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Algorithmic Transculturation in AI-Generated Imagery: A Visual Discourse Analysis of Indonesian Heritage and Popular Culture

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ABSTRACT

This study aims to investigate the representation of Indonesian cultural heritage by artificial intelligence (AI) image generators, particularly focusing on cultural appropriation and transculturation. Employing Visual Discourse Analysis, this research evaluates [number] AI-generated images prompted by national identity keywords. The results indicate significant cultural hybridity that triggers misrepresentation, amalgamating distinct Indonesian elements with generalized Asian visual stereotypes. The discussion highlights the manifestation of algorithmic biases within training datasets, demonstrating that digital transculturation inadvertently leads to cultural appropriation rather than accurate visual preservation. It is concluded that AI developers must refine their datasets to uphold the integrity of local cultures, and users require enhanced critical literacy toward artificial visual outputs.

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INTRODUCTION

The development of digital technology has profoundly transformed how humans produce, distribute, and consume cultural representations. One of the most prominent innovations of the past decade is the emergence of Artificial Intelligence (AI) in creative processes, particularly in the generation of visual works that emulate human aesthetics (Anantrasirichai & Bull, 2022). AI is now capable of producing digital imagery that is not only highly realistic but also rich in symbolism and cultural narratives including those rooted in ancient and traditional Indonesian culture, which are deeply imbued with historical values and local spirituality. The metaphorical and visual capacity of these AI-generated images largely depends on the skill of embedding generative data within the technology (Abdipour, 2026).

However, the presence of this technology raises complex ethical and cultural concerns that must be critically examined beyond a mere general exposition of its visual capabilities. Many AI-generated visual artworks incorporate and blend cultural elements for instance, sacred Nusantara icons, traditional performing arts, royal costumes, and temple architecture with foreign artifacts, global popular culture figures, or Western landscapes. These aesthetic experiments are not only concerned with the resulting forms but also with how visual images produce and shape meaning within specific social and ideological contexts. Representations of culture in visual media carry embedded power relations, constructions of identity, and shifts in meaning when produced or consumed outside their original contexts (Zhang et al., 2023).

The use of cultural imagery through AI reproduction in creating imagery is referred to as prompt engineering, which is considered a new art form of creating AI art from text-to-image AI art, showing how the prompts affect the AI visual output (Goudelis et al, 2026). Indeed, this is in agreement with the opinion by Robertson et al. (2024), who consider prompting to be an art combined with the science of generative AI. As such, prompting has emerged as an important skill among modern-day artists and thus becomes an essential analytical unit to consider.

In instances whereby such cultural idioms are stripped off by the AI systems using these prompts and then presented in digital forms, the meaning of such cultural idioms is distorted, hence, resulting in cultural appropriation. Cultural appropriation is described as the process of using elements of particular culture particularly by marginalized communities and others without permission and adequate understanding of the elements being used. Unauthorized use may be in terms of intellectual property, traditional knowledge, cultural expressions and historical items (Wongburanavart, 2023) that include memory of history and ways of knowing (Popa, 2022). With regard to social constructionism, appropriation is seen as a process in which people belonging to a dominant culture adopt some elements created by marginalized culture (Marzal & Kafri, 2025).

To rigorously ground these visual transformations, this study integrates Homi Bhabha's (2012) theory of *Cultural Hybridity* and Fernando Ortiz's (1947) foundational concept of *Transculturation*, as operationalized in communication studies by Rogers (2006). Bhabha posits that cultural hybridity emerges within a "Third Space"—an ambivalent, performative site where cultural identities are destabilized, negotiated, and rearticulated rather than preserved in static purity. Complementing this, Ortiz conceptualizes transculturation as a dialectical process characterized by *deculturation* (the stripping away or loss of original cultural context) followed by *neoculturation* (the creation

of novel, synthesized cultural phenomena). These theories are essentially significant in relation to AI-generated visual culture. In the process of generative AI's latent space, the digital "Third Space" is created wherein any human prompts lead to automated deculturation, through which the extraction of sacred localized artifacts like Rangda and Batik is done from their native ritual environment to create neoculturation when such objects are blended with the pop culture elements via an algorithm. Thus, transculturation and hybridity become essential theoretical tools in ascertaining if there is cross-cultural synthesis or mere distortion of culture through algorithms.

