RECLASSIFYING GENERATIVE ARTIFICIAL INTELLIGENCE (GAI) AS A *CO-PILOT* IN THE CREATIVE PROCESS: A FOCUS ON VISUAL DESIGN

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Abstract
This paper investigates the evolving relationship between Generative Artificial Intelligence (GAI) and human creative acumen in the field of graphic design. As AI models like Midjourney and DALL-E 3 proliferate, OREATE, etc concerns regarding the obsolescence of the professional graphic artist have intensified. However, this study argues that AI should be reclassified as a sophisticated co-pilot rather than a replacement for human agency. Drawing on historical parallels—such as the introduction of photography and desktop publishing—the research asserts that technological shifts traditionally automate labour while elevating the artist's role toward strategic conceptualisation. The core argument rests on the Intent Gap, positing that while AI can simulate high-fidelity visual outputs through probabilistic algorithms, it lacks the teleological purpose, cultural empathy, and aesthetic judgment inherent to human designers. Using a qualitative analytical framework, the paper explores the Human-in-the-Loop (HITL) model, where the artist functions as a critical curator and strategist. The study concludes that the value of the modern designer has transitioned from technical execution to high-level art direction. Ultimately, the paper provides pedagogical recommendations for design educators, emphasising that the integration of AI tools amplifies creative strategy and reinforces the indispensability of human intellectual authority in visual communication.
Keywords: Generative Artificial Intelligence, Co-pilot paradigm, Human-in-the-loop, Creative acumen, Augmented agency, visual designer

Introduction

The emergence of Artificial Intelligence has initiated a paradigm shift in the creative industries, moving beyond mere data processing to the synthesis of complex visual systems. In the context of visual design, GAI is often misunderstood as an autonomous creator; however, when scrutinised through a scholarly lens, it functions primarily as a sophisticated mathematical engine that mirrors human patterns without possessing innate consciousness. By integrating GAI into the workflow, designers are not being replaced but are instead transitioning into a new era of augmented production where the machine serves as a high-velocity extension of the artist's initial concept (Boden, 2016).

Central to this transition is the concept of Creative Acumen, the specialized intellectual ability of the designer to interpret, strategize, and solve communication problems. While AI can generate high-fidelity textures and compositions, it lacks the teleological *why* that drives a brand or a narrative. Acumen involves the human capacity for cultural empathy and the understanding of socio-political nuances—elements that an algorithm, which operates on probability rather than lived experience, cannot simulate. Therefore, the artist's role is

elevated from manual technician to a strategist who directs the tool toward a meaningful end (Hertzmann, 2018).

The Co-pilot metaphor best describes the functional identity of GAI in the studio. Unlike an autopilot system that functions independently, a co-pilot requires a human pilot-in-command to set the destination, pass through *turbulence*, and make critical ethical and aesthetic decisions. This relationship creates a Human-in-the-Loop (HITL) framework, where the designer utilises the AI for rapid prototyping and ideation, but retains total authority over the final output. This partnership allows the designer to explore a vast latent space of possibilities that would be physically impossible to sketch manually in the same timeframe (Bernstein, 2023).

As the field evolves, Visual Design is being redefined as a curatorial discipline. The traditional struggle of the blank canvas is replaced by the challenge of selection and refinement. The designer now acts as an editor-in-chief of AI-generated content, applying professional judgment to ensure that the output meets the technical standards of typography, composition, and brand consistency. This scrutiny ensures that the work transcends the generic AI look and maintains a unique, human-centric identity that resonates with a specific audience (Lupton, 2021).

Research Problem

Despite these advancements, a significant research problem persists: there is an escalating tension between the rapid adoption of GAI tools and the preservation of original artistic agency. Many practitioners fear that over-reliance on automation will lead to a homogenization of visual culture and a decline in fundamental design thinking. This study, therefore, seeks to address this gap by investigating how designers can maintain intellectual authority while using AI.

Purpose of the Study

The purpose of this research is to reclassify Generative AI as a subordinate co-pilot, demonstrating through practical exploration that human creative acumen remains the indispensable anchor of the visual design process.

Literature Review

This literature review examines the trajectory of Artificial Intelligence (AI) from its logical foundations to the modern era of Generative AI (GAI), culminating in the scholarly debate regarding human displacement versus augmentation.

The Ontological Origins of Artificial Intelligence

The formal history of Artificial Intelligence is anchored in the mid-20th century, transitioning from philosophical inquiry to computational science. Alan Turing (1950) provided the seminal framework for this field in his paper Computing Machinery and Intelligence, where he famously bypassed the metaphysical question of whether machines *think a*nd instead proposed the Imitation Game (the Turing Test). Turing argued that if a digital computer could act indistinguishably from a human in a linguistic exchange, it possessed a form of functional intelligence. This logic was solidified at the 1956 Dartmouth Conference, where John McCarthy and others officially coined the term Artificial Intelligence, establishing it as a field

dedicated to simulating human cognitive processes through symbolic logic and, later, statistical learning (NIH, 2024).

