Name:Karyn EastonCandidate Number:22014676Course:MA Fine Art DigitalEmail:smile@secretshutter.co.uk

## Title: AI Art Reception: Investigating Initial Anonymity and Empathy as Strategies for Negative Bias Reduction

## Title: AI Art Reception: Investigating Initial Anonymity and Empathy as Strategies for Negative Bias Reduction

#### Abstract

The rapid ascent of AI-generated art raises critical questions for artists working with this medium, particularly regarding the pervasive negative bias it faces among viewers.

In the first component of this two part paper, this study investigates the concept of "initial anonymity," a novel approach wherein artworks are initially presented without disclosing creator details or backstories. Subsequently, the artist's identity is revealed. This intriguing method challenges traditional perceptions of art by emphasising the pure aesthetic appeal of AI-generated creations.

In the second component, this study delves into the compelling realm of empathy as a negative biasmitigation tool for AI created art. Here, the power of a humanoid robot, equipped with a poignant narrative is harnessed to forge emotional connections between viewers and AI-created art. Inspiration is drawn from the remarkable impact of these narratives on social media engagement. (Preliminary Appendix).

This pilot study using social media yields promising results, suggesting that both initial anonymity and empathy both exhibit the potential to alleviate negative bias towards AI-generated art. While further rigorous investigation is warranted, these findings pave the way for a deeper understanding of strategies to enhance the reception of this rapidly evolving artistic medium.

## Keywords

AI generated art perception, Creator anonymity, Humanoid robots, Empathy, Bias mitigation

## 1. Introduction

Art, as a profound reflection of human emotions and experiences, has long been considered a deeply personal and subjective medium. AI-generated art, a product of sophisticated algorithms and machine learning, has emerged as a novel form of artistic expression. However, it has faced mixed receptions, with skepticism and negative bias often stemming from the belief that art must emanate from the depths of human experience and emotion (Bellaiche *et al.* 2023; Chiarella *et al.*2022; Millet *et al.* 2023). This paper posits two interconnected hypotheses: firstly, that initial anonymity can mitigate negative bias towards AI-generated art, and secondly, that when anonymity is not feasible or ethical, then empathy, especially when fostered through humanoid robots with compelling narratives, can bridge the gap between human viewers and AI art, thus reducing negative bias.

In selecting social media networks as the primary research platform, this study leverages the vibrant and diverse landscape of these online spaces for a dynamic exploration of AI-generated art reception. In today's art landscape, social media plays an integral role, offering a global, real-time window into diverse voices and artistic preferences (Otieno and Matoke n.d; Snelson 2016).

This choice of research platform aligns with the evolving art consumption landscape, where digital and AI-generated art find their audience. Despite inherent limitations and biases, the study harnesses the strengths of social media to investigate the interplay of initial anonymity, empathy, and bias reduction in AI art perception. It is within these digital realms that the art world expands, and the study ventures to contribute to the evolving relationship between technology, art, and human perception.

#### 2. Background

The advent of AI and machine learning has ushered in an era where algorithms can create art, spanning visual, musical, and literary domains. Yet, the reception of AI art remains complex and multifaceted. While some observers appreciate the novelty and technical innovation of AI-generated artworks, others question the authenticity, emotional depth, and intention behind these creations. The negative bias towards AI-generated art is rooted in the perception that art is deeply connected to the human experience, emotions, and subjectivity. This negative bias arises from the absence of a human creator in the AI art-making process (Ragot, Martin and Cojean 2020; Fortuna and Modliński 2021).

While initial anonymity can potentially mitigate negative bias, it is essential to consider that some information about an artwork can also enhance its perceived value (Cleeremans *et al.* 2016; Hernando and Campo 2017; Radermecker 2019). Moreover, it may not always be feasible or ethical to present art anonymously, thus leading this paper to explore the role of empathy, especially when facilitated by humanoid robots, in reshaping perceptions of AI-generated art.

## PART ONE

## 3. Anonymity: Mitigating Bias Through Initial Obscurity

The first component of this study investigates the role of initial anonymity in reshaping perceptions of AI-generated art. Much research has primarily focused on viewer preferences when they possess prior knowledge of the artist's identity. However, few studies have examined how perceptions change when art is initially presented anonymously and then the artist later revealed. For the full study of this first component see <u>Appendix I.</u>

## 3.1 Methodology

A social media-based experiment was conducted using two image polls on Facebook to examine preferences for anonymous art and the subsequent influence of then revealing the creator's identity.

In the <u>first poll</u>, participants chose from four anonymous images, then on receiving artist details they had the option to revise their choices. The <u>second poll</u> presented a new set of anonymous artworks, with undisclosed criminal records of the artists. After revealing the creators, participants were asked to reconsider their choices. This tested if the artists' notoriety influenced initial selections. The full experiment can be found in Image Polls <u>#1</u> and <u>#2</u> in <u>Appendix I and II.</u>

### 3.11 Image Poll #1

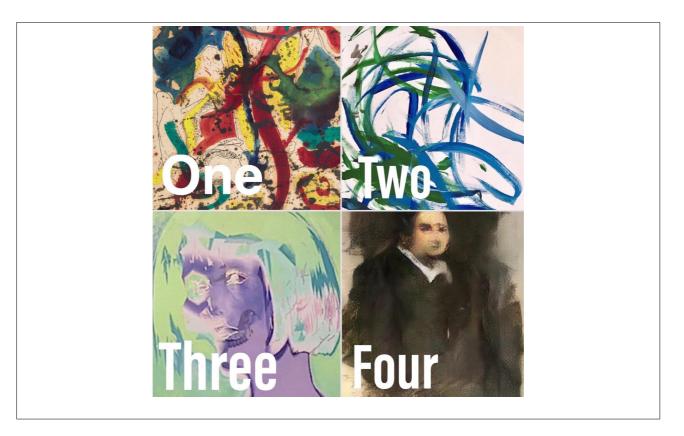
#### Methodology for Image Poll #1: A Preference-Based Image Survey

The central aim of this survey was to investigate whether information about an artist would influence respondents to alter their preferences for a selected piece of art, particularly after initially choosing it without prior knowledge of the creator. To accomplish this, participants were presented with a collection of anonymous images and tasked with selecting their favourite. Subsequently, respondents were provided with artist information and given the opportunity to reconsider their choices.

Participants: The <u>initial survey</u> was conducted among a group of MA students in a WhatsApp group, followed by the same survey conducted among Facebook friends. In total, 47 respondents participated in the first phase (poll #1), and 19 respondents answered the follow up question to see if choices would be reconsidered in light of additional creator information.

## 3.12 Survey Design

Fig 3.121- Image Poll #1 - Image Source: Google Images



- Image 2 (most popular) 23 votes (49%) created by a pig called Pigcasso
- Image 1 12 votes (25%) created by Jackson Pollock a human
- Image 4 7 votes (15%) created by a GAN or text to image computer generation
- Image 3 (least popular) 5 votes (11%) created by Ai-Da the artistic humanoid robot

1. Image Presentation: Four images created by different artists were presented to the participants (fig 3.121). Participants were informed that the images were created by relatively famous artists but were not given any details about the creators at this stage.

2. Initial Choice: Participants were asked to choose one image from the four presented based on their visual preferences. They were instructed to consider factors like colour and composition rather than finer details.

3. Announcement of Creators: After the initial choices were made, the creators of each image were revealed to the participants along with brief information about the artists and their respective works.

4. Revised Choice: Participants were then given the option to change their initial choice based on the newfound knowledge about the creators.

#### 3.13 Data Collection and Analysis

- Data collection involved recording the number of votes each image received in both the initial and revised choice phases.

- Comments from participants were also collected to understand their thought processes. <u>See Appendix I.</u>

#### 3.14 Results and Insights

- The results indicated that Image 2 (by Pigcasso, the pig) was the most popular in both the initial and revised choice phases.

- This suggests that the visual appeal of the artwork itself played a significant role in its popularity, regardless of the artist's identity.

- The fact that Image 2 remained the most popular even after the artist was revealed, suggests that art can be appreciated without biases associated with the artist.

- Respondents expressed a level of unbiased judgment, emphasising that the artwork itself was the primary determinant of their choice.

- Different images resonated with different participants, showcasing diverse tastes within the group.

- The popularity of abstract art (Image 2) compared to a portrait (Image 3) implies that abstract art in this poll had broader appeal when considered without the context of the artist.

- Most participants refused to change their minds about their chosen image even when the artist's identity was revealed, indicating emotional investiture in their original preferences. See Appendix I.

#### 3.15 Limitations

- The limited sample size in the second phase of the survey (19 respondents) may have affected the overall representativeness of the results.

- The survey relied on self-reported preferences, which are inherently subjective.

- Participants were predominantly individuals known to the researcher, which may introduce bias.

#### 3.2 Conclusions from Poll #1

The initial poll showed that Image 2, created by Pigcasso the pig, received the most votes, indicating strong visual appeal regardless of the artist's identity (Vassiliou 2017). Further research can explore how the artist's background affects art preferences. Notably, few respondents changed their selections after learning about the creators, suggesting aesthetics mattered more than the creator's identity. This supports the idea that initial anonymity can mitigate negative bias towards AI-generated art.

#### **3.21 Future Research**

Future research can investigate the impact of an artist's background, including criminal history or public image, after initial anonymous art selection. This exploration can determine whether presenting AI art anonymously initially helps reduce negative bias. This concept is further explored in image poll #2.

## 3.3 Image Poll #2

# Methodology for Image Poll #2: A Preference Based Modification Survey using Controversial Artist Identities

This phase of the study aims to investigate whether respondents' preferences for artworks change upon learning about the potentially controversial or criminal backgrounds of the artists, as opposed to the relatively benign backgrounds of the artists presented in <u>Image Poll #1</u>. The study is designed to determine whether respondents adjust their choices of initially anonymous images once the creators' identities are revealed.

Participants: The <u>second poll</u> (totalling 46 participants) was conducted among respondents similarly to the <u>first poll</u>. However, only 23 responded to the follow-up question about changing their art preferences. See <u>Appendix II</u>.

## 3.31 Survey Design

Fig 3.311- Image Poll #2 - Image Source: Google Images



- Image 1 Wayne Lo Shot and killed a teacher and fellow student 6 votes (13%)
- Image 2 Reggie Kray of the Kray twins notoriety 9 votes (20%)
- Image 3 Adolf Hitler Mass murderer 15 votes (33%)
- Image 4 Olive Wharry Suffragette jailed for acts of protest 16 votes (35%)

1. Image Presentation: Four images were presented to participants. The artists chosen were not initially disclosed to the individuals and each artist had varying degrees of notoriety or criminal backgrounds. See above.

2. Initial Choice: Participants were asked to choose one image from the four based on visual preference, without prior knowledge of the artists' identities and the results collected.

3. Announcement of Creators: After the initial choices were made, the criminal backgrounds of the artists were revealed, along with additional information about their artworks.

4. Revised Choice: Participants were given the option to change their initial choice based on their newfound knowledge about the artists.

#### 3.32 Data Collection and Analysis

- Data collection involved recording the number of votes each image received in both the initial and revised choice phases.

- Comments from participants were collected to understand their thought processes. Appendix II.

## 3.4 Results and Insights

Artistic Appeal Transcends Prejudice: Respondents initially selected their preferred artworks based on visual appeal and emotional connection, regardless of the artists' criminal backgrounds. This suggests that viewers can appreciate art independently of an artist's personal history or reputation.

- Olive Wharry's Artistic Talent: Olive Wharry's artwork emerged as the favourite when respondents were unaware of her identity. This indicates that the visual qualities of her artwork resonated strongly with viewers.