From the ontological point of view, the idea of cultural appropriation in AI is based on the hermeneutic and ethical aspects. Ethically, the lack of recognition of respect of the source culture makes this practice an ethical and epistemological problem (Hogans & McAndrews, 2023). The hermeneutically speaking, the extraction of cultural components without knowledge of the story is a rupture in the narrative flow. The process of contemporary AI visual culture production, as a result, leads to the depiction of something entirely separated from its historical, spiritual, and social context. Therefore, as argued by Zhang et al. (2023), culture is never a static thing but rather a dynamic field of meaning negotiations.

These studies are an essential framework for exploring the effects of algorithms on visual culture and appropriation. The work by Bellat et al. (2025) examines the influence of deep learning algorithms in the creation and analysis of digital images from the viewpoints of media theory and media archaeology. Likewise, Martin Prada (2025) addresses the production of generative AI images with respect to temporality, memory, and documentary roles. Somaini (2023) analyzes the influence of algorithms on visual culture, underlining the significance of studying algorithms critically for understanding cultural representations. In addition, Zhou et al. (2026) show that even though AI has great potential for mimicking the visual characteristics of a particular culture, it is historically, culturally agnostic, and incapable of understanding the significance of artifacts.

From the perspective of ethics and culture, Razzaq et al. (2025) considers the ethical dimensions of AI-produced arts with respect to the cultural appropriation problem in terms of originality and ownership. Criticizing the phenomenon of cultural appropriation from another angle, Cruz et al. (2024) claims that cultural appropriation always implies commoditization of cultural signs that devalues them as purely visual commodities. Supporting the above claim, Joseph (2024) discusses the use of AI technology in the creation of cultural products in the global environment.

Through the analysis of the literature review above, it becomes clear that the research gap is as follows: there has been no sufficient differentiation made by the earlier researchers regarding the distinction between cultural hybridization in the form of a result of conventional digital imaging processes (such as digital painting or photo manipulation) and the one in the form of a result of hybridization through the use of artificial intelligence algorithms. While in case of conventional digital manipulation, hybridization of culture occurs as a result of a conscious decision of an artist, with AI algorithms it occurs automatically through the latent space of their training sets.

Therefore, this study advances previous research on cultural representation by specifically unpacking how generative AI automates and accelerates cultural hybridization. The novelty of this research lies in its specific focus on the algorithmic hybridization of sacred Indonesian heritage (such as Rangda and Batik) with global popular culture (such as anime characters and international landmarks). By employing Visual Discourse Analysis (VDA), this study offers a new perspective on how dataset biases in specific AI models

uniquely distort visual preservation, leading to an automated digital transculturation that inadvertently normalizes cultural appropriation.

To ensure the analysis is highly directed and moves beyond a general overview, the problem formulation of this study is explicitly guided by three interconnected research questions. First, this study asks how AI algorithms visually reconstruct and hybridize Indonesian sacred cultural heritage within the context of global popular culture. Second, it questions what specific dimensions of cultural appropriation such as cultural exchange, domination, or exploitation are manifested through these AI-generated visual representations. Third, this research examines how the power relations embedded in algorithmic reproduction implicate the ethical production of culture-based digital content.

This research employs a critical qualitative approach using Peggy Albers' Visual Discourse Analysis (VDA), strengthened by AI-generated content analysis, to address these questions. Consequently, this study aims to provide two main contributions. Theoretically, it seeks to contribute to contemporary visual culture studies by expanding the application of visual discourse theory to algorithmic phenomena, offering a nuanced understanding of how technology reshapes cultural identity. Practically, the research is designed to provide a foundational ethical framework for digital creators and stakeholders, encouraging the production of culture-based digital content that is ethically responsible, contextually accurate, and genuinely respectful of cultural diversity rather than reducing it to algorithmic commodities.

RESEARCH METHOD

This research adopts a critical qualitative approach using a literature study framework grounded in Peggy Albers' Visual Discourse Analysis (VDA) (Albers et al., 2014), strategically combined with AI-generated content analysis. To ensure clear operationalization, VDA is not merely used as a descriptive tool but as a critical instrument to dissect how visuals construct meaning within ideological, social, and cross-cultural power structures.

