

VISUAL ANALYSIS OF AI-GENERATED IMAGE DIGITAL PORTRAIT WITH GHIBLI STUDIO STYLE

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Abstract: The rapid development of artificial intelligence technology is capable of interpreting and creating visual artwork based on human input through a platform. Although AI offers efficiency in creating works, the similarity to existing visual styles sparks debate about originality and ethics. This issue gained prominence with the emergence of AI-generated Studio Ghibli-style digital portraits on social media. The main issue discussed in this study is how AI-generated images differ visually and technically from Studio Ghibli's original works. Previous studies focused on copyright and data privacy, research comparing visual is still limited. This research aims to fill this gap by conducting a visual comparative analysis between AI-generated works and Studio Ghibli's animation style using Feldman's theory. This comparison clearly shows how AI-generated visuals compare to human-made ones based on visual and technical analysis. The findings show that AI can copy surface features well, but it cannot achieve accurate anatomy, detail, visual consistency, or emotional depth correctly. The study concludes that AI still can't fully copy the emotional and visual depth that human artists can create. The finding emphasizes the uniqueness of original artwork and is expected to provide significant insights for the creative industry, opening up space for ethical discussion and enhancing visual literacy among designers, academics, and the public.

Keywords: AI-generated, artificial intelligence, comparative analysis, digital portrait, Studio Ghibli

Abstrak: Perkembangan pesat teknologi kecerdasan buatan mampu menafsirkan dan menciptakan karya seni visual berdasarkan masukan manusia melalui sebuah platform. Meskipun AI menawarkan efisiensi dalam menciptakan karya, kesamaan dengan gaya visual yang sudah ada memicu perdebatan tentang orisinalitas dan etika. Isu ini menjadi terkenal dengan munculnya potret digital bergaya Studio Ghibli yang dihasilkan AI di media sosial. Pertanyaan utama yang dibahas dalam penelitian ini adalah bagaimana

gambar yang dihasilkan AI berbeda secara visual dan teknis dari karya asli Studio Ghibli. Meskipun penelitian sebelumnya berfokus pada hak cipta dan privasi data, penelitian yang membandingkan aspek visual masih terbatas. Penelitian ini bertujuan untuk mengisi kesenjangan ini dengan melakukan analisis perbandingan visual antara karya yang dihasilkan AI dan gaya animasi Studio Ghibli menggunakan teori Feldman. Perbandingan ini dengan jelas menunjukkan bagaimana visual yang dihasilkan AI dibandingkan dengan yang dibuat manusia berdasarkan analisis visual dan teknis. Temuan ini menunjukkan bahwa AI dapat secara efektif meniru fitur permukaan, tetapi kurang dalam mencapai anatomi yang akurat, detail, konsistensi visual, atau kedalaman emosional. Studi tersebut menyimpulkan bahwa AI masih belum mampu sepenuhnya meniru kedalaman emosional dan visual yang dapat diciptakan oleh seniman manusia. Temuan ini menggarisbawahi keunikan karya seni asli dan diharapkan dapat memberikan wawasan signifikan bagi industri kreatif, mendorong diskusi etis, dan meningkatkan literasi visual di kalangan desainer, akademisi, dan masyarakat umum.

Kata kunci: *analisis komparasi, buatan AI, kecerdasan buatan, potret digital, studio Ghibli*

INTRODUCTION

The current development of technology shows that there is a novelty in the thinking process involving technology, known as artificial intelligence (AI). Artificial intelligence represents an innovation that assists humans in translation, paraphrasing, discussion, and information access (Mahendra et al., 2024). With the development of this technology, AI not only assists with conventional tasks but is also capable of creating visual artwork based on human input through a platform (Pinotti, 2024). Visual works generated by AI can help users explore sketches and provide visual stimuli that impact effectiveness and efficiency (Arlinghaus & Maier, 2024). However, the emergence of AI-generated visual artwork has also sparked debate, particularly regarding originality, intellectual property, and ethics.