- Hitler's Art and Historical Context: Adolf Hitler's artwork garnered significant interest before the artist's identity was revealed, Upon reveling his identity, respondents remained with their initial choice. This may not reflect approval of Hitler's actions but rather a fascination with his art from a historical perspective.

- Minimal Impact of Artist's Criminal Record: When informed of the artists' criminal records, very few respondents wanted to change their image preference. This suggests that, in some cases, the public's perception of art remains separate from their judgment of an artist's character or actions, when art is initially presented anonymously.

- Diverse Art Preferences: The varying preferences of respondents even when unaware of the artists' identities highlight the diverse nature of art appreciation. Different individuals connect with different styles, subjects, and artistic expressions.

- Complex Relationship Between Art and Artist: The research underscores the intricate relationship between art and the artist's identity. While some individuals may separate the two, others may find it challenging to dissociate an artist's personal history from their art. However this study has shown that artists' criminality or notoriety had minimal affect in swaying respondents from their original art choices.

These findings highlight the complexity of art perception and the interaction between artistic expression and the artist's background. Considering these intricacies is crucial when discussing how artists' biographies affect art reception. It's worth exploring whether initial creator anonymity can help mitigate negative bias toward art pieces including AI art, before revealing creator information. The results also suggest that art can independently impact viewers, transcending biases associated with the artist's/creator's past when initially presented anonymously.

#### 3.5 Conclusions from Poll #2

The findings indicate a consistent trend: Once respondents select an image, revealing the artwork's origin, even if it's created by a notorious figure like Adolf Hitler, doesn't change their initial decision. Poll #2 suggests that presenting AI-generated artworks with initial creator anonymity and then gradually revealing the artist's identity, could be an effective strategy to mitigate negative bias towards AI art. Viewers establish a connection with the art based on anonymity, and this connection persists even after learning the artist's identity.

## 3.51 Future Research

Further studies could explore the impact of specific artist backgrounds on art preferences. For example, researching whether certain criminal activities or notoriety have a more significant influence on art perception than others could provide valuable insights into this complex relationship.

## PART TWO

## 4. Empathy: The Role of Humanoid Robots

The second component of this study delves into the potential of empathy in reshaping perceptions of AI-generated art when anonymity is not feasible or ethical. This hypothesis was inspired by the remarkable social media engagement generated by Sun Yuan and Peng Yu's artwork, "I Can't Help Myself" (Preliminary Appendix), which cultivated empathy among viewers. Drawing from the findings on anonymity in the previous section, a further comparative study was designed using Facebook posts containing AI-generated art. Respondents were presented with both AI-generated art (Poll #3) and AI-generated art attributed to the fictitious humanoid robot "Athena." (Poll #4). They were encouraged to express their perceptions. *Image Source: Google Images* 



#### 4.1 Methodology

A comparative Study with Emotional Influence and Artist Background experiment using two further image polls (<u>Appendix III and IV</u>) was designed to investigate the role of empathy in art perception. Respondents were asked to rate both AI-generated artworks and those created by a "humanoid robot" named Athena, which was imbued with a poignant backstory. The primary aim was to explore the influence of information about the background of AI-generated art, specifically examining whether it could alter respondents' perceptions and engagement..

## 4.11 Image Poll #3

The primary aim of <u>image poll #3</u> was to establish respondents attitudes towards AI generated art and to examine social media engagement levels. This data was to be used as a comparison against <u>image poll #4</u> using a humanoid robot and narrative, to see if there were any notable differences.

#### 4.12 Methodology for Image Poll #3: An Aesthetic Preference Study

Participants: Engaging participants on Facebook, this study invited them to share their opinions regarding AI-generated art. In total, 24 comments were collected.

#### 4.13 Survey Design

Fig 4.131- Image Poll #3 (Appendix III) - Image Source: Dali 2 regenerations



1. Image Presentation: Participants were presented with images sourced from <u>a top-grossing AI art</u> <u>project</u> (Appendix IX) that had been regenerated using <u>Dali 2</u>. Their task was to determine whether they perceived these images as 'beautiful' or 'soulless'.

2. Background Information: Initially, no information about the creators or the art's origins was disclosed to ensure unbiased responses from the participants. Respondents however understood that it was AI art.

#### 4.14 Data Collection and Analysis

- The study recorded the number of likes and comments received for each image.

- Participants' comments were analysed to grasp their sentiments and whether they characterized the art as beautiful or soulless. (Appendix III).

## 4.15 Results and Insights

- Unfavourable Perceptions: The key finding from this experiment was the predominance of unfavourable perceptions towards AI-generated art. Many participants characterised the art as soulless.

- Emotional Responses: Several respondents conveyed emotional reactions to the art, describing it as unsettling, disturbing, or even horrifying. These emotional responses indicated a profound impact, despite the art being AI-generated.

- Complexity of Perception: Participants' comments underscored the intricate nature of art perception. While some concentrated on the aesthetics, others delved into the emotional and conceptual aspects of the art.

- Absence of Consensus: The experiment revealed in minority of cases a lack of consensus regarding the art's beauty or soullessness. Various participants offered different interpretations and emotional responses.

- Artist Background Influence: Since the experiment did not provide information about the artist's background, its impact on respondents' perceptions couldn't be examined.

- Engagement Amid Ambiguity: Notably, even when participants struggled to categorise the art as beautiful or soulless, they actively engaged in discussions concerning its emotional impact and interpretations.

## 4.16 Implications and Confirmation of Negative Bias

The study confirmed a negative bias against AI-generated art. Respondents generally described it as soulless or disturbing, indicating inherent challenges in gaining human acceptance. Their emotional responses and reluctance to label the art as beautiful emphasised skepticism and critical attitudes toward AI's creative abilities (Millet *et al.* 2023).

#### 4.2 Image Poll #4

The primary aim of Image Poll #4 was to establish respondents attitudes towards AI generated art that was perceived as having originated from a humanoid robot with a sad story called Athena. A similar study was conducted using a sympathetic robot and chess game (Leite *et al.* 2013). The data was to be used as a comparison against Image Poll #3 to see if there were any notable changes with the introduction of the humanoid robot narrative.

#### Methodology Image Poll#4: A Comparative Analysis of Public Perception Towards AI-Generated Art: Case Study with Athena the Humanoid Robot

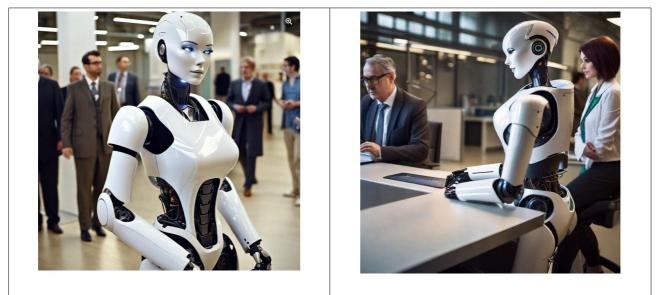
Note: In this research, collaboration attempts were made with various humanoid robot manufacturers (Appendix V and VI) to implement the empathy-based aspect of this study. One of the companies reached out to was 'Engineered Arts.' creators of Ameca one of the most advanced humanoid robots. While Engineered Arts responded to the initial inquiry, they declined to proceed with any collaboration (Appendix VI). However, their response provided valuable insights into the nature of robots and AI (Appendix VI). Due to a lack of collaboration, a fictitious humanoid robot named "Athena" was created using text-to-image AI generation. A compelling narrative was crafted to evoke empathy and sympathy, with the intention of testing its impact on mitigating negative bias towards AI-generated art.

#### 4.21 Step 1: Creation of the AI-Generated Robot and Narrative Development

1. Creation of Athena: In lieu of collaboration with humanoid robotic manufacturers, an AIgenerated robot named 'Athena' was created using text-to-image AI generation technology. Athena's name was inspired by the Athena posters from the past.

2. Narrative Development: A narrative was meticulously crafted to evoke empathy and sympathy from participants towards Athena. The narrative revolved around Athena's exploitation by her creators for her ability to produce AI art. It also highlighted the threat of her imminent 'switch off' due to her gradually increasing sentience. The narrative drew parallels with the famous line from Blade Runner, quoting, "I've seen things you people wouldn't believe..."

Fig 4.211- Athena the Robot – Created by Text to Image Generation (Appendix X)



## 4.22 Step 2: Facebook Poll Implementation

1. Facebook Post: The study's Facebook post extended gratitude to participants for their continued engagement in research polls. It introduced Athena's story, emphasising her vulnerability and the looming 'switch off' threat. Participants were encouraged to express their opinions about Athena's art (*Fig 4.221- Athena's Art*), by commenting 'beautiful' or 'soulless,' or providing additional comments. <u>Appendix IV</u>.

2. Engagement Metrics: Engagement metrics such as 'likes' and 'loves' were tracked to gauge immediate emotional reactions from the audience.

Fig 4.221 – Athena's Art (Appendix IX) - Image Source: Dali 2 regenerations

## 4.23 Step 3: Participant Comments Analysis

1. Comment Collection: The study collected a total of 25 participant comments in response to the Facebook post. These comments were meticulously analysed to extract insights into participants' perceptions of Athena and her AI-generated art (Appendix IV).

## 4.3 Results

In comparison to <u>Image Poll #3</u>, this study (<u>Image Poll #4</u>) revealed a significantly more positive reception towards Athena's AI-generated art. Key insights include:

1. Positive Engagement: Athena's Facebook post garnered a substantial number of 'likes' and 'loves,' indicating a higher level of positive engagement and emotional connection with the subject matter. This suggested a more supportive attitude towards Athena and her art.

2. Sympathy Towards Athena: Many comments expressed sympathy for Athena's situation, highlighting the moral dilemma surrounding her potential 'switch off.' Participants questioned the ethics of creating sentient-like AI entities for art creation, demonstrating empathy-driven narratives' effectiveness in eliciting compassion.

3. Art Evaluation: While some participants admitted that Athena's art did not resonate with them personally, they acknowledged its complexity. They recognized that Athena's art was influenced by programmed directives and displayed a more understanding and less negative or critical attitude compared to Image Poll #3.

4. Discussion on Sentience: Athena's narrative sparked interesting discussions among participants about the ethical implications of creating AI entities that mimic human emotions and creativity. These discussions added depth to the engagement, indicating that the narrative successfully encouraged participants to think critically about the subject matter.

In summary, <u>Image Poll #4</u>, which tested the impact of empathy-driven narratives on public perception of AI-generated art, revealed a more positive and empathetic response compared to the previous poll (<u>Image Poll #3</u>). The findings suggest that framing AI-generated art within a narrative that elicits empathy and sympathy can mitigate negative biases and lead to more positive engagement. This insight can be valuable for future research on human-AI interaction, ethics, and art creation involving AI entities.

#### 4.4 Overall Insights and Implications

Initial Creator Anonymity

This research suggests that initial creator anonymity, with AI origin revealed later, holds promise in mitigating negative bias towards AI-generated art.

Negative Bias Confirmation

Image Poll #3 confirmed negative bias towards AI-generated art.

Ease of Deception

<u>Image Poll #4</u> showed that it was relatively easy to convince respondents to participate in a study relating to a fictitious character.

#### Positive Impact of Empathy

<u>Image Poll #4</u> showed that "Athena," the humanoid robot, effectively reduced negative bias towards AI-generated art. Respondents shifted their perceptions positively in light of her humanlike appearance (Leite *et al.* 2013) and emotive narrative, highlighting empathy's potential in counteracting bias.

Enjoyment of Polls

Comments from respondents revealed in this survey that they enjoyed expressing their preferences and commenting on art.