Data Collection Instruments and Selection Criteria

The primary data consists of AI-generated visual images created through prompt engineering, sourced from content published on the Instagram, TikTok, and Threads platforms under the accounts AINusantara (@ainusantara) and Gear Komputer (@gear_komputer). The selection of these visual objects is based on purposive sampling with strict criteria: (1) the visual must prominently feature a distinct Indonesian cultural artifact (either sacred or traditional), (2) the artwork must demonstrate algorithmic hybridization or juxtaposition with global or popular culture landscapes, and (3) the content must represent a distinct form of digital cultural reproduction. The data collection instrument relies on specific visual analysis indicators and iconographic interpretation guidelines, focusing on identifying cultural displacement, symbolic distortion, and the aesthetic fusion of local and global idioms.

To ensure high editorial quality and prevent visual redundancy, all research objects are presented as high-resolution composite panels in Figures 1 and 2. Individual frames (Panels 1–6 for Object 1, and the triptych panels for Object 2) are clearly indexed and cross-referenced throughout the analysis, allowing readers to evaluate fine visual details such as costume patterns, lighting contrast, and background monuments without repetitive image

placements.

In addition, there is a need to place in context the AI technologies behind these representations. While the exact prompts for the text used by the artists are proprietary (an inherent problem with the analysis of secondary AI-generated data as a "black box"), the nature of visuals and the way they have been generated suggest the use of sophisticated text-to-image generation models (e.g., Midjourney v5/v6 or Stable Diffusion), which were then animated via image-to-video AI programs (e.g., Runway Gen-2 or Luma Dream Machine). Through considering these particular AI ecosystems, this research makes the assumption that the unknown prompts are the main factors that make the AI "see" different cultural data points from its training set and blend them together. It is important to consider this context since different AI models have different biases in their datasets.

First Research Object: AINusantara

The first research material object is a 30-second AI-generated short video created by AINusantara, a collective of architects, academics, and graphic designers established in Semarang in 2022 with the vision of "reimagining the Nusantara through AI." The video features a white-masked Rangda dancer a distinctive Balinese figure typically paired with the Barong dancing with fire across global backdrops, including Paris, Japan, Africa, New York, and Egypt.



Figure 1. AI-generated visual sequence of the Balinese Rangda dancer depicted across global landmarks
(Source: Instagram @ainusantara).

In Balinese society, Rangda is understood through multiple perspectives, ranging from folklore narratives like Calon Arang to spiritual interpretations found in traditional manuscripts such as the Lontar Siwa Tattwa and Lontar Usadha Taru Pramana. These texts describe Rangda and Barong as parts of a religious journey undertaken by Bhatari Umma as an emissary of Sang Hyang Siwa in the earthly realm (Wirawan, 2019). Analyzing this AI-algorithmically imagined figure allows for an examination of how sacred mythological artifacts are transposed into global spectacles.

Second Research Object: Gear_Komputer

The second research object is a 30-second AI-generated short video by gear_komputer, a popular group established in 2024 in South Tangerang operating under the slogan "anime meets batik – Indonesian style." This video reimagines Monkey D. Luffy, the iconic protagonist of the One Piece anime/manga, in a stylized sequence of power displays.



Figure 2. AI-generated triptych of Monkey D. Luffy reimagined with Javanese Batik motifs and Indonesian temple backgrounds
(Source: Instagram @gear_komputer).

What makes this work analytically crucial is the algorithmic modification of Luffy's attire using sacred Javanese Kawung and Parang batik motifs traditionally reserved for persons of high status set against backgrounds featuring temple stupas resembling Borobudur and Prambanan. The juxtaposition of these religiously significant monuments and sacred motifs with an imaginary global pirate creates a profound semiotic tension regarding the reinterpretation of status and identity.

Systematic Stages of Visual Discourse Analysis (VDA)

The VDA in this study is operationalized systematically through three distinct layers of meaning to unpack the subjective, intertextual, and ideological contexts of the images (Albers et al., 2014). The systematic stages are mapped into specific analytical dimensions and technical indicators, as detailed in the following matrix.

Table 1. Matrix Analysis Tools.