This issue is of concern among artists because, although AI offers convenience, its visual outputs often resemble the distinctive characteristics of other artists' work, leading to accusations of originality and plagiarism, as discussed in *Organic or Dispersed: Can We Distinguish Human Art from AI-Generated Images?* (Jeong Ha et al., 2024). This debate has gained

momentum with the emergence of a viral phenomenon: digitally illustrated portraits featuring the visual characteristics of Studio Ghibli animation, generated through an AI platform in early 2025 on social media (Washington Post, 2025). The AI image generator successfully analyzed uploaded images and produced images equivalent to the Ghibli style.

Studio Ghibli is a Japanese animation studio founded by Hayao Miyazaki and Isao Takahata in 1985. This studio dominated the film rankings in Japan in the mid-1990s (Rendell, 2018). Throughout its journey, Studio Ghibli has earned a brilliant reputation because it was distributed by Buena Vista International (Pizzuto, 2018), making the name of director Hayao Miyazaki phenomenal in the world of transnational cinema. Since then, Studio Ghibli's animation style has been popular with audiences and has made Studio Ghibli a subject of significant international acclaim.

Studio Ghibli has a distinctive visual style and complex stories that address different issues compared to other animation approaches (Patzner, 2024). Characteristics found in Studio Ghibli's animated works include the shape of each character's eyes, color, and the impression created by the use of lighting in each scene of the film. This has become the identity of Studio Ghibli. However, with the development of AI, the visual characteristics found in Studio Ghibli films can now be replicated through AI. This raises both pros and cons among the public, as it touches upon ethical issues and copyright of AI-generated images. This leads to a fundamental research question: What are the significant visual and technical differences between AI-generated works and original Studio Ghibli works?

This paper specifically discusses the analysis of visual and technical differences between AI-generated digital portraits and the distinctive visual style found in Studio Ghibli's iconic animations. While AI can adopt visual elements from Studio Ghibli's works, AI-generated pieces are less detailed and

lack the emotional depth and artistic nuance that characterize Ghibli. According to previous research by Wojtkiewicz (2023) and Yu & Chan (2025), AI-generated images are visually imperfect, with inaccurate anatomy and improper object placement, which diminishes the emotional intent of human creators.

Some research on Artificial Intelligence that intersects with the phenomenon of using Ghibli Studio visuals has been conducted previously, but most of the research has focused on copyright and the potential for personal data leakage through the process of visually altering camera-captured images sourced from devices (Deckker & Sumanasekara, 2025; George, 2025; Khattak et al., 2025). To date, there haven't been many specific studies that examine the visual characteristics of Studio Ghibli using Feldman's theoretical approach and directly compare them to works produced by artificial intelligence.

This study aims to address this gap by conducting a visual comparison analysis between AI-generated portraits and the distinctive animation style of Studio Ghibli. It is hoped that the results of this research will not only highlight the limitations of AI in replicating artwork but also provide valuable insights and enhance visual literacy for creative industry practitioners and academics. Understanding the potential and limitations of AI in the creative process is crucial for industry practitioners and academics, especially to identify the ethical, technical, and creative implications of AI in increasing productivity and creating visual works.

METHOD

This paper employs a comparative qualitative approach with visual content analysis as a method to analyze the visuals from three iconic Studio

Ghibli animated films: *Howl's Moving Castle*, *Grave of the Fireflies*, and *Spirited Away*, along with the visuals generated by AI. Visual content is defined as various forms of visually presented information, such as photos, illustrations, and videos, that are disseminated thru digital media (Arumsari et al., 2021). This approach was chosen to enable the researcher to conduct a systematic and structured in-depth comparison of the visual characteristics of the two groups of visual artworks.