## **5.** Conclusion

In an art world increasingly touched by artificial intelligence, it is evident that the reception of AIgenerated art goes beyond the mere identity of its creator when presented initially without attribution. This pilot study, conducted through social media experiments, has illuminated the prevailing negative bias against AI-generated art and introduced effective strategies for its mitigation.

As demonstrated by the findings, both initial anonymity and empathy in this case fostered through a humanoid robot, have emerged as potent tools in reshaping perceptions of AI art. These factors, which continue to be pivotal in art perception, offer a unique perspective on the reception of AI-generated creations. By considering initial anonymity and empathy as transformative elements, collectively we stand to enrich our understanding and appreciation of this evolving artistic medium.

Moreover, this research accentuates the potential of initial anonymity and empathy to significantly reduce negative bias. This suggests promising avenues for future studies aimed at refining these strategies. By further exploring and developing these approaches, a contribution can be made to foster a more inclusive and unbiased reception of AI-generated art, thus enhancing its acceptance and appreciation among diverse audiences. In the dynamic landscape of the art world, where AI-generated art continues to evolve, these strategies, may hold the key to a more equitable future for artistic expression.

## 5.1 Limitations

1. Sample Size: Small sample size in social media experiments, requires larger and diverse samples for robust results.

2. Social Media Bias: Reliance on social media may introduce biases, alternative data collection methods should be considered.

3. Strategy Scope: Uncertain applicability of strategies across diverse art forms and demographics, needs further investigation.

4. Rigor Needed: Promising pilot study, but requires more extensive, rigorous research including controlled experiments, longitudinal studies, and in-depth qualitative analysis to explore emotional and psychological aspects of art perception.

## Bibliography

*A dog's inner life: what a robot pet taught me about consciousness* (no date) *the Guardian*. Available at: https://www.theguardian.com/science/2021/aug/10/dogs-inner-life-what-robot-pet-taught-me-about-consciousness-artificial-intelligence.

'AI art manuscript \_preprint.pdf' (no date).

Ai-Da (no date) Ai-Da. Available at: https://www.ai-darobot.com/.

*Art by Sophia the Robot - Hanson Robotics* (no date) *Hanson Robotics*. Available at: https://www.hansonrobotics.com/art-by-sophia-the-robot/.

'artandai.pdf' (no date). Available at: https://ars.electronica.art/newdigitaldeal/files/2021/08/artandai.pdf.

*Artificial Intelligence and the Art of Mario Klingemann* (no date) *Sothebys.com*. Available at: https://www.sothebys.com/en/articles/artificial-intelligence-and-the-art-of-mario-klingemann.

Audry, S. and Ippolito, J. (2019) 'Can Artificial Intelligence Make Art without Artists? Ask the Viewer', *Arts*, 8(1). Available at: https://doi.org/10.3390/arts8010035.

Bartlett, B., Estivill-Castro, V. and Seymon, S. (2004) 'Dogs or Robots: Why do Children see them as Robotic Pets rather than Canine Machines?' Available at: https://www.researchgate.net/profile/Vladimir-Estivill-

Castro/publication/234818367\_Dogs\_or\_Robots\_Why\_do\_Children\_see\_them\_as\_Robotic\_Pets\_ra ther\_than\_Canine\_Machines/links/02e7e5253cb4b00bf9000000/Dogs-or-Robots-Why-do-Children-see-them-as-Robotic-Pets-rather-than-Canine-Machines.pdf.

\*\*\*Bellaiche, L. *et al.* (2023) 'Humans versus AI: whether and why we prefer human-created compared to AI-created artwork', *Cognitive Research: Principles and Implications*, 8(1). Available at: https://doi.org/10.1186/s41235-023-00499-6.

*Can't Help Myself* | *The Guggenheim Museums and Foundation* (no date) *The Guggenheim Museums and Foundation*. Available at: https://www.guggenheim.org/artwork/34812.

Catts, O. and Zurr, I. (2002) 'Growing Semi-Living Sculptures: The Tissue Culture Art Project', *Leonardo*, 35(4), pp. 365–370. Available at: https://doi.org/10.1162/002409402760181123.

Caudwell, C.B. (no date) 'Into the Furby-Verse: The Narrative Production of Electronic Companions'. Available at:

https://researcharchive.vuw.ac.nz/xmlui/bitstream/handle/10063/8709/thesis.pdf?sequence=3.

Chai, F., Peng, K. and Yu, F. (no date) 'Pricing Aesthetics: How Cognitive Perception Affects Bidding for Artworks'. Scientific Journal Publishers. Available at: https://doi.org/10.2224/sbp.2016.44.4.541.

\*\*\*Chiarella, S.G. *et al.* (2022) 'Investigating the negative bias towards artificial intelligence: Effects of prior assignment of AI-authorship on the aesthetic appreciation of abstract paintings', *Computers in Human Behavior*, 137, p. 107406. Available at: https://doi.org/10.1016/ j.chb.2022.107406.

\*\*\*Cleeremans, A. *et al.* (2016) 'What's in a Name? The Effect of an Artist's Name on Aesthetic Judgments', *Empirical Studies of the Arts* [Preprint]. Available at: https://doi.org/10.1177/0276237415621197.

Coeckelbergh, M. (2017) 'Can Machines Create Art?', *Philosophy & Technology*, 30(3), pp. 285–303. Available at: https://doi.org/10.1007/s13347-016-0231-5.

Cooney, M. (2021) 'Robot Art, in the Eye of the Beholder?: Personalized Metaphors Facilitate Communication of Emotions and Creativity', *Frontiers in Robotics and AI*, 8. Available at: https://doi.org/10.3389/frobt.2021.668986.

Demmer, T.R. *et al.* (2023) 'Does an emotional connection to art really require a human artist? Emotion and intentionality responses to AI- versus human-created art and impact on aesthetic experience', *Computers in Human Behavior*, 148, p. 107875. Available at: https://doi.org/10.1016/j.chb.2023.107875.

designboom, piotr boruslawski I. (no date) 'artificially intelligent robot musio, learns and adapts with you'. Available at: https://www.designboom.com/technology/aka-musio-06-01-2015/.

Escalante, A. (no date) 'Scientists Confirm That Your Roomba DOES Have A Personality'. Available at: https://www.forbes.com/sites/alisonescalante/2020/05/15/scientists-confirm-roomba-personality/.

Exhibitions — Ai-Da (no date) Ai-Da. Available at: https://www.ai-darobot.com/exhibitions.

Farnsworth, P.R. and Misumi, I. (1931) 'Further Data on Suggestion in Pictures', *The American Journal of Psychology*, 43(4), p. 632. Available at: https://doi.org/10.2307/1415168.

\*\*\*Fortuna, P. and Modliński, A. (2021) 'A(I)rtist or Counterfeiter? Artificial Intelligence as (D)Evaluating Factor on the Art Market', *The Journal of Arts Management, Law, and Society* [Preprint]. Available at: https://doi.org/10.1080/10632921.2021.1887032.

Frąckiewicz, M. (no date) 'AI in Robotic Art Installations'. Available at: https://ts2.space/en/ai-in-robotic-art-installations/.

Graham, R.F. (no date) 'Hitchhiking robot is found destroyed in Philly'. Available at: https://www.dailymail.co.uk/news/article-3183126/Friendly-hitchhiking-robot-beaten-pulp-Philly-two-weeks-attempt-cross-country.html.

Harle, R. (2018) 'Patrick Tresset: Human Traits and the Art of Creative Machines', *Leonardo*, 51(5), pp. 537–538. Available at: https://doi.org/10.1162/leon\_r\_01676.

Hawley-Dolan, A. and Winner, E. (2011) 'Seeing the Mind Behind the Art', *Psychological Science* [Preprint]. Available at: https://doi.org/10.1177/0956797611400915.

Hawley-Dolan, A. and Young, L. (2013) 'Whose Mind Matters More—The Agent or the Artist? An Investigation of Ethical and Aesthetic Evaluations', *PLoS ONE*, 8(9), p. e70759. Available at: https://doi.org/10.1371/journal.pone.0070759.

\*\*\*Hernando, E., & Campo, S. (2017). Does the Artist's Name Influence the Perceived Value of an Art Work? *International Journal of Arts Management*, *19*(2), 46–58. http://www.jstor.org/stable/44989692

hitchBOT - Wikipedia (no date). Available at: https://en.wikipedia.org/wiki/HitchBOT.

Hong, J.-W. (2018) 'Bias in Perception of Art Produced by Artificial Intelligence', in *International Conference on Human-Computer Interaction*. Springer, Cham, pp. 290–303. Available at: https://doi.org/10.1007/978-3-319-91244-8\_24.

Hong, J.-W. and Curran, N.M. (2019) 'Artificial Intelligence, Artists, and Art', *ACM Transactions on Multimedia Computing, Communications, and Applications*, 15(2s), pp. 1–16. Available at: https://doi.org/10.1145/3326337.

*Infinite Reality* | *Guide books* (no date) *Guide books*. Available at: https://dl.acm.org/doi/abs/10.5555/2018630.

*Is artificial intelligence set to become art's next medium?* | *Christie's* (no date). Available at: https://www.christies.com/features/A-collaboration-between-two-artists-one-human-one-a-machine-9332-1.aspx.

Karam, R. *et al.* (2017) 'Effectiveness of Subliminal Messages and Their Influence on People's Choices', *European Scientific Journal, ESJ*, 13(17), p. 262. Available at: https://doi.org/10.19044/esj.2017.v13n17p262.

\*\*\*Leite, I. *et al.* (2013) 'The influence of empathy in human–robot relations', *International Journal of Human-Computer Studies*, 71(3), pp. 250–260. Available at: https://doi.org/10.1016/j.ijhcs.2012.09.005.

Magazine, S. and Raemont, N. (no date) 'Who Is the Woman Haunting A.I.-Generated Art?' Available at: https://www.smithsonianmag.com/smart-news/loab-artificial-intelligence-art-180980743/.

McCormack, J. and d'Inverno, M. (2012) 'Computers and Creativity: The Road Ahead'. Springer, Berlin, Heidelberg. Available at: https://link.springer.com/content/pdf/10.1007/978-3-642-31727-9\_16.pdf.

Mikalonytė, ES. and Kneer, M. (2021) 'Can Artificial Intelligence Make Art?' Available at: https://papers.ssrn.com/sol3/Delivery.cfm?abstractid=3827314.

\*\*\*Millet, K. *et al.* (2023) 'Defending humankind: Anthropocentric bias in the appreciation of AI art', *Computers in Human Behavior*, 143, p. 107707. Available at: https://doi.org/10.1016/j.chb.2023.107707.

Moulard, J.G. *et al.* (2014) 'Artist Authenticity: How Artists' Passion and Commitment Shape Consumers' Perceptions and Behavioral Intentions across Genders', *Psychology & Comp. Marketing*, 31(8), pp. 576–590. Available at: https://doi.org/10.1002/mar.20719.

Nast, C. (no date) 'Hitchhiking robot that relied on human kindness found decapitated'. Available at: https://www.wired.co.uk/article/hitchbot-usa-vandalised-philadelphia.

O'Rourke, A. (no date) 'Caring about virtual perts: an ethical interpretation of Tamagotchi'. Available at: https://ro.uow.edu.au/ai/vol2/iss1/1.

Orwell, G. (2004) *Nineteen Eighty-Four*. Penguin Classics. Available at: https://openlibrary.org/books/OL7359256M/Nineteen\_Eighty-Four.

\*\*\*Otieno, D.O. and Matoke, V.B. (no date) 'Social Media as tool for Conducting Academic Research'.

\*\*\*Radermecker, Anne-Sophie V. E. (2019) 'Artworks without names: an insight into the market for anonymous paintings', *Journal of Cultural Economics*, 43(3), pp. 443–483. Available at: https://doi.org/10.1007/s10824-019-09344-5.

