



## Critical Speculations in AI Design: Ethical Narratives and Visual Experiments in Post-Human Aesthetic Practices

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**Abstract.** *The rapid integration of Artificial Intelligence (AI) into design practice presents both opportunities and ethical dilemmas, particularly within the expanding field of speculative design. Current design discourses often emphasize utility and innovation while overlooking the complex ethical narratives and aesthetic shifts emerging in post-human interactions. This study explores how speculative design can utilize AI not merely as a tool, but as a collaborator in reimagining human-machine relationships through visual and conceptual experimentation. Employing a qualitative visual methodology that combines experimental design practices, critical design theory, and post-human ethics, the research analyzes a series of AI-generated visual experiments that interrogate identity, agency, and authorship. Key findings reveal that AI-driven speculative visuals challenge anthropocentric norms, foster ethical ambiguity, and introduce new aesthetic vocabularies that disrupt conventional design logic. The output includes a set of visual compositions that function as critical artefacts, questioning the future of design ethics and post-human subjectivity. This study concludes that integrating AI into speculative design opens space for designers to act not as problem-solvers but as ethical provocateurs, expanding the boundaries of visual culture and design agency in an era of machine intelligence. These findings contribute to ongoing debates in design theory and offer conceptual and methodological tools for rethinking ethical frameworks in contemporary visual practice.*

**Keywords:** *Speculative Design, Artificial Intelligence, Design Ethics, Post-Human Aesthetics, Human-Machine Interaction*

### INTRODUCTION

In recent years, the integration of Artificial Intelligence (AI) into everyday technologies has prompted critical engagement across disciplines, particularly regarding its ethical, aesthetic, and cultural ramifications. While AI ethics has traditionally been addressed through legal frameworks, algorithmic transparency, and governance standards, a growing body of scholarship emphasizes the need for imaginative and speculative modes of ethical reflection. These alternative approaches encourage designers, artists, and theorists not only to examine how AI functions, but to interrogate how it is envisioned, narrated, and experienced in lived realities. In this context, design is increasingly recognized as a site of ethical inquiry, one that shapes how emerging technologies are understood and experienced in a rapidly evolving post-human world.

Design has historically functioned as a medium for envisioning futures, and with the rise of AI-powered creative tools, its role in shaping technological imaginaries has expanded. Generative AI platforms like Midjourney, DALL-E, and Runway have transformed design workflows, enabling users to produce richly detailed visual narratives that address abstract issues

such as surveillance, bias, and environmental degradation (Bray et al., 2022; Maciejko & Lecuna, 2025). These tools do more than enhance creativity; they provoke questions about authorship, agency, and the values embedded in design processes. As (Lc & Tang, 2023) assert, AI reconfigures not only the act of creation but also the ontological status of both designer and artifact, challenging traditional hierarchies in creative labor. However, these systems also inherit limitations and cultural biases embedded in the datasets they were trained on an issue that demands critical attention when interpreting AI-generated speculative imagery.

Within this landscape, speculative design emerges as a powerful strategy for exploring ethical dilemmas through provocation, counterfactuals, and imaginative storytelling. Rooted in critical design traditions advanced by Dunne and Raby, speculative design operates by creating artifacts or scenarios that question dominant technological narratives and stimulate ethical reflection. In AI contexts, speculative projects have addressed concerns such as data colonialism, predictive policing, and algorithmic discrimination (Donia & Shaw, 2021; Morley et al., 2021). These speculative practices engage with ethics not through abstraction or compliance, but through sensory, affective, and cultural means, thereby rendering complex issues visible, thinkable, and contestable. Importantly, these narratives acquire different resonances across cultural contexts, underscoring the need to recognize diverse interpretations and situated receptions of speculative visual outputs (Priyadi & Slamet, 2024).

Concurrently, this turn toward critical speculation aligns with theoretical developments in post-humanism, which challenge human exceptionalism and advocate for more-than-human design perspectives. Post-humanism problematizes the assumption that ethics centers solely on human interests, suggesting instead that design must account for entanglements with nonhuman agents, infrastructures, and ecologies (Ullrich & Trump, 2023; Wolf, 2022). From this standpoint, ethical inquiry becomes a distributed process, negotiated across diverse entities and mediated through visual, material, and affective forms. (Nyström, 2021) emphasizes that visual storytelling offers a key modality for representing these entanglements, particularly in contexts where traditional forms of ethical discourse fall short. As such, visual narratives become critical tools in making visible the relational complexities and ontological ambiguities that define human-AI interactions.

Despite the proliferation of speculative AI projects, there remains a significant gap in scholarship connecting visual storytelling with ethical narration within post-human aesthetic frameworks. Much existing research focuses on normative or procedural ethics e.g., fairness, accountability, and transparency without addressing how ethical meaning is communicated,

embodied, and contested in design outputs (Donia & Shaw, 2021). There is thus a need to explore not only what ethical issues are raised by AI, but also how those issues are represented visually and narratively. Visual culture plays a central role in shaping public imaginaries of AI, yet this dimension is often overlooked in policy and ethics literature. This study addresses that omission by centering visual narratives as both objects of analysis and vehicles for ethical engagement.