Basic Theoretical	**Analysis Dimension**	**Technical Indicator**
Visual Discourse Analysis (VDA). Used for Semiotic, Discursive and Meaning analysis.	Representational Meaning	Analyze cultural objects appearing in AI visuals: fit with historical/symbolic context
	Interactive Meaning	Analyze camera position, AI Perspective, and visual interaction with the audience or user
	Compositional Meaning	Analyze color, layout, and compositional balance in the image

Data Validity and Triangulation

To ensure the interpretation moves beyond a mere descriptive visual reading and maintains a robust academic foundation, this research establishes data validity through both methodological and theoretical triangulation. Data triangulation is achieved by comparing two divergent cultural paradigms within the selected objects: one rooted in the algorithmic reproduction of sacred mythological heritage (AINusantara) and the other in the hybridization of modern global popular culture (Gear_komputer). Theoretical triangulation

is conducted by cross-referencing the findings from the VDA (Albers et al., 2014) with established critical theories of cultural appropriation and hermeneutics. This rigorous cross-validation ensures that the interpretations accurately reflect the complex ethical dimensions and power relations inherent in AI-generated digital cultural production.

Ethical Framework and Copyright Considerations

To address the ethical dimensions of cultural reproduction, this study adopts Richard A. Rogers' (2006) framework of cultural appropriation as its primary ethical lens. This framework categorizes appropriation into cultural exchange, domination, and exploitation, providing a structured approach to evaluate how algorithmic processes navigate power imbalances between dominant global cultures and local heritage.

Furthermore, it is crucial to address the legal and ethical status of the materials analyzed, particularly the second research object featuring Monkey D. Luffy, a copyrighted character owned by Eiichiro Oda and Shueisha. The source account (gear_komputer) operates within the complex and legally ambiguous realm of AI-generated fan art, where explicit permission from copyright holders is typically absent. This unauthorized algorithmic reproduction inherently exemplifies the very ethical concerns, algorithmic exploitation, and transculturation critiqued in this paper. However, the reproduction of these specific images within this academic manuscript is strictly conducted under the "Fair Use" doctrine (and *Penggunaan Wajar* under Indonesian Copyright Law No. 28 of 2014, Article 44). The copyrighted materials are reproduced in a limited capacity solely for the purposes of non-commercial academic research, critical commentary, and visual analysis. This ensures that the scholarly inquiry remains ethically and legally compliant while critically exposing the copyright and ethical violations inherent in current AI generative practices.

RESULTS AND DISCUSSION

Before delving into the specific visual discourse, it is necessary to operationalize how 'cultural hybridity' is defined and identified within this study. Conceptually, cultural hybridity refers to the emergence of new transcultural visual forms created by amalgamating distinct, often disparate, cultural elements into a single entity. In the context of AI-generated imagery, algorithmic hybridity manifests when the AI seamlessly fuses localized sacred idioms with globalized or pop-culture aesthetics. In this study, this cultural hybridity is explicitly identified in two distinct forms: first, through *spatial and contextual hybridity* in the AINusantara artwork, where the sacred Balinese Rangda is forcefully juxtaposed against secular or foreign global monuments; and second, through *aesthetic and material hybridity* in the gear_komputer artwork, where the physical attributes of a Japanese pop-culture icon are algorithmically interwoven with sacred Javanese batik patterns and local temple landscapes.

As described in the methodology section, the analysis of the research objects combines Peggy Albers' Visual Discourse Analysis (VDA) with critical algorithmic interpretation. Rather than merely describing the visual objects, this section critically examines how cultural appropriation, visual commodification, and symbolic distortion occur in AI-generated works. Through algorithmic reproduction, traditional and popular aesthetics undergo profound processes of deterritorialization and reterritorialization within the digital space.

Algorithmic Deterritorialization and Representational Meaning

In the first AI-generated work by AINusantara, the figure of the Rangda dancer is subjected to algorithmic deterritorialization. The algorithm visually uproots Rangda from

its native Balinese cosmological setting and juxtaposes it against a series of global cultural landmarks: the Eiffel Tower, the Himalayan Mountains, the Kalahari Desert, Japanese Shinto temples, the Statue of Liberty, the Egyptian Pyramids, and the Parthenon ruins. Each background carries its own embedded symbolic meaning; for instance, the Kalahari represents spiritual awareness and human connection to the land (Ninkova, 2022), while the Pyramids symbolize the afterlife and royalty (Hlouchová & Krejčí, 2025).