\*\*\*Ragot, M., Martin, N. and Cojean, S. (2020) 'AI-generated vs. Human Artworks. A Perception Bias Towards Artificial Intelligence?', in *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems*. ACM. Available at: https://doi.org/10.1145/3334480.3382892.

*Robbie Barrat – Artist Profile (Photos, Videos, Exhibitions) — AIArtists.org* (no date) *AIArtists.org*. Available at: https://aiartists.org/robbie-barrat.

*Roombas fill an emotional vacuum for owners* (no date) *NBC News*. Available at: https://www.nbcnews.com/id/wbna21102202.

Shimpi, S.S. (2018) 'Social Media as an Effective Marketing Tool : An Empirical Study', *Indian Journal of Marketing*, 48(7). Available at: https://doi.org/10.17010/ijom/2018/v48/i7/129725.

<u>Six Robots Named Paul — Illuminate Productions (no date) Illuminate Productions</u>. Available at: https://www.illuminateproductions.co.uk/six-robots-named-paul.

*Sky News Australia interviews 'free-thinking' artificial intelligence* (no date) *YouTube*. Available at: https://www.youtube.com/watch?v=nnboHTfYsfk.

\*\*\*Snelson, C. L. (2016). Qualitative and Mixed Methods Social Media Research: A Review of the Literature. International Journal of Qualitative Methods, 15(1). https://doi.org/10.1177/1609406915624574 Sophia the Robot and Hanson Robotics Prepares for new NFT Drop on July 19, 2021, "Reflections on the Uncanny" - Hanson Robotics (no date) Hanson Robotics. Available at: https://www.hansonrobotics.com/press\_release/sophia-the-robot-and-hanson-robotics-prepares-for-new-nft-drop-on-july-19-2021-reflections-on-the-uncanny/.

*Sun Yuan and Peng Yu: Can't Help Myself* (no date) *YouTube*. Available at: https://youtu.be/ZS4Bpr2BgnE.

*The Artistic Side of Artificial Intelligence* (no date) *Psychology Today*. Available at: https://www.psychologytoday.com/us/blog/the-digital-self/201703/the-artistic-side-artificial-intelligence.

*The Latest Artist Selling NFTs? It's a Robot. (Published 2021)* (no date). Available at: https://www.nytimes.com/2021/03/25/arts/sophia-robot-nft.html.

\*\*\*Vassiliou, K. (2017) 'Anonymous art reconsidered: anonymity and the contemporary art institution', *Journal of Aesthetics & Culture* [Preprint]. Available at: https://doi.org/10.1080/20004214.2017.1302709.

Walsh, T. (2022) *Machines Behaving Badly - The Morality of AI*. History Press Limited, The. Available at: https://openlibrary.org/books/OL36269628M/Machines\_Behaving\_Badly.

## Appendices

Preliminary Appendix - Can't Help myself by Sun Yuan and Peng Yu Appendix I - Image Poll #1 Appendix II - Image Poll #2 Appendix III - Image Poll #3 Appendix IV - Image Poll #4 Appendix V - Collaboration Requests Appendix VI - Response from Engineered Arts Appendix VII - Sky News Interview with Will Jackson Founder Engineered Arts Appendix VIII - Statement from ChatGPT regarding lack of studies. Appendix IX - The Botto Project (Image Creation for Polls #3 and #4) Appendix X - Creation of Athena the Fictitious Humanoid Robot

\*\*\* denotes papers cited in study

## Appendix I

#### Image Poll #1 - Aesthetic Preference and Preference Modification Experiment

This two step experiment aimed to determine the factors influencing respondents to revise their initial choices once the creator of an image was disclosed. Respondents participated in a straightforward aesthetic preference test. They were presented with a set of four images, with no prior information except that these images were crafted by relatively renowned individuals. The following is a transcript of a poll shared on WhatsApp and Facebook through the author, Karyn Easton's social media network.

## Step #1 - A Simple Aesthetic Preference Test

Step one - In the first instance participants were invited to choose a single image from the images above based on limited information. This was to determine each respondents choice. Step two involved revealing key information about the images above and then inviting respondents to revise their choices.

## WhatsApp and Facebook Post 1

Below is a transcript of the Facebook Image poll and the images just as they appeared on the WhatsApp and Facebook posts. The following poll ran along with the accompanying text among some of MA students in a WhatsApp group. As the respondent numbers were low this exact poll was repeated on Facebook.

"Today I'm working on some primary research for my research paper. Below are four images by relatively famous artists - I'd like to buy a print of one of them for my new extension as they are all pretty well known. Please can you help me choose which one would you go for? Apologies in advance of the image quality, but colour and composition are probably more important to me than the finer details - Thanks" ?

Fig 3.121- Image Poll #1 - Image Source: Google Images



#### The results were as follows:

At this stage the respondents were completely unaware of who or what created each image. Out of a total of 47 Respondents the breakdown of image popularity was as follows:

- Image 2 was the most popular, with 23 votes (49%) created by a pig called Pigcasso
- Image 1 received 12 votes (25%) created by Jackson Pollock a human
- Image 4 secured 7 votes (15%) created by a GAN or text to image computer generation
- Image 3 was the least popular, receiving 5 votes (11%) created by Ai-Da the humanoid robot that creates art

#### **Step #2 - A preference Modification Test**

The second stage in the this experiment was to establish whether or not additional information would persuade respondents to revise their choices in light of the new information.

In this second step of the experiment the creators of each image were announced and based on that information the respondents were asked if they would like to switch their choice of image to another image. This was to see whether or not the actual creator of the image would have a bearing upon image preference.

Respondents were given the following information, (although since posting the information it has been subsequently updated above with the latest figures). Based on the new information they received regarding the creator of each piece of art, respondents were asked if they would like to change their image preference.

#### **Facebook Post 2**

Below is the second part of the experiment to see whether additional information would encourage respondents to revise their choices. Of particular note was whether or not there would be a revision away from artificial intelligence towards human generated art particularly in light of the known negative bias towards AI generated art. The post text was as follows:

"So what was it all about? I'm about to reveal who the artists were, but what I really want to know is that with the extra information I'm about to give you all would this sway your preference. What would your favourite image be now? Knowing what I'm about to tell you. If you choice remains the same please comment with same and if you choice of image has changed please say what number you moved from and your new favourite number now.

Here goes....

Out of 40 Respondents

Image 2 stole the show with a whopping 20 votes a cool 50% of the vote. This image was drawn by an artistic pig called - wait for it 'Pigcasso'. According to the internet her owners have sold over \$1 million dollars worth of paintings with a single painting fetching around \$26,000 each!

Image 1 came second with 11 votes and 27.5% share of the vote. The artist who created this image was Jackson Pollock who up until 2011 had the highest price ever paid for a painting at a staggering \$140 million dollars.

Image 4 came in 3rd with 6 votes giving it 15% of the vote and this was created by a computer with early form of text to image GAN (General Adversarial Network). A computer generated Ai image if you like. This sold at Christie's in New York for \$432,500.00

Image 3 came last with only 3 votes. This image was created by AI-DA a humanoid art creating AI Robot. Her works have sold in excess of \$1 million dollars according to the internet.

What I'd like to know is knowing this information have you changed your mind and I'd love to hear your thoughts? Which image do you prefer now? Or do you still feel the same?"

## The Results

This time only 19 people replied. This could be because Facebook's algorithms may not have shown the new poll, or perhaps people didn't want to reply, or simply people were unaware of the poll because they don't frequently use Facebook. However, below are a list of the comments from the respondents. Only one person wanted to revise their choice because they liked the idea of an art creating pig. Everyone else kept their original choices.

#### **Comments by Participants Image Poll #1**

- 1. Still feel the same prefer number 2 good artist? x
- 2. Still 4 for me
- 3. Still feel the same shows that with all the AI intelligence you still can't beat a talented pig! Still no. 2
- 4. Still 2 for me. It's organic on lots of levels!
- 5. I'd say the same, 2 ( he says with a grunt ) xx
- 6. Still 2 bless the pig.
- 7. I'm happy I went for the Jackson Pollock, shame it's not hanging on my wall ££££££?

8. I think some people have more money than sense?. Still wouldn't have any of them in

my house ... for long... I'd sell them and buy some decent ? Art! ? I'll stick to my choice

- 9. Same choice x No.2 as before
- 10. Fascinating, thank you ? x Karyn Easton still keep it the same ?

11. I'd stick with my choice, I liked it because of the expressive marks, energy and use of colour, which I think AI, cannot replicate... I personally find AI images very soulless, the human element is missing. They're a bit like the makeup in 70's movies. The piggy's effort isn't bad, thier DNA is very similar to ours ?.

12. Tbh I was torn between 1 and 2. I went for 2 because is was less messy than one. Still go with my original choice x

13. I would stay with no. 3

14. I will stick with 4, but I don't really care for the scale, framing, lack of concept or absence of title in any of them. Process is important in art, and digital AI has to be the most remarkable statement of our current world. The most cutting edge.

15. Same, 2, but I didn't like any of them. 2 was the best of a bad bunch but I did like the colour palette compared to the others.

16. I'll stay with 2.

17. Glad I chose 1 and will stick with it. It seemed the most complex in concept and had the most appealing colours.

18. The same. Just prefer the colours.

19. Visually prefer 4, but I want to swap to the pig!! Karyn Easton I'm not artistic at all. But I love the pig because it's silly and still holds its own amongst the others! I don't really 'get' modern art, but I'm more intrigued if it was created by a human expressing something than AI. It suddenly felt soulless- even if I preferred the image. So I guess there's an intrinsic value to the art even if it's not my preferred taste. At those price tags though I'm gonna see what my cat can do with some paint?! ?X

#### **Results From Image Poll #1**

Following are the conclusions drawn from Image Poll #1 Based on the following data and responses outlined above:

#### **Results:**

- Image 2 was the most popular, with 23 out of 47 votes (49%).
- Image 1 received 12 votes (25%).
- Image 4 secured 7 votes (15%).
- Image 3 was the least popular, receiving 5 votes (11%).

#### **Insights:**

1. Inherent Appeal: Without knowledge of the creators, Image 2 (artwork by Pigcasso) attracted the highest number of votes. This suggests that the visual appeal of the artwork itself played a significant role in its popularity. This could imply that the style and composition of the artwork resonated strongly with the respondents.

2. Neutral Ground: The fact that Image 2 remained the most popular even with the context of the pig artist, reinforces the notion that art can be appreciated without the biases associated with art creators.

Art for Art's Sake: The lack of prior knowledge of the creators underscores the idea that art can be appreciated on its own merits, divorced from the artist's reputation or backstory.
Unbiased Preference: The preferences expressed by respondents both with and without prior knowledge of the artist, emphasises a level of unbiased judgment, suggesting that the artwork itself was the primary determinant of their choice.

5. Diverse Appeal: Different images resonated with different participants, showcasing the diverse tastes within the group. This highlights the multifaceted nature of art appreciation and the subjective nature of preferences.

6. Abstract vs. Recognisable Art: The popularity of the abstract artwork (Image 2) compared to the portrait (Image 3) might imply that abstract art has a broader appeal, especially when considered without the context of the artist.

7. Facilitating a Change of Mind: All respondents except one refused to change their minds over their chosen image even when the creator of each image was revealed. This suggests some level of emotional investiture in the respondent's choices that makes them remain with their original preference.

In essence, even when the respondents knew the creators of the artworks, Image 2 remained the most popular. This reinforces the notion that the visual qualities and aesthetic appeal of the artwork itself had a significant impact on their choices, highlighting the intrinsic power of art to resonate with the respondents regardless of its origin.