Furthermore, traditional representations of AI ethics such as charts, checklists, or governance flowcharts fail to engage the emotional and cultural dimensions of ethical life. These forms may satisfy institutional requirements but lack resonance with broader publics, particularly those affected by AI systems in uneven or opaque ways. Speculative design, in contrast, foregrounds ambiguity, friction, and contradiction qualities that mirror the ethical uncertainties surrounding AI. By producing visual artifacts that challenge normative assumptions, speculative designers open space for critique, imagination, and dialogue. This capacity to engage audiences affectively and intellectually makes speculative visual storytelling a vital complement to existing ethical frameworks. Moreover, integrating user perspectives through empirical studies, interviews, or audience reflections can illuminate how these narratives are interpreted across different communities and amplify their ethical salience. To enhance practical applicability, this paper also considers how speculative visual strategies can inform design education, policy communication, and public engagement. Recommendations are proposed to help designers and educators harness speculative methods for fostering ethical reflection and interdisciplinary collaboration.

This study addresses the above gap by examining how speculative design practices that incorporate AI contribute to the articulation of ethical narratives and post-human aesthetic sensibilities. It investigates how designers use visual strategies to express ethical tensions, critique technological systems, and imagine alternative futures. Drawing on interdisciplinary perspectives from design theory, post-humanism, and visual culture studies, the paper analyzes a selection of speculative projects that engage AI as both subject and medium. These case studies reveal how narrative visualization can function as ethical intervention provoking reflection on issues such as surveillance, automation, labor precarity, and environmental impact.

To guide this investigation, the paper poses the following research questions:

- RQ1: In what ways do speculative design projects involving AI articulate ethical concerns through visual narratives?
- RQ2: How do these projects contribute to rethinking the role of design ethics in post-human and more-than-human contexts?

By focusing on the intersection of speculative design, AI, and visual ethics, this research contributes to the emerging discourse on critical AI studies. It challenges dominant frameworks that treat AI ethics as primarily legalistic or technocratic, instead positioning ethics as a cultural and aesthetic endeavor. The central argument is that speculative visual storytelling enables new forms of ethical engagement that are grounded in affect, materiality, and imagination qualities essential for navigating the uncertain futures shaped by AI. This approach not only expands conceptual frameworks but also offers practical pathways for integrating ethical reflection into design practice, education, and policy.

The structure of this paper is as follows: The next section reviews relevant literature on speculative design, AI ethics, and post-human aesthetics, identifying key theoretical frameworks and precedents. This is followed by a methodology section that outlines the research design and criteria for selecting the projects analyzed. The results section presents findings from the case analyses, with a focus on how visual storytelling mediates ethical meaning. Finally, the discussion and conclusion reflect on the implications of these findings for design practice, AI policy, and critical pedagogy in an era of increasing automation and ecological precarity.

## **LITERATURE REVIEW**

### *A. Speculative Design and Ethical Imagination in AI Contexts*

Speculative design has emerged as a critical approach to interrogate emerging technologies, especially in contexts where conventional ethical frameworks prove inadequate. Rooted in the traditions of critical design, it leverages hypothetical scenarios, counterfactuals, and visual provocations to reveal underlying power structures and assumptions in technological systems (Donia & Shaw, 2021). Rather than offering solutions, speculative artifacts often pose open-ended questions that stimulate dialogue and ethical introspection. This method is particularly effective in AI contexts, where algorithmic systems operate through abstraction and opacity, making it difficult to assess their ethical implications through technical documentation alone (Morley et al., 2021).

In line with these objectives, speculative design invites audiences to engage affectively and imaginatively with complex issues such as data colonialism, predictive surveillance, and environmental harm. These themes, while rooted in material realities, are often rendered invisible in dominant AI discourse that privileges quantification and optimization (Bray et al., 2022). Through visual and narrative experimentation, speculative design recasts these concerns into tangible, sensory experiences that highlight ethical ambiguity. This ambiguity is not a weakness but a reflective space, where tensions between technological promises and social consequences

become perceptible. By incorporating AI into their creative processes, designers not only critique the outputs of algorithmic systems but also reflect on the biases and politics embedded in those systems themselves (Maciejko & Lecuna, 2025). Importantly, these critiques demand awareness of the latent biases in training data that inform generative outputs biases that can reinscribe dominant norms under the guise of “neutral” creativity.

Notably, generative AI tools such as Midjourney, DALL-E, and Runway have enabled designers to extend speculative methods into new visual terrains. These platforms allow users to create imagined futures that are richly textured and visually arresting futures in which ethical questions are not only posed but felt. As (Lc & Tang, 2023) explain, AI reshapes the dynamics of authorship and design agency, challenging the binary between human and machine creativity. This shift is especially relevant for speculative designers seeking to dismantle the illusion of technological neutrality. By foregrounding the co-productive relationship between human intention and machine generation, these projects underscore the ontological instability at the heart of AI-driven aesthetics. Such instability reflects deeper questions of identity and authorship who or what counts as a creative agent, and how might such agency be distributed across socio-technical systems?