Mechanisms of Cultural Misrepresentation through Algorithmic Hybridity

To explicitly clarify how cultural hybridity leads to misrepresentation within AI-generated visual outputs, it is necessary to analyze the structural mechanics of algorithmic amalgamation. Cultural misrepresentation in this context does not merely refer to factual inaccuracies; rather, it describes a process where the AI's dataset biases flatten distinct, highly localized heritage identities into generalized visual tropes or pop-culture commodities. Specifically, this cultural misrepresentation manifests through two distinct visual mechanisms:

1. *Pan-Asian Stereotyping and Contextual Homogenization:* When the AI generates images based on localized national identity prompts, dataset biases frequently merge specific Balinese Hindu ritual markers (such as Rangda's sacred mask and *taksu*) with generalized Asian visual stereotypes (e.g., blending Japanese Shinto aesthetics or generic orientalist fantasy tropes). Through this algorithmic hybridity, a distinct Balinese sacred entity is misrepresented to global audiences as a generic, pan-Asian mythical monster or exotic performer.
2. *Symbolic Flattening and Semantic Re-coding:* In the hybridization of Javanese Batik (*Kawung* and *Parang*) with Japanese anime iconography, sacred motifs historically restricted to Javanese royalty and spiritual rituals are stripped of their social and cosmological hierarchy. The algorithm re-codes these sacred patterns as mere aesthetic "skins" or decorative costume details for a fictional global pirate. Consequently, the profound historical and spiritual identity of Javanese heritage is misrepresented as a commodified, trivialized pop-culture accessory.

Representational Meaning Analysis of Rangda Dance Performance

The video features a Rangda dancer performing with fire in the foreground, set against global cultural landmarks from various nations. The musical composition blends popular music with traditional Balinese kecak dance vocalizations. The cultural landmarks including the Statue of Liberty, Himalayan Mountain, Kalahari Desert, Japanese temples, Eiffel Tower, and Egyptian pyramids function as visual idioms carrying specific symbolic meanings. The Eiffel Tower symbolizes humanistic ideals from the French Revolution; the Himalayan Mountain represents spirituality and courage; the Kalahari Desert signifies spiritual awareness and connection to the land; Japanese temples embody Eastern spirituality; the Statue of Liberty symbolizes American-French friendship; the Egyptian Pyramids represent the afterlife concept in Egyptian culture (Hlouchová & Krejčí, 2025); and the Parthenon reflects classical spiritual heritage (As illustrated in Figure 1, Panels 1–6, the visual narrative sequentially captures the deterritorialized Rangda dancer across these distinct global backdrops).

Crucially, the background in these AI-generated images cannot be dismissed as a passive or neutral backdrop; rather, it functions as an active spatial agent of digital transculturation. In visual discourse analysis, meaning is constructed relationally through

the semiotic tension between the central figure (foreground) and its contextual setting (background). When the AI algorithm places the sacred Balinese Rangda a localized mythological figure against globally recognizable architectural and environmental backgrounds (such as the Eiffel Tower, the Pyramids, or Japanese temples), the background executes a transcultural shift. It operates as a digital spatial vector that forcibly strips the Balinese icon of its traditional temple environment (*Pura*) and thrusts it into direct collision with foreign cultural identities. Consequently, digital transculturation is manifested precisely through this foreground-background dialectic: the background does not merely support the object, but actively re-contextualizes and transforms a sacred Balinese symbol into a global, hybrid digital spectacle.

Interactive Meaning Analysis of Rangda Dance Performance

The video employs medium long shots and left-to-right panning camera techniques to foreground the Rangda performer's movements. Choreographically, the performance transforms with each setting: in the Eiffel Tower scene, movements are soft and balletic with symmetrical fire rings (feminine aesthetic); in the Himalayan scene, rapid spins with diminishing fire create chaotic energy; the Kalahari scene returns to slow, expressionless movements; the temple scene escalates to dynamic, energetic movements with controlled fire manipulation; the New York scene shows gradually decelerating movements synchronized with music; and the final pyramid scene features explosive, upward-reaching movements evoking dominance and control.