The Evolution and Emergence of Generative AI (GAI)

While traditional AI focused on discriminative tasks—such as classification and pattern recognition—Generative AI (GAI) represents a shift toward the creation of novel content. The roots of GAI can be traced back to early experiments like Joseph Weizenbaum's ELIZA in the 1960s, but the modern explosion of the field was triggered by the introduction of Generative Adversarial Networks (GANs) by Ian Goodfellow in 2014. GANs utilised two competing neural networks to produce realistic imagery, a technique that was later surpassed by the Transformer architecture introduced by Google researchers in 2017. As noted in the International Journal for Multidisciplinary Research:

> "The advent of GANS allowed AI to produce text on human speech patterns… but a major revolution happened from January 2023 onwards with the scaling of Large Language Models (LLMs) like ChatGPT, which can handle complicated questions and handle multi-modal tasks"(Menon, 2024). This evolution marks the transition of AI from a passive tool to an active agent capable of synthesising text, code, and visual art.

The Displacement vs. Augmentation Debate

The current scholarly discourse is sharply divided on whether AI serves as a replacement for human labour or a collaborative *co-pilot*. Proponents of the replacement theory argue that as AI gains proficiency in perception and routine cognitive tasks, it inevitably displaces skilled knowledge workers, particularly in sectors where operating costs can be lowered through automation (AEA, 2025). Conversely, many researchers support the augmentation model, suggesting that AI lacks the teleological purpose and cultural empathy necessary for high-stakes decision-making. Bernstein (2023) posits that while AI can explore the *latent space* of possibilities, it requires a Human-in-the-Loop (HITL) to provide the strategic intent. This *Co-Pilot* paradigm asserts that optimal performance emerges not from automation alone, but from a synergistic combination of computational power and human intuition, ensuring that technology enhances rather than diminishes the meaningfulness of human work (Menon, 2024; Frontiers, 2025).

Theoretical Framework

This study adopts the Theory of Distributed Cognition (dCog. Edwin Hutchins (1995) was the proponent of this theory, and it was further developed for digital tools by James Hollan, Edwin Hutchins, and David Kirsh (2000). Distributed Cognition suggests that "thinking" does not happen only inside the human brain. Instead, intelligence is distributed across the person, their tools, and their environment. In this view, a designer plus a computer is a single cognitive system that is more capable than the human alone.

This theory supports a concept of Augmented Agency. It allows you to argue that the GAI tool isn't thinking for you; rather, it is a cognitive extension that handles the high-velocity synthesis (searching the latent space), while your brain handles the high-level strategy and historical accuracy. This justifies why a non-draughter can still be a master designer: their intelligence is distributed through the co-pilot.

Method

The methodology of this research adopts a qualitative, studio-based experimental design, rooted in the Practice as Research (PaR) framework. This approach allows the researcher, as a practitioner-scholar, to investigate the symbiotic relationship between human intentionality and algorithmic output within a live creative environment. By documenting the iterative stages of design production, the study seeks to observe how the artist's creative acumen serves as the primary *pilot*, while Generative AI (GAI) is relegated to a subordinate, *co-pilot* role. This method prioritises the Human-in-the-Loop (HITL) model, ensuring that the creative process is not automated into a "black box" but is instead scrutinised through the lens of aesthetic and strategic judgment (Bernstein, 2023).

Here, it is important to display a human-AI work mode that worked for the researcher when creative prompting was applied to achieve a result with OREATE AI. It is an all-in-one AI Workspace for professionals, students, and researchers. With just one click, it creates slides, research reports, and academic essays with professional layout, accurate sources, and stunning charts. From business proposals to academic research, marketing plans to travel guides, Oreate handles it all. Oreate completes tasks in 3 minutes that would take 3 days, and lets you make slides and reports like a million-dollar expert (producthunt.com, 2025). A sample of illustrative Art generated by AI but properly guided by the human brain will be displayed under the process:

SAMPLE 1, Stage 1: Idea through prompting:

Client instruction:

Draw Peter and Paul being led out of the prison by a Roman soldier

Prompt 1:

"An illustrative art of line art (Black) and flat colours with single shaded strokes, of A roman L egionnare, in Roman Empire, holding a spear, hoisting a dagger, holding a shield on the other hand, and leading Paul and Silas out of the prison. Paul wars tattered light green gown, rough curly hair, full grown beards. Silas wears a tattered dark brown gown, with fully grown moust ache and beards. Paul and Silas will look disturbed but the Soldier will look serious. The priso n will look dark and a bit gloomy in the evening"