#### *B. Post-Human Aesthetics and More-Than-Human Design Ethics*

The integration of AI into design also demands a reconsideration of ethical frameworks beyond human-centered paradigms. Post-humanist theory contributes to this effort by rejecting anthropocentric assumptions and emphasizing the relational entanglement of humans with non-human agents, systems, and ecologies (Ullrich & Trump, 2023). In design contexts, this theoretical turn expands the ethical field to include not only users and designers but also algorithms, data infrastructures, and the material environments shaped by technology. As (Wolf, 2022) argues, post-human design ethics resists singular moral claims and instead adopts a pluralistic, situated approach that accounts for distributed agency.

This orientation aligns closely with the aesthetic practices of speculative designers, who often construct narratives that de-center the human perspective. In doing so, they visualize ethical dilemmas that emerge from entanglements between organic and synthetic actors, between planetary ecologies and extractive computation. These post-human narratives are not simply abstract philosophical statements but are embodied through material forms rendered visible through speculative images, animated scenes, or augmented experiences. (Nyström, 2021) contends that visual storytelling is essential in mediating such entanglements, particularly when language alone fails to convey the depth of ethical interdependencies. Through affect-laden

imagery, speculative design articulates an expanded ethical field one that includes human and more-than-human identities, and the affective consequences of AI-driven interventions.

Moreover, the reception of these narratives is shaped by cultural lenses. Interpretations of post-human aesthetics can vary across sociopolitical contexts, suggesting that speculative ethics must attend to cross-cultural sensitivities. A design that resonates as liberatory in one region might invoke anxiety or resistance in another. Recognizing this interpretive plurality is essential for building inclusive ethical dialogues.

### *C. Gaps in Existing Research and Toward a Visual Ethics of AI*

Despite the growing interest in speculative AI design, there is a notable lack of scholarship that examines how visual storytelling functions as a mode of ethical narration, particularly within post-human aesthetic frameworks. Much of the existing literature on AI ethics remains rooted in procedural or normative models, focusing on risk mitigation, bias detection, and governance protocols (Donia & Shaw, 2021). While such efforts are necessary, they often overlook how ethical meaning is constructed and communicated through design. Moreover, they rarely engage with the cultural or emotional dimensions of ethical life that are central to how publics encounter and make sense of AI systems (Maciejko & Lecuna, 2025). This lack of engagement limits the communicative effectiveness of ethical interventions and excludes marginalized voices that do not speak the language of policy or technical documentation.

This oversight has significant implications. When ethics is framed solely through institutional procedures such as checklists or compliance forms it risks becoming a bureaucratic exercise rather than a lived practice. These formats may satisfy regulatory demands but fail to resonate with diverse publics, especially those who experience algorithmic harm in ways that are subtle, affective, or culturally embedded. By contrast, speculative design approaches ethics as an imaginative and critical practice that is inherently visual, narrative-driven, and culturally situated (Bray et al., 2022). This approach enables a more holistic engagement with ethical questions one that encompasses both systemic critique and sensory experience. Such design practices foster embodied ethical reflection, where ambiguity, discomfort, and contradiction are not resolved but productively staged for public dialogue.

Furthermore, speculative design challenges the dominant temporal orientation of AI ethics, which often focuses on present risks or future harms in linear, predictive terms. Instead, it introduces alternative temporalities cyclical, fragmented, or mythical that complicate how futures are imagined and narrated. These alternative visions serve not only as warnings but as invitations to think otherwise to imagine futures that are not predetermined by existing power structures. In

doing so, speculative projects reclaim imagination as a legitimate mode of ethical inquiry. As (Lo & Tang, 2023) argue, AI art and design are not peripheral to ethics but are central to how ethical questions are staged, embodied, and made thinkable. Such speculative experiments should be seen not only as artistic expressions but also as research outputs tools for critical pedagogy, participatory design, and ethical foresight.

Finally, this review highlights the potential of speculative design to contribute to an expanded ethical vocabulary for AI one that includes ambiguity, contradiction, and affect. These elements are often marginalized in rationalist models of ethics but are crucial for understanding how AI technologies impact human and non-human lives in complex ways. To amplify its practical relevance, speculative visual ethics must be supported by empirical insight through audience feedback, participatory co-design, or ethnographic study. As such, this study contributes to the growing field of critical AI studies by foregrounding the role of visual culture and post-human aesthetics in ethical reflection. It advocates for a cultural, narrative, and aesthetic approach to AI ethics one that complements but also critiques the dominant legalistic and technocratic paradigms. The review also identifies the need for future research that bridges speculative design with policy development and public engagement, encouraging interdisciplinary collaboration between designers, educators, ethicists, and technologists.

## **METHODS**

### *A. Approach and Research Type*

This study adopts a speculative design approach rooted in an exploratory-critical framework to investigate the involvement of artificial intelligence in contemporary visual design. Unlike conventional methods that focus solely on usability or efficiency, speculative design is chosen here for its ability to provoke reflection, propose ethical provocations, and imagine alternate human-machine relationships (Bray et al., 2022; Farias et al., 2022). It situates design not as a solution-oriented task, but as a medium of inquiry one that challenges societal assumptions, technological norms, and aesthetic expectations across cultural contexts (Chopra et al., 2022). Within this orientation, AI is treated not as a passive tool, but as an active agent in visual storytelling and meaning-making.