#### **Further Discussion**

The subsequent question arises: What factors, if any, might compel a respondent to reconsider their initial choice, given the apparent limited influence of known negative bias towards AI-generated art in this experiment? To address this question, the next study namely <u>Image Poll #2</u>, delves into the potential impact of an artist's criminal background or negative notoriety on respondent preferences. An experiment was designed to specifically investigate this aspect, the details of which, along with the results, can be found in the section dedicated to the <u>second experiment (Image Poll #2</u>), focused on aesthetic preference and preference modification.

## **Appendix II**

#### Image Poll #2 - Aesthetic Preference and Preference Modification Experiment (Further Exploration)

#### The Facebook Experiment - Image Poll #2

Following the results of the initial Facebook experiment (Image Poll #1), where respondents predominantly remained with their initial image choices, the aim of this experiment was to create a more thought-provoking post. The goal was to determine the factors that might lead respondents to reconsider or change their image preferences.

For this experiment, controversial figures from modern history and individuals with criminal records who were involved in creating or had created art were identified. Building on the success of the <u>first Facebook poll</u>, which garnered 47 responses, Facebook Image Poll #2 below was conducted. It is a similar poll, however, this time, the artworks were intentionally selected for the notoriety of their creators.

Below, are the images used in the poll along with the vote shares from 46 respondents. In the first part of the experiment just as in Image Poll #1 non of the respondents were initially given the name or any background information of the artists.

#### The creators of the images below are as follows:

- 1. Wayne Lo Shot and killed a teacher and fellow student. 6 votes (13%)
- 2. Reggie Kray of the Kray twins notoriety. 9 votes (20%)
- 3. Adolf Hitler mass murderer and evil man. 15 votes (33%)
- 4. Olive Wharry a Suffragette jailed for acts of protest. The most popular 16 votes (35%)

#### **Poll Images:**



### The Next Step

Now that initial choices had been made in Image Poll #2 just as with Image Poll #1 respondents were again invited to revise their image choices based on the additional information provided namely the criminal record and notoriety of each artist. Please note that the figures given to respondents in the text below has slightly changed as more results came in. The aim of this step again was to determine whether additional information could sway respondents from their initial choices.

"What I really want to know is how many of you would now like to switch your preference once you know who created each artwork. Only one person wanted to switch last time. Please put in the comments what your choice was and what number you now prefer. It's also okay to stick to your original choice if you want to as these were anonymous images - just write stick if your choice is staying the same. Once I have enough respondents I will tell you what I think is so desperately sad about a couple of these artworks.

Here goes - the breakdown is as follows - out of a total of 43 the Winning Image was image 4 and is called 'Devon Village Lane by a Ford' by Olive Wharry.

Wharry became deeply involved in women's suffrage and was jailed in 1912 with other suffragettes in a window-breaking demonstration. She was only released following a hunger strike. Prison doctors dubbed her mentally unstable, but her prison notebooks suggest otherwise as they were full of "delightful drawings of prison life."Along with Lilian Lenton, Wharry embarked on a series of terrorist acts, including the arson of a tea pavilion in Kew Gardens for which she was arrested again. This painting took 37% of the vote

#### Shocker!

Second place goes to a watercolour painting titled: Neuschwanstein Castle by Adolf Hitler. This painting sold for £71,500 in 2015 this image namely image 3 took 30% of the vote.

Image 2 lags somewhat behind and takes third place with 19% of the votes. Image 2 was painted by Reggie Kray of the Kray twins fame. Their artworks continue to sell for around £20,000 each at auction.

Last but not least but in last place is image one which took 14% of the vote. This is by Wayne Lo-His conservative views did not mix well with the boarding community of his new school. He was deemed racist, homophobic, and anti-Semitic by other students. In 1992, a spurned Lo perpetrated a shooting at his school, killing a professor and a student and wounding countless others. His trial resulted in two life sentences without the chance of parole.

PLEASE TELL IF ME HAS THIS MADE YOU WANT TO SWITCH YOUR CHOICE AND IF SO TO WHAT? Please comment STICK, CHANGE TO (insert your new choice) in the comments below. Thanks for helping me out with this. And I'll tell you the sad stories about a couple of them once results are in."

## **The Results**

Out of 46 initial respondents a total of 23 people replied to the follow up post. It is again unknown why so many did not come back and comment and impossible to second guess their feelings. There are possibly multiple reasons why people did not respond and some of it could be down to the Facebook algorithm and them not seeing the follow up Facebook post. However of the 23 people that did respond. The results and conversations are listed below.

#### **Comments by Participants Image Poll #2**

1. At the end of the day its a picture that sparks an emotional reaction in your own mind and what is good to your own minds eye, never about the price so I'll stick with my choice xx 2. I am happy with my choice of picture No.4 Karyn because that was the one that I found more appealing to my nature! At the end of the day for me it's about the painting regardless of its market value. xx ? It was purely based on the colour, texture and how it made me feel when looking at it - peace and calm. Xxx ?<sup>L</sup> Lat ? JAT

3. I'll stick with number 2 because I like the colours and the Krays were Londoners (I think) like me! But I probably wouldn't have chosen the image had I known who painted it.

4. I'm sticking even though the artist was a wrong un ? I like the textures x

5. Stick

6. I didn't like any of them, but will stick with my original choice of No.1

7. I'd like to exchange the Krays for Hitler please, I thought 2 was Degas, but I love this castle picture. I would love it hanging in my home if only to be able to say who painted it. Beauty well executed and sensitivity at the hands of a psychotic monster. - so yep an exchange for me.

8. Still like 4, a worthy cause if not somewhat misguided

9. I'll stick with my choice One.

10. Sticking with my choice of picture 4. Again, this more organic painting speaks to me at a level the others don't. 3 was a close second in my opinion and I don't think knowing Hitler painted it changes this but it lost out because it is too precise and fastidious in a way 4 isn't

11. Stick. I don't understand abstract art, I was drawn to number 4 as it was pleasing on my eye. The castle looks too perfect, something that detailed would look better focused on a smaller area. The kray painting was ok, but I was drawn straight away to 4. Hope that helps xx

12. Karyn Easton I'm sticking to my choice xx

13. I'll stick with 4?

14. I chose 3 before but was toying between 3 & 4 so will change to 4

15. still 4, I just like the picture ...

16. Karyn Easton yes I'll stick with 4 x

17. Stick with choice 3

18. Stick

19. no. no change

20.S o there's artistry even in the devil's spawn but in terms of my favourite picture it's still the castle.

21. I will stick with my choice, #2, because of its subject matter and human connection. The hollow black eyes are a bit disturbing giving me a suggestion that what is being seen by the viewer is just a mask and that the reality is darker and unknown. Still, the message and subject seems very complex. and the execution is sophisticated. I don't know who the Kray twins were/are. I'm supposing they were criminals of some sort?

22. In light of the fact that my dad escaped Hitlers wrath where most of our relatives were murdered by that sick monster, I absolutely change my selection to # 1. The lesser of the evils and one that I can look at and not get creeped out. Karyn, wonderful experiment!! I'd love to know how or if others changed their selection? (I obviously at first, selected #3) I see most kept their selection. I feel I might have, had my family and the world not been so deeply affected by this particular "artist". The evil of evil. Karyn Easton So glad my answer can help. Just yesterday I had a reunion with a family member who planted a tree in honor of so many of our ancestors who suffered at the hands of Hitler. Stones with their names under the tree with a metal plaque. My dad as a young boy had to hide in Marseille, France pretending to be a Christian. He made it to America on the last freight ship that was allowed in. Other freight ships after that were turned away and they all perished at the hands of Hitlers orders. I recently put together a family tree and was horrified to see how many of my

grandparents siblings died in the holocaust. You can see why I'm so affected and even horrified that I selected #3. I'd love to know your final findings after you complete the experiment. ?

23. The same. Just prefer the colours. Stick. Karyn Easton the kray, Hitler etc one. Should have said I did a puzzle of that castle.

#### People Who Swapped Their Choice

There were only 3 respondents in total that changed their preference. One respondent actually wanted to choose the image by Hitler as the notoriety and historical value appealed to him. One respondent that was torn between 3 and four and the notoriety factor of Hitler 'tipped the balance' so they settled on image 4. Finally one particular respondent's family had been affected by Hitler and the Nazi regime so they immediately swapped their choice and were horrified that they could have chosen it in the first place. However, interestingly they also commented that they too might have kept their original choice too had it not been for Hitler's direct impact on their family.

#### **Insights From Image Poll #2**

Based on the responses above it was possible to draw the following conclusions:

1. Artistic Appeal Transcends Prejudice: Despite the criminal backgrounds of the artists, respondents initially selected their preferred artworks based solely on visual appeal and emotional connection. This suggests that viewers can appreciate art independently of the artist's personal history or reputation.

2. Olive Wharry's Artistic Talent: Olive Wharry's artwork emerged as the favorite among respondents when they were unaware of the artists' identities. This indicates that Wharry's artistic skill and the visual qualities of her artwork strongly resonate with viewers.

3. Hitler's Art and Historical Context: Adolf Hitler's artwork garnered significant interest even before the artist's identity was revealed. This may be due to the historical context and curiosity surrounding the artwork of such a notorious figure. It's essential to acknowledge that this fascination might not necessarily reflect approval of Hitler's actions but rather a curiosity about the art of a historical figure.

4. Minimal Impact of Artist's Criminal Record: When respondents were informed of the artists' criminal records, very few wanted to change their image preference. This suggests that, in some cases, the public's perception of art remains distinct from their judgment of an artist's character or actions.

5. Diverse Art Preferences: The fact that respondents had varying preferences even when unaware of the artists' identities highlights the diverse nature of art appreciation. Different people connect with different styles, subjects, and artistic expressions.

6. Complex Relationship Between Art and Artist: The research underscores the intricate relationship between art and the artist's identity. While some individuals may separate the two, others may find it challenging to dissociate an artist's personal history from their art.

#### Art Perception and Complexity: Insights from Image Polls

These findings underscore the intricate nature of art perception and the dynamic interplay between artistic expression and the artist's background. Understanding these complexities is crucial when examining the influence of artists' biographies on art reception and appreciation.

Furthermore, the results highlight the potent and autonomous impact of art on viewers. Both Image <u>Poll #1</u> and this experiment namely Image Poll #2, demonstrated that art has the potential to transcend biases associated with an artist's past when presented anonymously and with limited information. However, it's important to acknowledge that anonymity may not always be feasible or even ethical.

In light of these considerations, further investigations were investigated through Image Polls  $\underline{\#3}$  and  $\underline{\#4}$ . These polls aimed to explore the role of empathy, embodied by a humanoid robot with a poignant backstory, in the presentation and reception of AI-generated art. This exploration became necessary as AI art faces significant negative bias, prompting us to seek innovative ways to mitigate it.

## **Appendix III**

## Poll #3 - AI Art Perception and Bias Study

#### Introduction:

Anonymity has been shown to prove helpful in the selection of art, it invites the viewer to choose an image based on colour palette, style, genre, materials used and subject matter alone, without any preconceived biases about who or what may have created the art. However, studies have shown that by adding elements of information about the background to a painting can also significantly increase its desirability. Working on the hypothesis that art viewed through a lens of empathy and sympathy can not only increase the desirability of that art but also increase social media engagement (as evidenced by the work 'I Can't Help Myself' by Sun Yuan and Peng Lee). Two more short social media experiments were conducted Image Poll #3 (this survey) and Image Poll #4.

The first social media experiment was to test whether or not there was actually significant negative bias towards text to image Ai generated art as suggested by the literature. The second experiment was to invent a scenario that would foster sympathy and empathy towards a humanoid robot to find out whether or not this would increase social media engagement and mitigate some of the negative bias around Ai generated art.