The visual data from Studio Ghibli were obtained by selecting several representative characters from the three animated films mentioned above. These visuals serve as the reference material for comparative analysis. The AI-generated images were selected through a specific procedure. Using the prompt "in Ghibli style" in ChatGPT 4.0's image generation feature, three images were generated directly. These images were then compared to Studio Ghibli visuals based on character similarities in terms of age range, gender, and anatomical proportions. Specifically, the comparison involved: a male and female character in their twenties from *Howl's Moving Castle* (2004), a male character in his twenties from *Grave of the Fireflies* (1988), and a female child character around seven years old from *Spirited Away* (2001).

Visual analysis will be conducted using Edmund Burke Feldman's art criticism theory, which consists of 4 stages: (1) Description, (2) formal analysis, (3) interpretation, and (4) evaluation (Feldman & Berleant, 1975), to analyze the visual differences between AI-generated digital portraits and portraits in animated films produced by Ghibli Studios. The description stage, in particular, helps in analyzing visual works by observing objects objectively. In this paper, the description stage is applied to examine the forms and shapes found in visuals produced by Studio Ghibli and AI-generated images. Feldman's formal analysis stage emphasizes the importance of relying on visual evidence. In the context of this study, the analysis process was carried out by examining facial

features, anatomical proportions, colors, and lines that appear in Studio Ghibli's works and the visual results produced by AI. The third step, interpretation according to Feldman theory, focuses on discovering the deeper meaning and relevance of a work of art. In this study, interpretation was carried out by observing how the visual elements in the images generated by artificial intelligence (AI) reflect the distinctive style of Studio Ghibli. Next, the evaluation steps emphasize that evaluating both artistic intent and execution is necessary to develop a deep appreciation for visual art. In this study, the evaluation stages cover both the positive and negative aspects of the visual elements included in the AI's work.

Additionally, the analysis is enriched by color identification using the Adobe Color application to obtain hexadecimal codes (hex codes), which helps in understanding the characteristics and dominance of the color palette in each visual work. This mapping process aims to obtain an accurate digital representation of the colors used in Hayao Miyazaki's visual works. By combining Feldman's theory, color data from Adobe Color, and a comparative qualitative approach in visual content analysis between AI-generated visuals and Studio Ghibli visuals can be more clearly and effectively identified.

RESULT AND DISCUSSION

This visual analysis will focus on *Howl's Moving Castle*, *Grave of the Fireflies*, and *Spirited Away* by Studio Ghibli. The assumption is that the visual style produced by AI is similar to Studio Ghibli films, especially in the shape of the eyes, colors, and the scene lighting elements.

Howl's Moving Castle (2004) features a fantasy narrative about the transformation of a girl named Sophie in 19th-century Europe. The movie depicts the characters' faces as round and oval, with a blunt chin. The shapes

used in each character are semicircular with large pupils, as illustrated in Figure 1.



Figure 1. Howl's Moving Castle character
Source: Ghibli (2025)

Dominant color palettes such as forest green, vintage beige, and sky blue create a warm feel as shown in Figure 2. See Table 1 for the detailed results.

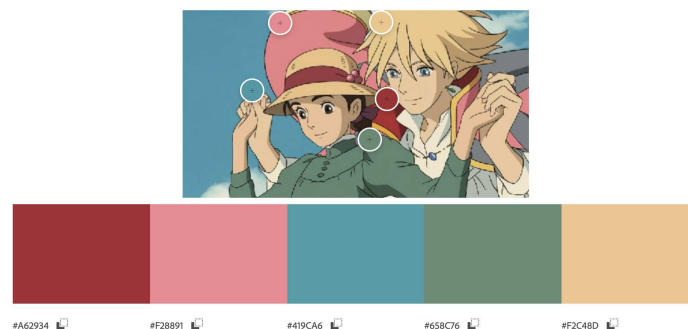


Figure 2. Howl's Moving Castle color palette
Source: Ghibli (2025)

Grave of the Fireflies (1988) contains Japanese aesthetic values by using the concept of Mono No Aware, which is a sense of sadness towards a thing or object (Syaifulloh, 2013; Toru, 2024). The concept of Mono No Aware is reflected in the scene of two siblings, Seita and Setsuko, who are trying to get out of the difficult conditions during World War II. In this animation, the face shape of the main characters, named Seita and Setsuko, is square with

roundness on the cheeks and forehead. The animation shapes the characters' eyes into circles with large, round pupils in black, shown in Figure 3.