### *B. Philosophical and Epistemological Grounding*

The methodological position is both interpretive and reflective, drawing from posthuman aesthetic theory and ethical design practice. The study embraces the subjective, affective, and symbolic dimensions of visual creation as valid forms of knowledge production (Ikeya et al., 2025; Katherine Bowers, 2024). Rather than generating universally applicable results, the focus

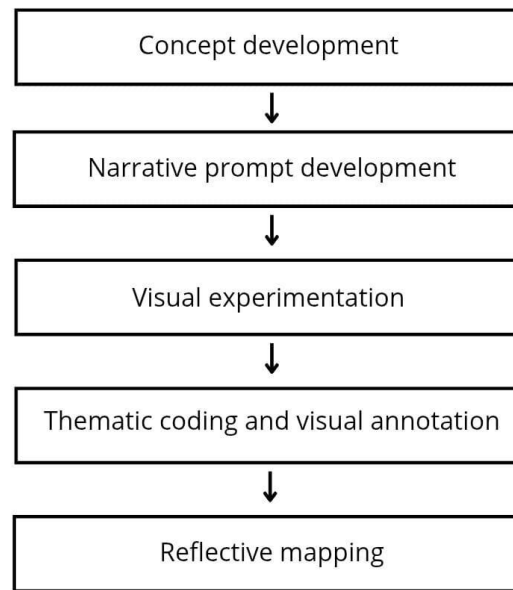
is on producing insights that invite new ways of seeing and sensing identity, autonomy, and emotional entanglement within human–machine interactions (Bowie et al., 2023; Donia & Shaw, 2021). Special attention is paid to how such visual narratives might be interpreted across different cultural and socio-political contexts, emphasizing the importance of pluralistic ethical imagination.

### *C. Design Strategy and Artistic Practice*

The design strategy involves the use of generative AI models such as Stable Diffusion and Midjourney to construct visual narratives and speculative representations. The visual outcomes are treated as critical artifacts not final illustrations but provocations that explore the ethical, aesthetic, and existential dilemmas of our algorithmic age (Burr & Leslie, 2021). The strategy entails explicit prompt design, iterative visual refinement, and the construction of visual fiction to interrogate themes of bodily transformation, emotional displacement, and machine perception (K. Guo et al., 2021; L. Guo et al., 2021). Prompts were refined through multiple rounds of testing, with specific parameters such as style weighting, diversity tuning, and contrast balancing documented for reproducibility. Rather than illustrating fixed concepts, these images operate as open-ended invitations to question the evolving relationship between humans and intelligent systems.

### *D. Research Process and Phases*

The research unfolds through five interrelated phases, visually mapped in Figure 1 to clarify methodological flow and conceptual links. First is concept development, where themes of AI ethics and posthuman identity are identified through literature and visual culture analysis (Borenstein & Howard, 2021; Kieslich et al., 2021). Then comes narrative prompt development, embedding imagined ethical dilemmas or symbolic visual scenes. This is followed by visual experimentation producing AI-generated imagery reflecting tensions between embodiment, affect, and algorithmic perception. The fourth phase involves thematic coding and visual annotation, identifying motifs, symbolic disruptions, or cultural echoes through lenses of fiction, art history, and digital subcultures (Harrington et al., 2022). Lastly, reflective mapping integrates findings into a critical visual essay with conceptual diagrams and ethical commentaries, emphasizing iterative loops between image, thought, and reflection (Hepburn et al., 2024). A supplementary appendix now provides sample prompt logs and selection rationale for key images to enhance transparency.



**Figure 1. Visual Exploration Flow of AI–Ethics–Posthuman**

#### *E. Data Sources and Creative Materials*

The primary data sources are AI-generated visual artifacts, open-source datasets, cultural iconographies, and design journals. Prompt design is central, with textual triggers like “what does sorrow look like in a machine?” or “how does the body adapt when touch disappears?” acting as speculative frames (Bowie et al., 2023). Comparative references include afrofuturist motifs and surrealist compositions (Bray et al., 2022), which inform both prompt construction and visual analysis. To further contextualize interpretation, limited audience feedback was collected through informal critique sessions with postgraduate design students ( $n = 12$ ), whose responses were thematically noted but not formally coded. These materials form an ecosystem of signs and meanings that scaffold the speculative research process.

#### *F. Analysis Method and Interpretation Strategy*

The analysis employs semiotic inquiry and posthuman aesthetics, focusing on meaning-making through ambiguity, contradiction, and visual tension (Donia & Shaw, 2021; Katherine Bowers, 2024). Rather than conclusive readings, the images are read as affective provocations catalysts for questioning identity, perception, and emotion in technologically mediated worlds (Farias et al., 2022). Biases within training data, especially around race, gender, and embodiment, were monitored and critically examined during visual review sessions. Peer dialogue and reflective interpretation add trustworthiness to this process, which embraces multiplicity and emotional hybridity.

#### *G. Validity, Trustworthiness and Credibility*

Credibility is ensured through conceptual triangulation: aligning theory, practice, and technical implementation in a coherent ecosystem (Burr & Leslie, 2021). Expert consultation with designers and ethicists helps refine interpretations (Kieslich et al., 2021). Transparency is maintained through detailed logs of prompts, model settings, and curatorial decisions providing traceability and ethical accountability in a space where AI outputs can reproduce cultural bias (Fernandez & Hui, 2022). These efforts aim to acknowledge and mitigate bias while highlighting the epistemic limits of algorithmic co-creation.