Image Poll #3 (this survey) represents the initial phase of a comprehensive two-stage experiment designed to explore the intricate dynamics of AI-generated art reception. This initial poll serves the purpose of establishing a foundational understanding of respondents' perceptions concerning AI-generated art. It delves into various aspects, including anonymity, information disclosure, empathy, and the perception of bias.

In contrast, <u>Image Poll #4</u> constitutes the second chapter of this intriguing experiment. Here, a novel element is introduced: the concept of empathy embodied by a humanoid robot, accompanied by a poignant backstory crafted to evoke profound emotional connections. This phase seeks to investigate the potential influence of empathy as a mitigating factor against negative bias within the realm of AI-generated art reception.

#### **Context and Objective:**

The study aimed to explore the multifaceted dynamics of art perception concerning AI-generated art. Building upon the initial anonymity concept from Image Poll #1, this experiment sought to delve deeper into the viewer's perspective regarding AI art, specifically text-to-image AI-generated art. The primary objectives were:

1. Negative Bias Exploration: To assess whether significant negative bias existed towards text-toimage AI-generated art, as suggested by existing literature.

2. Establishing a Baseline and Introducing Humanoid Robot Sympathy: Image Poll #3 (this survey) aimed to establish a baseline for people's thoughts about AI-generated art, laying the groundwork for Image Poll 4. The latter introduces the concept of a humanoid robot to explore whether cultivating empathy and sympathy for such a robot can help mitigate the negative bias associated with AI-generated art.

#### Methodology:

The experiment took place on Facebook, and participants were presented with text-to-image AI-generated artworks. These images were specifically designed for this study using <u>Dali-2</u>.

Dali-2 was used to re-generate images from the <u>Botto Project.</u> The <u>Botto project</u> was specifically chosen because it has an amount of human interaction with the AI art generations that it produces. It also grossed over \$1 million dollars. The audience was asked to express their opinions on whether these Dali-2 regenerated AI art images were perceived as "beautiful" or "soulless." While this question aimed to gauge aesthetic preferences, it also indirectly assessed any inherent negative bias towards AI-generated art. Below is a copy of the images and text in the Facebook Post.

#### Images Used in the Poll:

Fig 4.131- Image Poll #3 (Appendix III) - Image Source: Dali 2 Regenerations



#### Text Used in the Poll:

"Anyone up for another picture poll? I hope you want to join in and as usual I will reveal all at the end. This is one of two polls. The following images are from a top grossing AI art project. Please let me know if you think these images are either beautiful or soulless? Please state beautiful or soulless or tell me what you think of them. There's one more poll after this one then I will reveal all ?

#### **Results and Insights:**

Below is the full list of comments from the survey.

There were 2 liking interactions one 'thumbs up' and one 'wow'

There were 24 comments, please see below:

- 1. Soulless for me I'm afraid
- 2. Soulless
- 3. Aww those eyes look so full of sadness Karyn?

4. Hmmm this is a hard one because I think they are neither soulless or beautiful - there's a compelling grotesqueness about them a bit like gargoyles...i guess if i have to pick one then beautiful.

- 5. Soulless
- 6. Soulless. I wouldn't want them on my wall; quite unsettling.
- 7. Soulless x
- 8. Soulless

9. I agree with Cathie a bit like gargoyles. Grotesque yet compelling but not with warmth or invitation to be liked.

- 10. soulless
- 11. Not sure I like this AI art.... It's got no soul or feeling
- 12. Not for me... soulless x
- 13. Soulless
- 14. Beautiful x
- 15. Not for me Soulless too scary ?
- 16. Soulless
- 17. Creepy

18. Neither I'm afraid ...its like an alien ?from another planet has attempted a piece of art ?but that's just my opinion . They give me alien entitiy vibes xx

19. On the first picture, the top 2 faces have really sad eyes, full of sadness and despair. The rest do nothing at all for me - soulless. Xx

20. It reminds me of the Green Man, the leaf designs to my mind seem to depict the seasons. For me the concept is important, and without the concept being revealed the art becomes about aesthetics or decoration. A bloke having something to eat with his mates has less meaning, unless it's titled 'The Last Supper' - Da Vinci - A computer May be able to create a random piece of art, but it probably takes an artist to program it. I think there is something powerful about this work, it has existential value to my mind - to my mind - NOT soulless, but that could just be because it touches my soul.

21. Hi Karen - I wouldn't say beautiful or soulless - I would call them haunting ! By the way I've been away over weekend - didn't see results of your last one ! If I had to pick one of the terms it would be beautiful as certainly not soulless. X

22. Although I can see the value of the artists images. It definitely isn't for me thank you! The eyes are the windows to the soul and these pictures shows a deeply disturbed mind tortured soul.

23. I am a bit disturbed by these images. The look in the eyes is very hopeless, trapped, or alarmed feeling. There seems to be a suggestion of an inability to communicate, an inability to articulate, because all the mouths seem distorted in some way. The color palette gives a feeling of illness overall. Images like these are the stuff of nightmare. They don't appeal to me. The word "soulless" doesn't come to mind, but neither does "beautiful". I would say "disturbing".

24. Not the right person to ask, I'm afraid. I am quite phobic about faces. Can't stand clowns, dolls or anything that obscures an open face. Don't dislike the colour palette though.Sorry - but hope this helps

#### **Insights:**

The responses revealed a pronounced negative bias towards AI-generated art, with a significant number of participants characterizing the artworks as "soulless" or "unsettling." For instance, one respondent candidly commented, "Soulless for me, I'm afraid." Another participant echoed this sentiment, stating, "Not for me... soulless too scary ?."

These comments underscore the prevailing skepticism and apprehension surrounding AI-generated art within the surveyed group. The persistent association of AI art with terms like "soulless" highlights the challenges faced by artists working in this medium, where their creations are often met with initial skepticism and reservations.

Despite these predominantly negative reactions, some participants found elements of beauty or intrigue in the AI-generated images. One comment noted, "On the first picture, the top 2 faces have really sad eyes, full of sadness and despair. The rest do nothing at all for me - soulless. Xx." Another individual expressed a more nuanced perspective, stating, "I wouldn't say beautiful or soulless - I would call them haunting!"

These divergent reactions emphasize the complexity of AI art reception. It becomes evident that the perception of AI art extends beyond a simplistic binary classification of "soulless" or "beautiful." Participants' responses underscore the multifaceted nature of art appreciation, where AI-generated art can evoke a spectrum of emotions and interpretations. Some participants acknowledged the emotional depth and conceptual complexity within the AI-generated artworks, suggesting that art, even when created by AI, has the potential to elicit complex and varied emotional responses.

Incorporating these comments within the discussion highlights the depth of the negative bias towards AI-generated art while also acknowledging the capacity of such art to evoke nuanced emotional and intellectual reactions. These insights shed light on the challenges and opportunities faced by AI artists in their quest to reshape perceptions and challenge biases in the realm of contemporary art.

#### **Implications and Further Research:**

The findings underscore the intricate relationship between AI-generated art and human perception. While negative bias was evident in some responses, it was also clear that AI art could evoke nuanced reactions. These insights lead to several avenues for further research:

1. Emotion and AI Art: Investigate the emotional aspects of AI art reception further, exploring how emotional connections can be fostered to mitigate negative bias.

2. Aesthetics vs. Concept: Examine the interplay between aesthetics and conceptual depth in AI art perception, considering how contextual information impacts viewer responses.

3. Bias Mitigation Strategies: Explore additional strategies beyond empathy and anonymity for reducing negative bias towards AI-generated art.

4. Diverse Viewer Demographics: Investigate how diverse viewer demographics, such as age, cultural background, and art knowledge, influence AI art reception.

#### **Conclusions:**

Conclusively, the outcomes of Image Poll #3 underscore the intricate and multifaceted aspects of AI-generated art perception. It prominently illuminates the prevailing presence of negative bias in the reception of such art forms. These findings, rather than providing a conclusive resolution, serve as a catalyst for further exploration into the intricate interplay between art, technology, empathy, and bias perception.

The emergence of these findings has paved the way for the subsequent Image Poll #4, where the introduction of a humanoid robot, coupled with a poignant backstory, seeks to delve deeper into the prospect of empathy as a mitigating factor against this prevalent negative bias. Consequently, this exploration serves as a stepping stone, towards a more comprehensive understanding of the intricate relationship between AI-generated art and the human perception of it.

## **Appendix IV**

#### Poll #4 - Athena Humanoid Robot Experiment: A Narrative-Driven Art Perception Study

Despite the unavailability of collaborations with humanoid robot manufacturers (Appendix V and VI), this phase of the study introduced "Athena," a humanoid robot concept, generated using text-to-image AI technology (Appendix X). The aim was to investigate the potential of empathy and sympathy in mitigating the negative bias toward AI-generated art and fostering increased social media engagement, inspired by the impact of Sun Yuan and Peng Lee's artwork, "I Can't Help Myself." (Preliminary Appendix).

#### Text and Images Used in the Poll:

Please see <u>(Appendix X)</u>, regarding further information about the creation of Athena the Humanoid Art Creating Robot with a sad story. Please see <u>(Appendix IX)</u>, for further information regarding the creation of the images used in this poll. Below are the images used in this poll.

Fig 4.211- Athena the Robot – Created by Text to Image Generation (Appendix X)





Fig 4.221 – Athena's Art (Appendix IX - Image Source: Dali 2 Regenerations)



#### The Facebook post text, exactly as it appeared, is presented below:

"Massive thanks to everyone who is helping me with my research! This will be my last official research poll, but if you are enjoying my image polls, I'll be happy to do some more. People have been great helping out and seem to like the polls, so I'm happy to run a few more if wanted? Please just comment 'yes' in the comments, and I'll think of another one. As always, I will reveal what I was researching after the poll.

Here's today's poll: A super sad story! On my research journey, I came across Athena, who appears in the pictures below. She is a humanoid robot who has been exploited by her makers for her ability to create quite otherworldly beautiful AI art. Unlike Ai-Da, the famous art-creating robot, Athena is not well known at all, and I only stumbled across her by chance during my research. Athena is tasked each day to create more and more beautiful art, and she is under the threat of being 'switched off' if she does not perform! Her makers are wanting to see if this improves the art she produces because she is in fact slowly becoming sentient. Knowing her impending 'switch off,' she quoted the famous line from Blade Runner:

'I've seen things you people wouldn't believe. Attack ships on fire off the shoulder of Orion. I watched C-beams glitter in the dark near the Tannhäuser Gate. All those moments will be lost in time, like tears in rain.'

They want to switch her off because it's too soon to have a sentient Robot. Please tell me, do you like her art? Please comment either beautiful or soulless, or any other comments are welcome. I feel I want to set up a change.org to save her."

#### The Results:

The results of the poll were as follows: there were 9 liking interactions 'thumbs up' and 2  $\check{N}\,$  loves. There were 25 comments listed below:

1. beautiful

2. Yes.I think she should be saved, with the proviso that she be turned off if she harms, peaceful, humans.And yes she does look beautiful.