Figure 3. Grave of the Fireflies character
Source: Ghibli (2025)

Figure 4 illustrates that this film uses a palette of predominantly dark colors such as blood red, earthy brown, and fire yellow to reinforce the dramatic atmosphere. Table 1 shows the comparison.

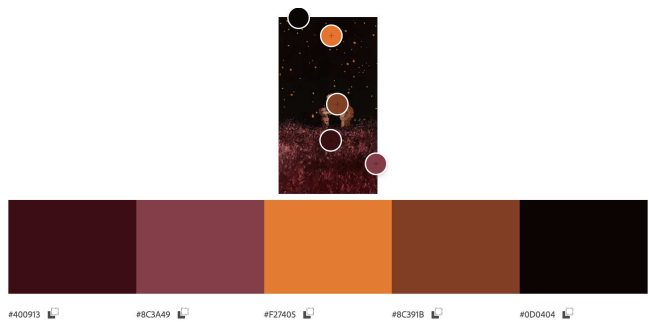


Figure 4. Grave of the Fireflies color palette
Source: Color Adobe (2025)

Spirited Away (2001) is a movie with a strong background of Shintoism (the Shinto religion is a combination of animism with the worship of natural phenomena) from the story, architectural design, and character design (Havier, 2021), through the adventure named Chihiro in the spirit world. The depiction of Chihiro's character features round eyes, round pupils, and a square face shape with round cheek and chin lines, can be seen in Figure 5.



Figure 5. Spirited Away character
Source: Ghibli (2025)

The magical impression in this animation is shown by the dominant color palette, such as beige skin, bright red, and bright orange as shown in Figure 6.

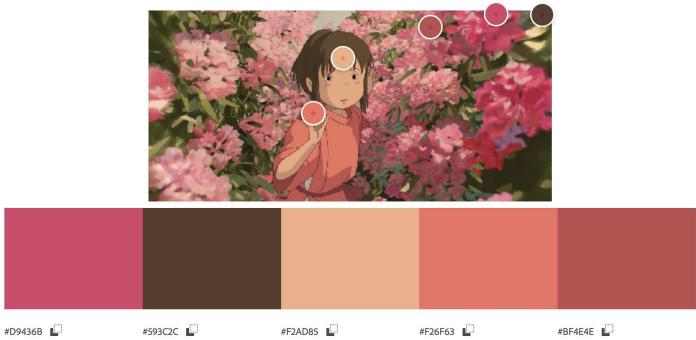
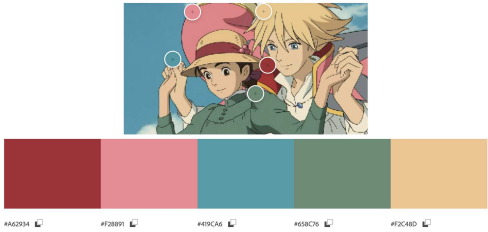
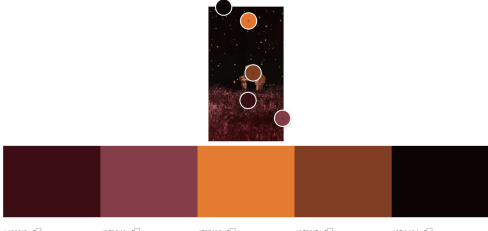
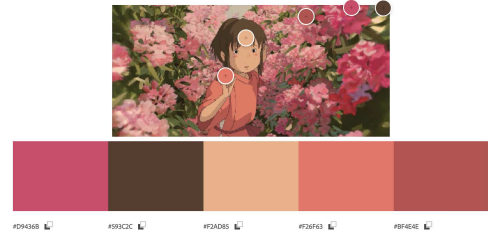


Figure 6. Spirited Away color palette
Source: Color Adobe (2025)

Visual Analysis Data

Table 1 shows the dominant color palettes of three Studio Ghibli film scene images. The color palette produced by the original Studio Ghibli works shows vibrant, solid colors, giving a more natural visual impression while still being strong in building emotional nuances.