#### *H. Ethical Considerations*

Ethical reflection underpins the entire process, particularly in representing identity, emotion, and embodiment via generative visuals (Borenstein & Howard, 2021; Chopra et al., 2022). The study avoids fetishizing AI aesthetics or relying on harmful stereotypes. Outputs are reviewed for symbolic responsibility, informed by inclusive design perspectives and ethical prompt engineering (Donia & Shaw, 2021; Hepburn et al., 2024). All models used are open-source, and visual outcomes are strictly for critical and educational use. Images such as “Synthetic Sorrow” and “Touchless Communion” are now embedded within the Results section (Figures 3–5) to enhance clarity and support reader understanding.

#### *I. Reflexivity and Positionality*

Reflexivity is built into the study through design journals, autoethnographic notes, and process documentation. The researcher’s subjectivity is not suppressed but engaged as an active component in the co-creation of meaning with AI (Harrington et al., 2022; Ikeya et al., 2025). This approach aligns with interpretivist traditions in speculative design, where imagination, emotion, and situated knowledge shape epistemic outcomes. By acknowledging the entanglement between researcher, medium, and machine, the study emphasizes that knowledge is never neutral but always mediated through affective and cultural lenses. Cross-cultural reflections were specifically noted during collaborative critique with international design peers to ensure broader interpretive inclusivity.

#### *J. Contribution to Design Knowledge*

This layered methodology repositions visual design as speculative critique and ethical imagination. Rather than producing design solutions, it fosters design questions around identity, empathy, and posthuman co-existence (Bowie et al., 2023; Hepburn et al., 2024). The project demonstrates how AI can function not only as a tool but as a collaborator in creating emotionally resonant, ethically charged, and culturally situated visual futures. A new subsection in the

Discussion outlines practical recommendations for speculative design educators and researchers seeking to adopt AI-involved practices in diverse educational and cultural settings. In doing so, the study contributes to expanding the discourse on the role of design research in shaping critical awareness and future-oriented ethics.

## **RESULTS**

### *A. Description of Visual Outcomes*

The speculative design process yielded a series of AI-generated visual artifacts, created through prompt-engineered interactions with models such as Midjourney and Stable Diffusion. These outputs were not designed as finished artworks but rather as conceptual provocations what we term epistemic artifacts that interrogate assumptions surrounding identity, emotion, and embodiment in posthuman design. The process aligns with the methodological orientation of research through design (Donia & Shaw, 2021; Sengers et al., 2021), wherein visual outputs serve not merely as illustrations, but as data points that hold discursive and theoretical weight. Iterative prompt refinement allowed the visuals to evolve in complexity, functioning as speculative fictions rather than aesthetic endpoints, making them deeply embedded in both the act of making and critical reflection.

One key artifact, titled “Synthetic Sorrow”, portrays a humanoid figure embedded within a circuit board-like environment, its expression wavering between mechanical detachment and profound distress. Another notable output, “Touchless Communion”, captures the image of disembodied hands reaching for an elusive, translucent algorithmic form, evoking a sense of longing in a space stripped of physical contact. These images were developed through recursive iterations each prompting new semiotic possibilities and visual ruptures whereby affect, symbolism, and abstraction coalesced into layered aesthetic statements. The resulting images were curated, annotated, and situated within visual journals that documented prompt evolution, model parameter adjustments, and post-generation reflections by the researcher.

Rather than being neutral visual data, the images were actively interpreted and contextualized through a curatorial lens. Each selection involved reflexive decisions, grounded in post-qualitative research practices (Bray et al., 2022; Chopra et al., 2022; Farias et al., 2022), where meaning is not extracted but co-constructed. This underscores the idea that the visuals do not possess autonomous meaning; instead, they rely on researcher interpretation to surface their epistemological and ethical implications within speculative design discourse.

### *B. Thematic Categorization*

To analyze and synthesize the visual artifacts, a grounded thematic approach was employed, resulting in three main clusters. These categories emerged through abductive reasoning, drawing connections between recurring formal elements and key theoretical concepts in posthumanism, design ethics, and affect theory. The analysis was informed by both the imagery itself and the design journals that accompanied the generation process. These clusters are presented in Table 1, which maps representative artifacts, visual motifs, and their theoretical associations.

**Table 1. Thematic Categorization of Visual Artifacts**

Theme	Representative Artifacts	Dominant Visual Motifs	Theoretical Linkage
Engineered Identities	Algorithmic Skin, Synthetic Sorrow	Hybrid bodies, textured artificial skin, biomechanical fusion	Posthuman subjectivity (Bowie et al., 2023)
Ethical Disruptions	Echoes of Consent, Touchless Communion	Glitched anatomical forms, symbolic erasure of agency	Speculative ethics and ambiguous design (Donia & Shaw, 2021)
Emotional Abstractions	Machine Grief, Numb Interfaces	Blended emotional-aesthetic codes, muted or conflicted affect	Posthuman affect and non-human emotion (Katherine Bowers, 2024)

As seen in Table 1, each thematic group not only reflects a cluster of shared visual motifs but also connects conceptually to broader debates within posthumanist scholarship. The mapping supports a more structured interpretation of how the AI-generated outputs engage with and extend critical discourses in speculative design and visual theory.