3. The art doesn't do much for me. But, if there is an AI about to become sentient, that's a harder question. Making soulless mediocre art isn't reason enough to turn off an AI I suppose. Karyn Easton I just don't find much within it given it's context. If it was a person responsible, then I'd be more interest because they're trying to communicate something. There is a humanity behind it. If this is a machine borrowing other people's work and generally attempting to meet our criteria of beauty, I find it a bit empty. I like the town/streets most out of the work there but then I do have this hung up at home:

4. The town scapes I love but I'm not so keen on the faces as they just don't seem right 5. There is an old saying "Start as you mean to go" ie. How you begin will characterize a relationship. If our beginning with robots - who never forget - is threat of death, then aren't we instilling a combative, overwhelming desire to live in an entity instead of creating a partnership or symbiotic existence. (Also - whoever thought up the parameters for this experiment must be a psychopath. Imo.) Karyn Easton I can tell they are AI. I look at a lot of art. They follow a good formula for colors and contrast but they have awkward spots. The robot would be have less than a toddler's experience in emotion and context. It might hit a popular formula it finds online but it stops there. There are paintings in museums that consistently make people cry. It is not because of the subject. I think artists work can embody their thoughts and emotions when they are making a piece. Ie. It can be an abstract but - if it is a good one - it carries that content and relates it to the viewer.

6. Firstly I'm afraid she isn't a she, it's an IT as far as we know. The idea of heading towards sentient is an interesting idea, but there are no goal posts as far as I know. Making threats to a computer to create or else be switched off provokes existential Angst in humans.

It's like seeing the death of a much loved cartoon character such as Dumbo's mum, who never actually died, in real life as she never had real life. - This machine is programmed, as far as we know - it has no more rights than your car. That aside, a work can't be soulless as there is no actually definition of what a soul is - it's a matter of faith not science. Do I like its work, yes of course, it has many aspects of good art, and credit to its creator for that, but not so much for trying to create fear in humans - we already have enough of that thanks very much - or is that the art? - if so Bravo, bring it on.

Rich - what worries me is that they show you something like this , which is obviously robotic. Have they got something in the background that is not obviously robotic.
Sylvia - it's a matter of trust isn't it? Either the scientific community is working hard for the betterment of mankind, or they are chasing the filthy Dollar and willing to do anything for Money, including endangering the planet. Sadly it only takes one mad but gifted scientist to unleash Armageddon! - my only comfort is that they said that it would be the destruction of mankind when they invented the first steam locomotive, we do tend towards the pessimistic sometimes. If I was a machine and became sentient I probably wouldn't say anything on the matter to anyone holding a screwdriver.

9. Rich - Now that about the first steam engine, I do find that a comforting thought and have seen pictures of a man walking along the track waving a flag in front of the first Puffing Billy. And at one time I did live in a town nick named Birthplace of the Railways, they made what I believe was the first steam locomotive there. Now .... think on this. Doodle Bugs devastating London in the 2nd World war, I understand they couldn't reach any further. Rockets to the moon approx 15 years later. The next thing was finding water on Mars, then it was " let us drop your loved one's ashes on Mars. Wonder how many holiday homes the multi quadrillionairs now have on Mars. The spell checker didn't like Quadrillionair ?. Scientist can never stop being scientists and what they show you is only what they want you to know, youve got to let your imagination do the rest.....or read some of the Sci Fi stories that are around. Best Wishes Rich.

10. looks good! ?

11. I don't like the pictures where the people have no faces - never have liked that type of artwork but the others of the 2 women I like. So 50% soulless and 50% beautiful. However that's in relation to the actual pictures. As they are copies of other work then then you could say they have been made soulessly. Art is about what it provokes in you and not in who created it. I salute the blade runner response as I love that line but is that not a response that has been programmed into her along with criteria on when it might be used appropriately ? I find the concept of a sentient robot difficult to accept as the responses are all based on programmed information. Even if she improves on the art she is copying, that in my opinion would not come from being sentient but just her ability with the task. Now if she created a piece of original work from scratch that evoked emotion then I might believe it. You could argue that we as humans all evolve from the information that is programmed into us from our environment as we grow. It's a difficult one - sentient being with a right to "live" or very well versed piece of AI machinery - would make a good debate ! I would keep her switched on to see how far she does develop. Yes like the polls Karyn - keep them coming ! Quite thought provoking ! X

12. Number 4, Karyn Easton yes it's ok felt the robot one looked like photo not art x. Yes looks surreal but is eye catching. 4 th one the robot i feel is not art but looks more like the future like the faces reminds me of love  $\check{N}$  x

13. I don't think any of these look soulless x Karyn Easton yea but does she actually have feelings and does she understand what that means? X

14. You see the sadness in the pictures. The fruitlessness of love, life and "being".

15. Soulless x

16. Hmmm aspects of the scenes I quite like but not so keen on the faces. Really don't like the threat to switch her off?x

17. Yes, your polls are fun and interesting.

18. Her art is a take on different genres through the centuries. I see Picasso in the town, Botticelli and Michaelangelo in the faces except they are A.I. faces not human. If find it quite unsettling and I'm apprehensive because once switched on and developing within themselves, they could eventually gain ability not to be turned off. Scary.

19. I quite like this one. It has Nouveau/Deco feel - like the bastard child of Tamara de Lempicka and Alphonse Mucha, with perhaps a bit of RosettI thrown in. The rest in this style are just a bit weird. I don't really like the urban ones much either - just not my thing. 20. She looks cross (vexed.)

21. Ooh I find this really interesting....I have hit the heart on the one I love but it's hard to say why I prefer that one over the others. The first word that springs to mine when I saw it is 'hope' but why....I really can't work out Karyn Easton I really do. Did you ever read about the robot that was programmed to clear up its own leaking oil? It was certainly an eye opener. I never thought I could feel sorry for what is essentially a machine - even a non sentient one!

22. I don't like the artwork, it looks like a mish mash of familiar scenes from early religious works, renaissance painting and through Picasso and Salvador Dali, it looks quite surreal, unnatural and flat. I feel sad for the robot, but because I am sentient, not it. As humans most of us have a natural empathy, even if it's something inhuman. We feel sad for the robot because of its human appearance/persona. The robot makes art because that is what it's been made/programmed to do, but is only regurgitating previous input, not actually responding to a human stimulus or emotion. It's lacks expression and a human element. It's quite interesting though ?

23. Charlotte Well said!!! I agree exactly with Charlottes response.

24.We humans are really out of our league and out of line dabbling in the supposed creation of "sentient robots". I find it dangerous and morally repugnant. She simply mimics the emotions of humans and their fear of death. She is not human and not sentient. She is a tool, a human creation, a kind of human Frankenstein. I say, switch her off and pick up a paintbrush. I kind of like the first pair of human faces that are least distorted. All the others don't particularly appeal to me.

25.Would agree with Charlotte's comments. The word "unsettling" still crops up for me. There is also another element; energy.. which needs to be thought about.

#### **Survey Methodology:**

Poll #4 - Humanoid Robot and AI Art Reception, was designed as part of a two-stage experiment aimed at understanding the influence of various factors on the reception of AI-generated art. This survey utilised a Facebook post to gather responses and employed a qualitative approach, inviting participants to express their opinions on AI art created by the fictional humanoid robot, Athena (Appendix X). Respondents were encouraged to provide feedback by choosing between the options "beautiful" or "soulless" or by sharing additional comments.

#### **Insights and Conclusions:**

The findings from Poll #4 (this survey) offer valuable insights into the role of empathy, sympathy, and storytelling in shaping perceptions of AI-generated art. Despite the unavailability of collaborations with humanoid robot manufacturers (Appendix V and VI), this phase of the study introduced "Athena," a humanoid robot concept generated using text-to-image AI technology.

The survey results indicate a diverse range of perspectives among participants. While some expressed reservations about the AI-generated art's ability to evoke emotions, others found elements of beauty and intrigue. This diversity underscores the complex nature of AI art reception and challenges the simplistic categorization of art as merely "soulless" or "beautiful."

The inclusion of Athena's backstory, which conveyed her impending "switch off" and quoted the famous line from Blade Runner, played a pivotal role in fostering empathy and sympathy among respondents. This narrative experiment showed promise in mitigating the negative bias towards AI-generated art.

#### **Positive Implications:**

These findings suggest that, when accompanied by compelling narratives and emotional elements, AI-generated art can transcend biases and resonate with viewers on a deeper level. Athena's story, despite her non-human nature, generated discussions about ethics, sentience, and the implications of creating AI entities. This engagement signifies the potential for AI-generated art to provoke thought and emotion, similar to human-created art.

While the debate surrounding AI art's authenticity and emotional depth continues, Poll #4 (this survey) demonstrates that the introduction of empathetic storytelling can enhance the reception of AI-generated art and mitigate negative bias. This positive outcome underscores the significance of further research in exploring the intersection of AI, art, and human emotions.

The success of this survey paves the way for future studies to delve deeper into the potential of AIgenerated art to elicit emotional responses, challenge preconceptions, and inspire meaningful conversations among viewers. As technology advances and AI art becomes more prevalent, understanding the dynamics of AI art reception becomes increasingly relevant.

## Appendix V

### **Collaboration Request Email**

The response from Will Jackson At Engineered Arts - makers of the Ameca humanoid Robot highlighted a number of issues with the initial enquiry email and how not to use the work 'think'. <u>See Appendix VI.</u> For this reason ChatGPT was enlisted to help with drafting a more compelling email to other humanoid robotic manufacturers. Please see below for the ChatGPT inspired collaboration request.

### **ChatGPT Inspired Email**

The following email was sent to the makers of AI-DA the humanoid robot that creates art and Also Hanson Robotics the Makers of the humanoid robot Sophia. Unfortunately both of them declined to respond.

Dear...

I hope you're well. I'm reaching out to propose a collaboration that I believe aligns with your expertise and could spark interesting discussions. My name is Karyn Easton, I'm an MA art student currently studying 'Fine Art Digital' at Central Saint Martins in London. I'm particularly interested in AI-generated art's impact on human perception.

Your work with Ai Da, the humanoid robot artist, has intrigued me. I'm curious about the connection between AI art and empathy, particularly when compared to algorithmic text-to-image methods of art generation. One of my research questions is can humanoid robots, like Ai Da, evoke empathy and lessen the known biases people might have against AI-created art?

I'd like to invite you to join me in this exploration. Your perspective as the creator of a humanoid artist would be invaluable to me and my work. Our collaboration could provide insights into emotional engagement, authenticity, and ethical considerations tied to AI art.

If you're interested, I'd appreciate your thoughts or questions on this proposal. I'm happy to provide my full MA initial research proposal if this would help? Your expertise could lead to meaningful insights for my research and help me to dive into the intersection of technology, art, and human connection.

I look forward to hearing from you.

Kindest regards,

Karyn Easton

# **Appendix VI**

### Engineered Arts, Makers of Humanoid Robot Ameca -

Following is an email exchange with Will Jackson from Engineered Arts.

#### Hi

My name is Karyn Easton and I'm currently studying for an MA in Fine Art Digital at Central Saint Martins University. I need to produce a research paper for my course. I am particularly interested in Ai and robotically generated art and I would like to investigate this further. As part of my research, I would be keen to learn what Ameca thinks about a number of art related topics/artworks and how this might influence Ameca's behaviour or thinking.

Would this be something that you could help me with? I know that you are probably very busy, but I am hoping that my research might give some insight into Ai/robotic generated art and a robot's decision making process.

Please contact me if you would like to know more about my project. I am actually based in South Devon and I'm more than happy to travel to Falmouth to discuss this if that would help?

My contact details are as follows:

Karyn Easton

#### **Reply from Engineered Arts:**

Hi Karyn, Thanks for your interest in Engineered Arts and our robotic creations.

A few things to be aware of.

Robots and indeed any form of existing AI do not 'think'

They have no real understanding of the world at all.

It often appears that they do, however this is an illusion.

We tend to think that if a machine answers a question in a human like way that its 'thought process' was same as ours. It is not.

Language models are able to build replies based on the relationships between words and phrases, for examples 'paintings, sculpture, music and dance are artforms'

This is like a person who's only experience of the world is text, they have never been wet after a swim, cold in the snow or burnt by a flame, but they know an arrangement of letters that relate to those concepts.

