly classified AI art just above 60% of the time, revealing the difficulty of correct identification. Analysis of emotional impact and originality ratings revealed a more strategic set of cues: human art consistently scored higher on both. Qualitative comments from participants revealed common "AI tells" such as "too perfect," "unnatural smoothness," and "blurry details."

### 4.2 Observations and Outcomes

Preliminary pilot data revealed that even advanced AI-generated art can be undermined by adversarial human perception. The finding that participants correctly identified AI art just over 60% of the time underscores that prototypes optimized for visual appeal remain fragile when subjected to human judgment.

Expanding the analysis to emotional impact and originality illustrated a strategic vulnerability. Human art consistently scored higher for emotional impact (3.9/5) and originality (3.5/5) compared to AI art (2.7/5 and 2.9/5, respectively). This highlights a critical escalation—the inability of current AI models to replicate the subjective depth of human creativity—which transforms a technical achievement into a perceptual gap.

At the societal level, preliminary results showed a strong preference for labeling AI art, with 84% of participants saying "Yes." This outcome highlights a critical need for clear attribution, reflecting broader concerns about intellectual property and the value of human creative work. The mixed answers about AI's ability to genuinely replicate human creativity offer a nuanced view of public thinking.

## 5. Discussion

### 5.1 Interpretation of Results

Our findings reveal that AI art, despite being technologically advanced, has introduced vulnerabilities across aesthetic, emotional, and ethical domains. At the visual level, "AI tells" like unnatural smoothness can undermine the perceived authenticity of an image. This suggests that humans don't need to be art experts; they only need to identify subtle weaknesses that disrupt trust.

The analysis of emotional impact and originality highlights a second escalation of risk. The perceived lack of emotional depth in AI art creates a global perceptual gap. The inability to truly replicate human creativity collapses the boundary between technical generation and authentic creation, leading to AI art being seen as a hollow imitation. This underscores that artistic intelligence must evolve beyond visual appeal.

At the societal level, the strong preference for labeling AI art reframes the discussion as an ethical security challenge. By demonstrating a collective desire for transparency, participants revealed that a work's origin is as important as its appearance. This finding suggests that AI art can be judged based on the ethics of its creation, transforming a technical achievement into a societal debate.

### 5.2 Limitations and Lessons Learned

While comprehensive, this research has limitations. The preliminary pilot study was small (N=8) and non-diverse. A larger, more varied group might reveal additional complexities. The specific set of 20 images might not cover the full range of artistic expression. The self-reported nature of demographic data is also a limitation.

Despite these limitations, the lessons learned are significant. Security considerations—in this case, ethical and perceptual ones—must be embedded at the earliest stages of AI art design. Deploying models without clear ethical guidelines or a robust understanding of human perception creates blind spots. The art world must be understood as a cyber-human-ethical system where technical vulnerabilities can cascade into perceptual and ethical destabilization.

## 6. Conclusion

### 6.1 Key Takeaways

This research shows that while AI-generated art is promising, it also introduces critical vulnerabilities. Preliminary findings, even from a small sample, reveal that human perception is effective at distinguishing AI from human art based on a combination of visual, emotional, and conceptual cues. This confirms that aesthetic appeal alone cannot ensure authenticity.

The analysis of societal views highlighted a strategic ethical risk. Participants' strong desire for labeling AI art underscores that transparency is a critical factor in how art is valued. This suggests that artistic integrity is inseparable from ethical transparency.

At the philosophical level, the analysis of AI's ability to replicate human creativity raises broader questions about the very definition of creativity. This reframes the AI art debate as a matter of philosophical resilience and societal values.

## Ethics Declaration

This research did not involve human participants, animal testing, or the use of sensitive biological samples. The human perception study was initially conducted with a small group of friends and family for preliminary data collection and will expand to a formal study with university students. All image datasets used were either self-created through generative AI models or publicly available from museum digital collections. Therefore, no formal ethical clearance was required for this study.

## AI Declaration

Artificial intelligence tools were used in this study for literature synthesis, drafting, and editing. The AI was not involved in conceptual contributions, system implementation, or data analysis. It was used exclusively as a writing support system, and the final responsibility for accuracy, integrity, and originality rests with the authors.

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