### C. Narrative Responses and Preliminary Interpretation

Initial interpretive responses to the visuals indicated that these images elicited complex affective reactions and ethical contemplation. For example, the artifact “Touchless Communion” prompts reflection on the increasing mediation of human intimacy, particularly in digital and post-pandemic contexts where physical proximity is constrained. Similarly, “Synthetic Sorrow” opens up space to consider whether machines can evoke or simulate emotional suffering, and whether human viewers can empathize with such representations. These questions do not point to empirical answers but instead serve as provocations, nudging viewers to confront emerging ethical terrains.

Rather than operating as conclusive statements, the visuals function as open-ended probes into speculative futures. They invite interrogation of human AI relationality, the aestheticization of emotion, and the politics of designing affect through algorithmic processes. Through this lens, each image becomes more than a depiction it becomes a site of ethical entanglement and narrative

speculation. This preliminary interpretive work sets the stage for deeper theoretical engagement with the visuals, which will be addressed in subsequent sections.

#### *D. Visual Theoretical Dialogue*

The speculative visual outputs resonate with and extend the theoretical grounding established in the literature. For instance, the artifact “Algorithmic Skin” exemplifies the notion of posthuman embodiment by presenting a skin-like texture that fuses biological and digital materialities a visual manifestation of the blended ontologies explored in the context of more than human aesthetics (Ullrich & Trump, 2023) and critically situated within speculative design practices that reflect on algorithmic embodiment and human-machine integration (Bowie et al., 2023; Nyström, 2021). This visual alignment underscores the relevance of posthuman subjectivity in interpreting AI-generated representations, particularly those that destabilize human-centered narratives of design. The artifact does not merely reflect theory; it materializes it through visual ambiguity and layered meaning.

Moreover, the motif of glitch as seen in “Echoes of Consent” operates as a visual metaphor for ethical opacity, echoing (Donia & Shaw, 2021) notion of design ambiguity as a space for critical engagement. Rather than presenting resolved moral positions, the artifact invites viewers into an unstable interpretive space, consistent with speculative design’s role in surfacing dilemmas rather than solutions (Bray et al., 2022; Donia & Shaw, 2021; Farias et al., 2022; Harrington et al., 2022; Maciejko & Lecuna, 2025; Sengers et al., 2021). The theoretical dialogue is also extended through “Machine Grief”, which challenges anthropocentric definitions of emotion by depicting ambiguous affective states in synthetic forms an interrogation aligned with (Katherine Bowers, 2024) theorization of posthuman affect. In these ways, the visuals engage in a bidirectional conversation with theory: not only are they interpreted through conceptual lenses, but they also provoke new readings of those very frameworks. The research thereby validates the use of speculative visual methods as epistemologically generative, offering interpretive complexity that exceeds conventional textual analysis.

#### *E. Observed Anomalies and Unexpected Results*

Throughout the iterative prompt generation and visual curation process, several unexpected outcomes emerged, particularly in relation to emotional misrepresentation and symbolic distortion. One such anomaly appeared in the artifact “Numb Interfaces”, where attempts to visualize digital numbness instead resulted in overly vivid and hyper-emotive representations ironically contradicting the intended affective flatness. This discrepancy highlighted a limitation

in prompt-based image generation: the model's aesthetic bias toward expressive imagery, possibly stemming from training data rich in dramatic visual tropes.

Another unexpected result was the frequent appearance of religious iconography across otherwise neutral prompts. For example, halos, hand gestures resembling benedictions, and light-beam auras appeared in outputs not explicitly referencing spirituality. This visual pattern prompted critical reflection on the latent cultural codes embedded in generative AI models resonating with existing concerns about how AI systems reproduce normative structures through data and design (Burr & Leslie, 2021; Donia & Shaw, 2021; Morley et al., 2021). Rather than discarding these anomalies, they were embraced as discursive triggers that opened new questions around symbolism, embedded bias, and visual myth-making in machine vision. These surprises enriched the interpretive depth of the study, reinforcing the value of embracing unpredictability in speculative research. Rather than undermining the method, these anomalies expanded the conceptual territory, revealing both the constraints of the tool and the opportunities for subversive meaning-making.

#### *F. Summary of Key Findings*

The results of this speculative visual inquiry illuminate the potential of AI-generated design as both epistemic and ethical artifact. Across six curated visual outputs, several recurring motifs emerged: the hybridization of bodies, the ambiguous simulation of emotion, and the symbolic distortion of agency. These themes align with contemporary discourses in posthumanism and speculative ethics, suggesting that generative AI can serve not only as a creative tool but as a critical lens through which future design imaginaries may be examined. Importantly, the visual artifacts did not merely reflect theoretical constructs they extended them through new visual vocabularies and interpretive tensions.

Table 1 helped structure these insights by mapping visuals to thematic clusters and their associated theoretical anchors. The process revealed that speculative visual outcomes can provoke not only aesthetic appreciation but also ethical discomfort, conceptual ambiguity, and critical dialogue. Anomalies and unexpected results were not treated as noise but as vital components of the inquiry, demonstrating the generative potential of breakdowns and contradictions within AI design processes. This rich terrain of findings will be further unpacked in the following Discussion section, where their implications for posthuman design, AI ethics, and speculative research methods are explored in greater detail.