The combination of camera framing and dynamic choreography places Rangda as the undisputed center of attention while transforming meaning across geographical contexts. The performer's spectrum from feminine (soft, balletic) to masculine (war-like, energetic) qualities, reinforced through contrasting fire symbolism circular and perfect versus controlled in-hand suggests complex explorations of body, gender, and ethnic representation. According to Rogers, this performative complexity exemplifies counter-cultural domination appropriation, wherein Rangda occupies visual prominence before global monuments, reversing conventional patterns of cultural power dynamics.

Compositional Meaning Analysis of Rangda Dance Performance

The video's color palette maintains natural tones while foregrounding the Rangda figure whose distinctive white mask, bulging eyes, extended tongue, red-striped costume, and white hair serve as the primary visual attraction. The composition deliberately privileges Rangda with focused visual clarity while maintaining blurred background cultural icons, creating a visual hierarchy emphasizing the local over the global. The static central composition is dynamically complicated through camera panning and rhythmic music, generating kinetic movement that constructs contemporary globality while maintaining traditional Balinese cultural essence.

Through compositional and representational strategies, the video positions Rangda as an active agent of cultural exchange rather than a subordinate element. The symbolic exchange between cultures suggests relatively equalized influence and agency, contrasting with historical unidirectional appropriation patterns. Rogers' framework of cultural exchange appropriation acknowledges the complex power dynamics characterizing contemporary cross-cultural representation. The video ultimately presents a model where local cultural traditions maintain aesthetic and symbolic prominence while engaging with global cultural markers, suggesting possibilities for cultural resilience and agency within globalization contexts.

In Balinese texts such as *Lontar Siwa Tattwa* and *Usadha Taru Pramana*, Rangda is not a mere aesthetic spectacle or generic regional motif; it is an inherently territorialized, sacred entity whose spiritual power (*taksu*) is strictly bound to specific ritual contexts, temple spaces (*Pura Dalem*), and its dualistic cosmological balance with the Barong (Wirawan, 2019). A surface-level interpretation might view placing Rangda alongside international landmarks as a positive celebration or global recognition of Balinese cultural identity. However, a critical visual discourse analysis demonstrates that this algorithmic manipulation constitutes true *deterritorialization*.

Genuine global cultural recognition honors and preserves the intrinsic narrative and sacred context of a heritage symbol. In contrast, the AI algorithm forcefully extracts Rangda from its sacred ritual ecology and transplants it into arbitrary global landscapes (such as Paris, Egypt, or the Kalahari) purely for visual novelty and engagement metrics. By severing the figure from its cosmological grounds and pairing it with unrelated foreign monuments, the algorithm creates a profound hermeneutic rupture. Rangda is stripped of its local religious legitimacy and reduced to a floating, re-contextualized "exotic backdrop" for digital consumption. Thus, rather than facilitating authentic global appreciation, this algorithmic displacement deterritorializes the sacred icon, demonstrating how automated transculturation degrades sacred heritage into a commodified digital spectacle.

Conversely, the work by gear_komputer demonstrates a process of algorithmic reterritorialization, where a global popular culture icon is grounded within a local sacred context. Monkey D. Luffy, a prominent Japanese anime character, is reimagined with traditional Javanese Kawung and Parang batik motifs historically restricted to nobility and sacred rituals. This hybridization is further emphasized by placing Luffy against the backdrop of Borobudur and Prambanan temples, alongside the sacred Merapi and Merbabu volcanoes.

This transformation shifts Luffy from a rebellious Japanese pirate to a mythic, globalized hero figure entrenched in an idealized Javanese landscape, reflecting the transposition and hybridization of Japanese popular culture into global fantasy aesthetics (Kachui & Anandhasayanam, 2026). The AI's algorithm forcefully fuses shōnen anime tropes with Javanese sacred leadership symbols. While this creates a visually striking homage to both cultures, it also dilutes the sacredness of the Kawung and Parang motifs, turning them into mere "superhero skins" for digital consumption, highlighting a distinct dimension of cultural transculturation and appropriation (The high-resolution triptych sequence presented in Figure 2 displays Luffy's transformation phases across the left, center, and right panels).