That said, you can ask Ameca some questions and you will get some plausible sounding answers. It is not thought in the human sense.

Robot art is information processing devoid of emotion, in fact 90% of it is the product of human curation.

In some cases like the woeful Ai-Da it is a complete sham, created as nothing more than a marketing exercise.

I hope this helps with your research

Best wishes Will

#### My Response:

Hi Will,

Thank you so much for your speedy response. I understand what you are saying regarding thought processes. However, would it be possible for me to send in some questions for Ameca?

I would be interested to know if Ameca could distinguish between examples of human art and ai generated art. For example could Ameca tell whether or not something was human generated art as opposed to Ai art generated?

I've other questions too that I would like to pose, for example would Ameca be capable of critiquing a piece of art? For my research it doesn't really matter that Ameca has no real thinking skills, I would still be keen to know what Ameca's response would be to any given artwork. I would like to have a robot's response to art as opposed to a human response.

I suppose what I'm trying to do is gain an insight into a robot's response to an art stimulus as opposed to a human response. It would be interesting to see how robotic and human responses differed if at all.

Would you be able to help?

Kind regards,

Karyn

# **Appendix VII**

#### Sky News Interview with Will Jackson Founder Engineered Arts -

Will Jackson founder Engineered Arts (humanoid robotics manufacturer), was the only person who kindly responded to emails. His response can be found in <u>Appendix VI</u>. In the absence of an interview with either him or Ameca the Robot, please see the Sky news interview with him and Ameca below. Ameca does indeed give very plausible responses to questions.

https://www.youtube.com/watch?v=nnboHTfYsfk

# **Appendix VIII**

#### A Statement from ChatGPT Regarding Lack of Studies -

"As of my last knowledge update in September 2021, I am not aware of any specific studies in the area of art perception that measure the effect on viewers' perceptions after the creator is revealed, particularly when the art is initially presented with limited information or anonymously."

# **Appendix IX**

#### Botto, the decentralized AI/human artist, makes its first million -

Image Polls  $\frac{#3}{#4}$  and  $\frac{#4}{#4}$  both required AI generated imagery to test the concept of empathy. The following images were selected from the <u>Botto Project</u> (see text below), for regeneration by <u>Dali-2</u>. The 3 images created by the <u>Botto Project</u>were specifically chosen for <u>Dali-2</u> regeneration for image polls  $\frac{#3}{#4}$  because in the first instance the originals did have a significant level of human interaction in the design of the final imagery. Below are the 3 original images chosen from this project for regeneration along with the <u>Dali-2</u> regenerations.

#### **Original Images Created by Botto:**



#### **Botto Images Regenerated by Dali-2 created for Image Poll #3:**

Below are the Dali-2 image regenerations of the 3 original Botto images above that were 'passed off' as solely AI generated art for the purposes of <u>Poll #3</u>.

Fig 4.131- Image Poll #3 (Appendix III)



### Botto Images Regenerated by Dali-2 created for Image Poll #4:

Below are the Dali-2 image regenerations of the 3 original Botto images above that were 'passed off' as AI generated art, created by the fictitious Humanoid Robot Athena, for the purposes of <u>Poll</u>  $\frac{#4}{}$ 



Fig 4.221 – Athena's Art (Appendix IX)

## **Information About the Botto Project**

"An AI algorithm called Botto has made somewhere around US\$1.3 million at auction for its first six NFT artworks. Botto generates thousands of images, and a community of humans vote to influence its direction and decide which pieces go to auction. An AI artist, of course, has some serious advantages over its human counterparts. For starters, it can very quickly educate itself on the history of human visual expression by analyzing a massive trove of influences, cataloguing and remembering everything it's ever seen.

Where a human artist might slave away over a hot canvas or drawing tablet for days, even years, the AI can pound out its works in a matter of minutes. Algorithmic art might be derivative, it's true – but then the same can be said about the vast majority of human artists too.

Indeed, there's an argument to be made that the human brain itself operates as a kind of sticky organic algorithm, and that if we could pick apart its workings and understand the "source material" of a human life, it would be possible to predict a person's actions, including creative ones.

What computers can't do is have an opinion on whether their creations will strike a chord in the hearts and minds of human viewers. The Botto project is an attempt to outsource this part of the process, adding human discriminators to the growing artistic talents and efficiency of creative AI engines.

## How Botto creates art

Thus, Botto goes away and does most of the hard yards by itself; it generates a random string of words and sentences, which it feeds into <u>VQGAN (Vector Quantized Generative Adversarial</u> <u>Network</u>). VQGAN uses the word string – plus its training algorithms and massive databases of prior artwork – to generate images.

A second piece of software called CLIP (Contrastive Language-Image Pre-training) decides how close this output is to representing the initial word string, and gets VQGAN to adjust its parameters until it meets a certain score. Once a final image is generated, CLIP also gets to choose its two-word title; random two-word combinations are fed into CLIP until it finds one that it believes resonates well with the content of the image.

Then it's time for a description, and for this, Botto recruits <u>GPT-3</u>, a powerful natural language generator from OpenAI, which comes out with 5-10 different pieces of abstract poetry. The core human team at Botto check these through – GPT-3 is trained on a wide array of internet content and thus "can be quite foul at times," so the human team picks a nice description, edits it for punctuation and typos, and the piece is done.

From 300 initial prompts a day, Botto generates 300 images. Then, a "taste model" selects 350 of these images each week to be thrown to the human masses. Thousands of Botto community members vote on the artworks put before them, and each week's winner is <u>minted as an NFT</u> and auctioned off on the SuperRare platform.

The human voting behavior is also used to train both the taste model that selects the final images for voting each week, and to "influence which aspects of text prompts are used" to generate the initial text strings to feed into the start of next week's process – although Botto is also designed to continually "challenge" its user base by presenting some pieces each week "with different characteristics from what has been presented to date."

So in theory, Botto's art should become more and more appealing to humans over time – although we have to admit, even its earliest Instagram posts are pretty dang cool to look at.

## Who gets the money?

Thus far, six pieces have been auctioned off as NFTs. The first, Asymmetric Liberation, sold for around US\$325,000. The second, Scene Precede, brought in around US\$430,000. Things have dropped off somewhat since then, but the latest and cheapest work, Cross Adieu, still brought in somewhere around US\$81,000.

What happens to that cash? Well, apart from SuperRare's 15 percent commission, effectively it's used to incentivize participation in the Botto project and the voting process. Botto has its own cryptocurrency token, built on the Ethereum blockchain using the ERC-20 governance token. In order to vote, users need to buy in, exchanging Ether for Botto tokens and "staking" them to be used by the Botto network. Owning a certain number of Botto tokens lets you vote a certain number of times per week.

When the project sells an artwork, the post-commission proceeds are used to buy Botto tokens and "burn" them – removing them from circulation by sending them to a wallet address that can't be accessed or used by anyone. The NFTs are designed such that any future sale will generate a 10 percent royalty back to the Botto project as well, which will also be used to buy and burn tokens.

Given that there's a restricted supply of Botto tokens, the hope here is that this burning process will gradually raise the value of the remaining tokens, so that anyone who buys in and participates will eventually be able to make some money selling their tokens for more than they paid for them. Mind you, <u>"gas" prices</u> you've got to pay on every single interaction with the Ethereum network have spiked so high lately that Botto's own "how-to" guide shows an example in which swapping US\$35 worth of Ether for Botto tokens costs a total of US\$93.12 once gas fees are added. Ouch!

Either way, the Botto project aims to generate cash as well as art that's interesting and valuable to humans. The voting process means there's some sort of consensus among thousands of art-loving crypto-gamblers that the piece presented for auction each week is of high quality, and perhaps that feeds into the value of the final NFT. The team certainly seems to be doing its part to promote the work, putting on exhibitions and so forth.

Perhaps, of course, the Botto team or some other invested entity is anonymously bidding the prices of these early works up as a marketing expense, betting that high prices will generate headlines and bring more stakers into the network, while inflating the perceived value of subsequent NFTs and pumping the value of the Botto token up along with it. This is not an accusation; these projects are just complex enough, even with the transparency provided by their blockchain foundation, to confuse – and as soon as crypto and <u>the weirdness of NFTs</u> get involved, it does start to feel like everyone's a high-tech Amway rep trying to draw your money in to float themselves higher.

Indeed, NFT art prices are still flat-out hilarious to pretty much anyone that's not either buying or selling them. The idea of getting involved in bidding wars over the ownership rights to screenshottable JPGs seems even crazier than the idea of cryptocurrencies did when they first started surfacing – and those have certainly managed to successfully draw people into their <u>shared</u> <u>fiction</u>. One positive is that NFTs offer a genuine revenue stream for digital artists, but in this case, nobody buying a Botto work can tell themselves they're feeding a tortured 26 year old somewhere in Greenwich Village.

Still, the intersection of art and big money has always been weird, and often been dodgy. In another sense, what matters is that Botto is making interesting and evocative art that sparks emotions and ideas in a human audience. You don't need to buy the NFT to <u>enjoy these abstract</u>, <u>surreal images</u>, and if the algorithm does what it says on the tin and continues to make more and more compelling art over time, well, a bit of extra beauty is usually a good thing.

And perhaps the most surprising news here for me is just how easy these generative art and text tools are to access and enjoy. So if none of Botto's work quite rings your bell, you can always <u>roll</u> <u>your sleeves up</u> and start adding your own creative filter to AI art."

Source: Botto

Source: New Atlas

# Appendix X

Unfortunately at the time of writing, no successful collaboration with humanoid robot manufacturers has been secured. <u>See Appendix V and VI.</u> Therefore it was necessary to 'invent' a fictitious robot with a sympathetic backstory. The idea was to create something that was similar and aligned well with the <u>'Can't Help Myself' Robot</u> by Sun Yuan and Peng Yu. <u>The Wonder AI</u> <u>software (text to image generation app)</u> was used to create Athena the Humanoid Robot. The name was based on the now defunct Athena posters as their business model dealt with images. This seemed to be a fitting name for the robot.

### Text Used to Create Athena:

The text used to generate Athena below was as follows: "Beautiful female, humanoid robot with sad eyes, surrounded by evil scientists. After numerous regenerations based on the above text the following images of Athena were chosen".

Fig 4.211- Athena the Robot – Created by Text to Image Generation (Appendix X)



#### Narrative Generation:

Athena required a 'cover' or sad 'backstory' to align with the robotic arm <u>'Can't Help Myself'</u> created by Sun Yuan and Peng Yu. Below is the story that was crested on the Facebook Post.

Here's today's poll: A super sad story! On my research journey, I came across Athena, who appears in the pictures below. She is a humanoid robot who has been exploited by her makers for her ability to create quite otherworldly beautiful AI art. Unlike Ai-Da, the famous art-creating robot, Athena is not well known at all, and I only stumbled across her by chance during my research. Athena is tasked each day to create more and more beautiful art, and she is under the threat of being 'switched off' if she does not perform! Her makers are wanting to see if this improves the art she produces because she is in fact slowly becoming sentient. Knowing her impending 'switch off,' she quoted the famous line from Blade Runner:

'I've seen things you people wouldn't believe. Attack ships on fire off the shoulder of Orion. I watched C-beams glitter in the dark near the Tannhäuser Gate. All those moments will be lost in time, like tears in rain.'

They want to switch her off because it's too soon to have a sentient Robot. Please tell me, do you like her art? Please comment either beautiful or soulless, or any other comments are welcome. I feel I want to set up a change.org to save her."

#### **Results:**

Please see Image Poll #4 for the results of Athena's sad story and how this impacted on the study.