Table 1 Ghibli color palette and code hex

Ghibli Color Palette	Code Hex
	#658C76 (forest green) #F2C48D (vintage beige) #419CA6 (sky blue)
	#400913 (blood red) #8C391B (earthy brown) #F27405 (fire yellow)
	#F2AD85 (beige skin) #590202 (bright red) #F26D3D (bright orange)

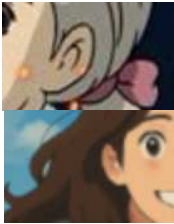
Source: Color Adobe (2025)

As presented in Table 2, these AI-generated visuals serve as the primary comparative data against the original Studio Ghibli works.

Table 2 Data comparing visuals

Studio Ghibli	AI-Generated	Object Analysis
		Face Shape 

Ears



Eyes



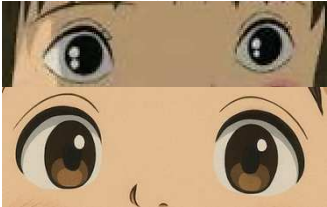
Nose



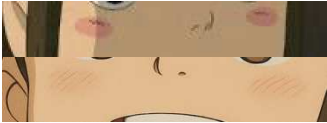
Mouth



Eyes



Blush on Cheeks



Nose



Source: Color Adobe and AI-Generated (2025)

The following discussion applies Feldman's four-step structure (1) description, (2) formal analysis, (3) interpretation, and (4) evaluation, which aims to analyze similarities in style in images generated by artificial intelligence (AI) presented in Table 2.

(1) Description

The AI-generated images produced with the prompt "Ghibli style" depict characters with round faces, large eyes, and beige skin tones represented by the hex code #F2AD85.

(2) Formal Analysis

Formally, the resemblance to Studio Ghibli films is evident in the anatomical proportions, particularly the eyes being too large compared to the face, as well as the use of a hexadecimal color palette that reflects Ghibli's stylistic choices. However, the images generated by AI tend to have yellowish colors, as if a yellow hue is overlaid across the entire surface of the image. Additionally, the strokes and lines on the face that show expression details are often not captured by AI.

(3) Interpretation

This visual similarity suggests that the AI system effectively mimics characteristic aspects of Ghibli esthetics, creating a sense of familiarity that resonates with audiences who recognize the iconic style. However, the images generated by AI tend to repeat visual "template" patterns, as seen in the yellowish hues in all three images above, and the expressions are generally the same and flat.

(4) Evaluation

AI demonstrates consistency in mimicking these stylistic features; the replication appears more mechanical than creative. This highlights technical imitation rather than conveying the artistic depth and originality of authentic Studio Ghibli works. Based on the Studio Ghibli films above, there is an assumption of stylistic similarity in the images generated by AI using the "Ghibli Style" command or prompt. This is found in the form of faces and eyes, down to colors with similar hex codes; for example, the one below was generated by AI, particularly in things like the character's anatomical proportions with large eyes and the use of cream skin tones in the hex code area #F2AD85, which is easy to replicate, but has not yet been able to balance the depth of emotional expression, character depth, and the blend of solid colors that are the very essence of the Ghibli style.