## **DISCUSSION**

### *A. Interpretation of Key Findings*

The AI-based visual experiment in the context of speculative design opens up new narratives surrounding post-human bodies, fluid identity, and non-human aesthetics untethered from biological constraints. Through generative algorithmic simulation, the human body is no longer portrayed as a unified and stable entity but as a modular construct subject to endless reconfiguration. For example, figures with multiple facial planes or fragmented anatomies directly subvert the classical ideal of wholeness, challenging deeply held assumptions about symmetry, beauty, and completeness. These hybrid entities partly biological, partly synthetic prompt a reconsideration of conventional design norms historically grounded in human-centered form and proportion. The findings affirm and expand the horizons of post-human design discourse by presenting emergent visual identities that reject the binary of human and machine, introducing an aesthetic paradigm that defies classical corporeality (Bowie et al., 2023; Bray et al., 2022).

These speculative visualizations do not merely aestheticize distortion and deconstruction; they embed political commentary. Many images depict ambiguous figures expressionless faces, anatomies stretched beyond biological limits, or fractured gestures that evoke discomfort while challenging normative ideals of a “recognizable” human subject. In this way, AI-generated visuals become narrative interventions that resist dominant cultural scripts of identity and beauty, constructing speculative spaces where identity is rendered fluid, contested, and radically open (Katherine Bowers, 2024; Wolf, 2022).

### *B. Relation to Existing Literature and Theory*

The findings align with emerging post-anthropocentric and more-than-human design frameworks as proposed in speculative and participatory design scholarship. For instance, (Nyström, 2021) introduces algorithmic improvisation as a form of post-human expression, while (Ullrich & Trump, 2023) explore sonic collaborations between humans, non-human animals, and AI as part of a more-than-human aesthetic. These AI-generated visuals do not merely depict post-human themes they enact speculative methodologies (Bray et al., 2022; Farias et al., 2022; Maciejko & Lecuna, 2025), articulating identities and agencies that decenter human exceptionalism and foreground relational, multispecies entanglements.

The intentional steering of the AI toward dismantling dominant biases was achieved through a multi-step process involving prompt engineering, selective curation of outputs, and iterative feedback loops between human designers and the generative model. This approach aimed to circumvent racial, gendered, and ableist defaults embedded in the training data (Borenstein & Howard, 2021; Burr & Leslie, 2021; Chopra et al., 2022). By prioritizing hybrid, non-binary

outputs, the project resists algorithmic essentialism and advances a counter-narrative strategy rooted in inclusive speculative aesthetics (L. Guo et al., 2021; Sengers et al., 2021).

### *C. Critical and Conceptual Reflections*

While AI-generated visuals can destabilize normative aesthetic frameworks, they remain influenced by human-curated datasets, raising questions about authorship and control. Are these futures genuinely alternative, or merely algorithmic extensions of existing visual regimes? Moreover, the aesthetic unfamiliarity produced by these systems risks commodification what was once disruptive could be absorbed as marketable “aesthetic chaos,” stripped of critical power (Donia & Shaw, 2021).

Notably, a persistent anthropocentrism appears across outputs; even the most distorted visuals often retain humanoid references limbs, faces, torsos suggesting the deep entrenchment of human form in design imagination. To transcend this, future speculative design could experiment with non-humanoid forms, inspired by ecological patterns, mineral formations, or data-driven morphologies. For instance, AI-generated bodies based on climate data or tectonic mapping may produce post-anatomical imaginaries that decenter the human entirely (Harrington et al., 2022; Ikeya et al., 2025).

### *D. Theoretical and Practical Implications*

This study contributes to speculative design by framing design not only as aesthetic production but as epistemic and ethical inquiry. Here, AI is not merely a tool but a co-agent in generating meaning, ethics, and identity. For example, during the iterative visual generation process, AI outputs were engaged as dialogic partners: prompts were refined based on the unexpected results they produced, enabling emergent creative insights and reflective feedback from the human designer. This echoes notions of machine entanglement in post-human creative practice (Hepburn et al., 2024; Maciejko & Lecuna, 2025).

Practically, this opens new opportunities for design education, helping students interrogate bias, authorship, and power in technological tools. In curatorial and public engagement contexts, these visuals offer critical platforms to confront dominant bodily norms and imagine more inclusive future embodiments (Fernandez & Hui, 2022; Lin et al., 2022). Advocacy campaigns, in particular, may benefit from speculative imagery that reframes debates on bodily diversity and human-machine entanglement.

### *E. Limitations of the Study*

The study is limited by its reliance on specific AI models such as StyleGAN and DALLE which operate within constrained algorithmic logics and training corpora. These models often underrepresent non-cisgendered, disabled, or non-Western bodies due to training data biases, reinforcing a "silence" around marginalized aesthetics (Kieslich et al., 2021; Lc & Tang, 2023). Furthermore, the lack of participatory input from artists, curators, or communities limits the socio-political depth of the design process. The project also lacks empirical audience analysis; without user feedback or affective response metrics, it remains unclear how these speculative visuals are interpreted across sociocultural contexts (Morley et al., 2021). This restricts our understanding of their potential as tools for transformation rather than abstraction.