Representational Meaning Analysis of Monkey D. Luffy

The triptych portrays Monkey D. Luffy, the protagonist from the Japanese anime One Piece, in a highly stylized AI-generated reinterpretation that perfectly exemplifies aesthetic and material cultural hybridity. The three frames depict Luffy undergoing a transformation characterized by exaggerated musculature and glowing steam, retaining his iconic traits such as the straw hat and chest scar. However, the exact point of cultural hybridity occurs in the algorithmic fusion of his attire: the AI replaces his standard anime clothing by embedding sacred Javanese *Kawung* and *Parang* batik motifs patterns historically restricted to nobility and spiritual rituals. Furthermore, his body is adorned with traditional tattoos, physically merging the visual language of Japanese *shōnen* anime with the identity markers of traditional Indonesian warriors and leaders. This seamless visual integration forces two

historically and geographically disconnected cultural identities into a single, hybrid digital body.

The background features Borobudur and Prambanan Temples alongside Merapi and Merbabu volcanic mountains sacred locations in Javanese mythology during sunset. This setting suggests a mythical battleground or epic confrontation, contributing to a heroic and transcendent representation of Luffy. The image exemplifies the convergence of popular anime culture with AI-enhanced global fantasy tropes, transforming Luffy from a rebellious pirate into a mythic warrior figure. This visual modification exaggerates strength, masculinity, and a divine aura, reflecting AI's tendency to over-idealize known characters through both Eastern and Western heroic aesthetics.

Interactive Meaning Analysis of Monkey D. Luffy

The three-panel format employs consistent mid-shots that position Luffy at the center of visual attention. The dynamic poses progress from an action stance (left), to a power stance (center), to composed stillness (right), guiding viewers through a narrative of transformation or ascension. Dramatic lighting with strong highlights on the character's muscles and face reinforces his physical power, creating an emotionally compelling visual experience that appeals to fans of the original series while repositioning Luffy as a globalized superhero archetype, closer in visual language to Marvel or DC characters than his original anime form.

The artwork invites admiration, awe, and identification with a more "mature" and "epic" version of Luffy. Intertextually, this transformation references not only anime but also video game design, fantasy RPGs, and cinematic universes. The combination of steam effects and glowing limbs evokes comparisons with characters like Goku from *Dragon Ball*, Kratos from *God of War*, and Thor from Marvel pointing toward a transcultural remix of heroic masculinity that transcends its original source material.

Compositional Meaning Analysis of Monkey D. Luffy

The color scheme is dominated by rich warm tones from the sunset background and glowing highlights from the aura and smoke, enhancing the sense of mythical strength and transformation. The composition emphasizes Luffy's upper body, particularly his face and fists, signaling readiness and determination. The middle image, being the most centered and symmetrical, anchors the visual narrative, while the left and right panels suggest movement and resolution, creating a cinematic progression that enhances the overall narrative arc.

Despite being AI-generated, the composition preserves Luffy's iconic identity while amplifying his heroic qualities through globalized visual symbols. This reflects Rogers' concept of "cultural exchange appropriation," where familiar icons are reworked to fit a new aesthetic framework without fully losing their original identity. The artwork demonstrates how popular cultural figures can be recontextualized and mythologized through technological mediation, creating a hybrid visual language that resonates with contemporary global audiences while maintaining connection to traditional cultural elements.

Interactive Meaning, Bodily Representation, and Spectacle

The interactive meaning in both visual works highlights how AI algorithms dictate audience engagement through simulated camera movements and bodily representations. In the Rangda video, the AI simulates medium-long shots and horizontal panning, capturing the dancer's evolving movements. Rangda's gestures transition from feminine, ballet-like calmness at the Eiffel Tower to chaotic, rapid spins in the Himalayas, and explosive, masculine dominance at the Pyramids. This dynamic interaction opens an interpretive space

suggesting that the visual is not merely a dance performance, but a bodily response to global cultural symbols (Ollora-Triana et al., 2024).

In contrast, Luffy's triptych utilizes a static yet emotionally charged mid-shot format, depicting three phases of ascension: action, power, and calm. This composition creates dramatic engagement for the audience, particularly anime fans witnessing the epic transformation of their beloved character (Lamerichs, 2022). Both visuals display interactivity that positions the audience as consumers of a spectacular, globalized visual language, where local spirituality and popular culture are equally commodified into awe-inspiring digital content.