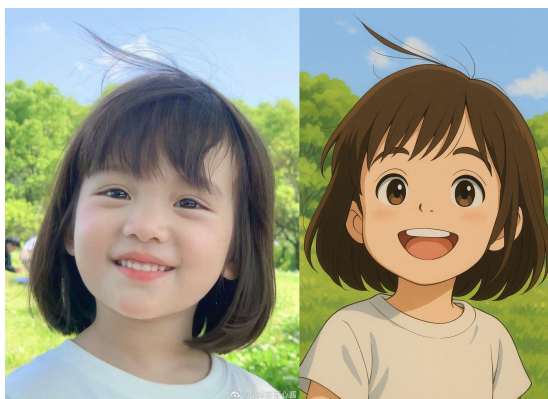


Figure 7. Kid photos that have been generated by AI
Source: Medium (2025)

Figure 7 shows the results of AI generation using the ChatGPT 4.0 platform, which are portraits of children resembling the visual style of Studio Ghibli.



Figure 8. Family portrait photos that have been generated by AI
Source: Medium (2025)

Figure 8 features AI-generated portraits of adult men and women with dogs, rendered in the visual style of Studio Ghibli.



Figure 9. Family portrait photos that have been generated by AI
Source: Medium (2025)

Figure 9 shows a family photo with a wedding theme featuring an adult man and woman generated by AI. There is a noticeable lack of anatomical consistency and detail in the AI-generated image compared to the original photo.

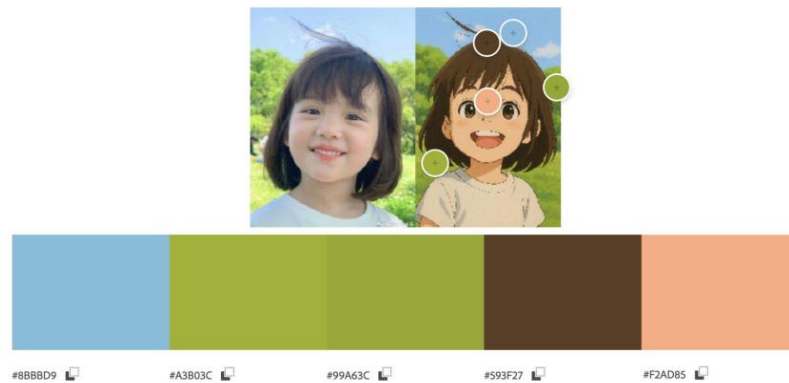


Figure 10. AI picture as color palette
Source: Color Adobe (2025)

Figure 10 shows a color palette reference for AI-generated artwork, provides an overview of the colors produced by AI in mimicking the visual style of Studio Ghibli.



Figure 11. AI picture as color palette
Source: Color Adobe (2025)

Figure 11 shows another example of an AI-generated color palette, highlighting a tendency toward more nuanced yellow tones compared to the more solid colors in the original Ghibli work.



Figure 12. AI picture as color palette
Source: Color Adobe (2025)

Figure 12 also shows an example of a color palette generated by AI, indicating that the colors are still somewhat repetitive with a dominance of yellowish hues, making the colors no longer pure.

CONCLUSION

From the research conducted, it was found that AI is capable of mimicking the distinctive visual elements of Studio Ghibli, such as (1) facial shapes, eye proportions, and (2) the use of a similar beige color palette through hexadecimal code analysis. Although AI technically succeeds in mimicking the style, the images it produces tend to lack the depth of expression, emotional nuance, and brushstroke detail characteristic of Ghibli's original works. Additionally, AI tends to generate the same color patterns, marked by a yellowish color bias that covers the entire image, indicating that the results are more mechanical than the original works. This result highlights the uniqueness of human art, which involves interpretation and emotion that are difficult for tools like AI to replicate. AI's weaknesses are evident in inconsistent details, imperfect anatomy, and an inability to generate deep emotion, which is precisely what makes Ghibli's works of art so iconic.

This research is still limited to three Ghibli films and a few AI image samples. Therefore, future research could expand the image sample to include still images and animations from various AI platforms for a more comprehensive understanding. Additionally, this research only focuses on visual analysis, so a suggestion for future research is to include the audience's perspective to understand their perception of AI-generated works compared to human-made works.

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