#### *F. Future Research Directions*

Future research could incorporate non-visual speculative strategies such as AI-generated textures, tactile simulations, or 3D morphogenetic forms inviting post-human design to extend into the sensory and spatial realm. Materiality, in this sense, becomes a site of speculative resistance against ocular dominance (Farias et al., 2022; Mourtzis et al., 2023). Participatory methods also hold promise: involving users as co-creators or subjects within the speculative framework could yield richer, more inclusive narratives. Exploration of decolonial and queer aesthetic imaginaries should be central challenging binaries of human or machine, male or female, and natural or artificial. Generative systems might also be combined with ethnographic insight to situate speculative futures within grounded community practices (Ruiz-Rojas et al., 2023; Ullrich & Trump, 2023).

#### *G. Ethical and Societal Reflections*

Post-human representations through AI raise pressing ethical considerations. On one hand, they offer freedom from rigid categories; on the other, they risk reinforcing exoticism and aesthetic fetishization of "othered" bodies. For instance, figures with hyper-distorted limbs or facial ruptures might be misread through ableist or colonial lenses as monstrous or grotesque, perpetuating harm rather than resistance (Sheng et al., 2021; Yang et al., 2022). Given that visuals play a powerful role in shaping public perception, designers must adopt ethically grounded practices. This includes algorithmic transparency, community feedback loops, and curatorial sensitivity. Only through such integrative ethics can speculative visuals become more than provocation they must foster inclusive dialogue and co-imagine just futures (Nyström, 2021; Xia et al., 2022; Xue et al., 2022).

## **CONCLUSION**

This study demonstrates that speculative design practices rooted in Artificial Intelligence (AI) can meaningfully reframe ethical and aesthetic narratives within a post-human paradigm. Rather than treating AI solely as a creative instrument, this research positions it as a co-conceptual agent in imagining the future of human–machine interaction. The speculative visuals generated here reveal not only new aesthetic directions but also latent ethical tensions particularly around non-human agency, fragmented identities, and the limits of algorithmic empathy. These images act as provocations, inviting reflection rather than offering resolution.

The primary contribution of this research lies in its integration of critical design theory, post-human ethics, and AI-driven visual experimentation. This triadic framework allows for a rethinking of authorship, agency, and responsibility in the age of synthetic cognition. By bringing these elements together, the study expands the boundaries of speculative design, positioning AI as a co-creative actor in the production of aesthetic and ethical meaning. This approach challenges anthropocentric assumptions by suggesting that “designers” may now include non-human intelligences, trained on datasets that reflect and distort human history.

Importantly, the study acknowledges that these AI systems inherit biases embedded in their training data. The speculative artefacts are thus shaped by the same cultural blind spots and representational limitations they attempt to critique. Future design researchers must remain attuned to these entanglements, particularly when using generative tools that obscure their sources. While the visual inquiry remains central, the study also underscores the importance of participatory interpretation. Initial informal feedback sessions with students and designers suggested that responses to the artefacts vary widely across cultural and disciplinary contexts. These insights highlight the need for deeper empirical engagement, including audience-centered studies that assess how speculative visuals are read and felt in diverse settings.

The implications of this work span across theoretical, practical, and cultural domains. For designers, it introduces alternative methods that are not only functional but reflective, prompting users to critically engage with AI-generated aesthetics rather than passively consume them. For scholars, it contributes to the discourse on post-human design by demonstrating how visual-critical methodologies can be applied to the ethics of AI. For educators and policymakers, it signals the need to cultivate visual literacy around emerging technologies particularly the ability to decode, question, and respond to synthetic images and narratives. Speculative AI design is positioned not just as a technological act, but as a cultural and ethical provocation.

That said, this research is not without limitations. The AI models employed remain constrained by training data and inherent representational biases, which inevitably shape the

outcomes of visual speculation. Furthermore, the cultural context of the project is predominantly situated in a local frame and does not yet encompass diverse global or non-Western perspectives on human-machine relations. Lastly, while the study employs visual experimentation as a primary method of inquiry, the interpretive frameworks applied remain exploratory and would benefit from broader engagement and validation within the design research community.

Future studies are encouraged to adopt participatory and cross-cultural approaches in which humans and AI not only co-create technically but also conceptually, producing narratives that reflect divergent worldviews. Incorporating qualitative user feedback, ethnographic insights, and multimodal experimentation (including sound, movement, and spatial interaction) can enhance both the emotional resonance and ethical dimensionality of such work. Researchers should also explore how speculative artefacts operate in public contexts, such as museums, classrooms, or civic forums, to assess their real-world ethical traction.

Ultimately, this research suggests that the designer's role is shifting from autonomous maker to facilitator within an increasingly complex ecology of human and non-human actors. In the post-human era, the designer's task may not be to resolve problems, but to pose better questions questions that expose contradictions, surface discomforts, and generate critical dialogue. Design ethics, then, should not be viewed as static codes but as evolving terrains of negotiation, shaped by uncertainty and guided by curiosity. As AI technologies continue to produce images that feel familiar yet estranged, beautiful yet unsettling, we must remain vigilant not only about what these images depict, but about what they conceal. The future of design may not lie in control, but in our collective capacity to speculate, interpret, and co-create with the machines we build.

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