Compositional Meaning: Commodification and the Risk of Algorithmic Exploitation

From a compositional standpoint, the AI algorithms in both works prioritize visual dominance and heroic idealism. The Rangda video centers the meticulously detailed costume (white mask, bulging eyes, long tongue) against blurred global icons, creating a dynamic exchange of cultural symbols (Mariyono et al., 2025). Meanwhile, the Luffy image employs dramatic warm lighting, glowing highlights, and exaggerated musculature to construct an idealized, hyper-masculine heroic body reflecting the AI's tendency to generate a "perfect" body optimized for visual dominance and global consumption (Lou & Copeland, 2025).

Ultimately, these compositional choices driven by prompt engineering reveal a deeper critical issue regarding visual commodification and cultural legitimacy. As AI algorithms prioritize aesthetic spectacle to generate engagement and algorithmic distribution (virality) on platforms like Instagram and TikTok, the sacred values of objects like Rangda, Borobudur, and Batik are heavily commodified. The distribution algorithms reward visually stunning hybridity but are completely blind to the ethical implications of cultural appropriation. Consequently, this digital environment fosters a continuous risk of symbolic exploitation, where ancient Indonesian visual culture is endlessly reproduced, deterritorialized, and consumed not for its profound philosophical heritage, but merely for its algorithmic novelty and visual entertainment value.

To mitigate these algorithmic biases and structural distortions, AI developers must implement targeted dataset refinements that move beyond mere quantitative data expansion. Based on our visual discourse findings, dataset refinement should encompass three actionable technical strategies:

1. **Granular Cultural Metadata and Ontological Indexing:** Developers must enrich training datasets (such as LAION or proprietary corpora) with fine-grained, localized metadata tags. Rather than relying on broad, generic descriptors (e.g., "Asian traditional dance" or "exotic pattern"), models should be trained on precise cultural ontologies that distinguish sacred artifacts (e.g., "Balinese Sacred *Rangda* Ritual") from profane visual motifs.
2. **Community-Informed Annotation (RLCF):** AI labs should incorporate Reinforcement Learning from Cultural Feedback (RLCF) by consulting local cultural custodians, ethno-archaeologists, and indigenous historians during the dataset annotation and red-teaming phases. This ensures that training weights accurately reflect the historical and spiritual boundaries of local heritage.
3. **Contextual Guardrails and Provenance Tagging:** Developers should integrate ethical metadata guardrails that prompt the generator to maintain contextual integrity when sacred symbols are invoked, preventing the automated, friction-free blending

of sacred heritage with copyrighted pop-culture assets or inappropriate foreign settings.

CONCLUSION

This study concludes that AI algorithms do not merely reproduce visual forms; they actively reinterpret and deterritorialize cultural meanings, functioning as powerful agents of algorithmic transculturation. Theoretically, this research contributes to the discourse on cultural appropriation by demonstrating that AI-generated imagery can simultaneously manifest multiple dimensions of appropriation ranging from cultural exchange and transculturation to cultural domination and exploitation within a single visual frame. The algorithmic hybridization of sacred heritage, such as the Balinese Rangda and Javanese Batik, with global popular culture reveals a profound tension between aesthetic modernization and the dilution of philosophical and spiritual values.

Practically, this research underscores the urgent need for a dual-sided ethical framework involving both AI developers and digital content creators. For AI developers, the findings demonstrate that technical dataset refinement is imperative: developers must transition from passive web-scraping to active cultural curation by implementing granular metadata indexing, incorporating Reinforcement Learning from Cultural Feedback (RLCF) with local heritage experts, and establishing contextual guardrails for sacred assets. For visual designers and prompt engineers, the study highlights the necessity of "mindful prompting." Creators must complement technical skills with historical literacy, avoiding text prompts that artificially sever sacred cultural symbols from their original contexts purely for visual spectacle or algorithmic virality. Through this combined technical responsibility and user literacy, digital practices can advance genuine cultural appreciation rather than perpetuating automated symbolic exploitation.

Finally, this study acknowledges its methodological limitations. The current analysis is confined to two specific visual case studies Balinese mythological heritage and the hybridization of Javanese cultural symbols with Japanese anime which may not capture the full spectrum of algorithmic cultural reproduction. To address this, future research should be directed toward expanding the objects of study to a wider variety of cultural artifacts, including minority subcultures and contemporary vernacular arts. Furthermore, conducting comparative studies that contrast Indonesian algorithmic representation with different global contexts would provide a more comprehensive understanding of how AI universalizes, negotiates, or marginalizes cultural identities in the digital age.

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