GAI Outcome:

Plate 1: GAI image according to the user's instructions. Source: Onwuekwe, 2025

Observation: It is unrealistic for two prisoners to walk behind an armed guard without the temptation of attacking him from the rear

Corrective Additional Prompt: **Paul and Silas' hands will be tied with ropes, and the Roman Soldier will be behind them**

Result:

Plate 1: GAI image also modified according to the user's instructions.
Source: Chidi Onwuekwe, 2025

This stage transitions into Algorithmic Exploration, where GAI tools such as OREATE AI are deployed as high-speed ideation engines. During this phase, the researcher utilises prompt engineering on the software, generating a vast array of visual iterations. A sample among many is used in plates 1 and 2, representing the Co-Pilot phenomenon at work, automating the labour-intensive process of mood-boarding and thumbnailing.

However, the methodology subjects this output to Curatorial Scrutiny, where the researcher identifies the technical and conceptual failures of the machine, such as anatomical inaccuracies or the absence of visual hierarchy, thereby justifying the necessity of human intervention (Lupton, 2021). The final phase involves Technical Synthesis and Manual Refinement, where the AI assets are imported into professional graphic software like Adobe Photoshop, or even desktop publishing applications like CroelDraw. Here, the researcher applies the Final Mile of production, correcting compositions, integrating typography, and ensuring brand consistency.

SAMPLE 2:
A semblance of comic artists at work, from sketch to final rendering

Prompt 1:
Pencil drawing with pencil shades of a scene where Jesus is carrying his cross, thorns on his head, bleeding from the thorn wound, he is wearing

Plate 3: From a well-engineered prompt, OREATE sketches are instructed.
Chidi Onwuekwe, 2025

Prompt 2:

A copy of the previous illustrative art with thick and thin black lines and white space ONLY, of a scene where the same Jesus is carrying his cross, thorns on his head, bleeding from the thorn wound, he is wearing a white gown with no belt. Two Roman soldiers follow him. Weather condition: harsh sun.

Plate 4: From a well-engineered prompt, OREATE inks the same work as instructed.
Chidi Onwuekwe, 2025

Prompt 3: An illustrative art with thick and thin black lines, flat base colours with flat midtone shadings of a scene where the same Jesus is carrying his cross, thorns on his head, bleeding from the thorn wound, he is wearing a white gown with no belt. Two Roman soldiers follow him. Weather condition: harsh sun.

Plate 5: From a well-engineered prompt, OREATE colours the same work as instructed, Retaining its originality. Chidi Onwuekwe, 2025

One surprising situation the AI ability to retain the former image and replicate it exactly in other media, eg feom pencil to ink to detailed colouring, just like in actual scenario when a comic artist is working. The production of a comic book is a systematic transition from conceptualization to physical realization, beginning with scripting to establish narrative structure and panel descriptions (Eisner, 1996). This is followed by thumbnailing and layout, where the artist determines pacing and "closure"—the cognitive connection between panels (McCloud, 1993). The pencilling phase provides the primary visual narration, which is then refined by inking for depth and lettering to integrate the "verbal-image interface" (Eisner, 2008; Methods for Change, 2024). Finally, coloring establishes the aesthetic mood before the work moves to pre-press production for distribution (Blurb, n.d.; University of Winnipeg, 2025).

Finding

The research findings demonstrate that integrating OREATE AI into a studio-based workflow transforms the creative process from one of manual execution to one of strategic orchestration. By utilising the software's all-in-one workspace, the researcher was able to bypass the "three-day" traditional production timeline for mood-boarding and thumbnailing, achieving professional-grade layouts in minutes (ProductHunt, 2025). However, a critical finding emerged during the Curatorial Scrutiny phase: while the GAI successfully automated the labor-intensive stages of sketching, inking, and coloring (Plates 3–5), it initially failed to grasp "narrative logic," such as the strategic risk of prisoners walking untethered behind a guard.

Furthermore, the experimentation revealed that the Human-in-the-Loop (HITL) model is essential for correcting "algorithmic hallucinations" and technical failures in visual

hierarchy (Lupton, 2021). The study found that the quality of the final "million-dollar expert" output was not a result of AI autonomy but was directly proportional to the researcher's Creative Prompting and manual refinement in professional software like Adobe Photoshop. This confirms that the AI's primary value lies in its ability to retain consistency across media (from pencil to flat color) while acting as a *Co-Pilot* that requires the human "Pilot" to provide the final mile of aesthetic and strategic judgment (Bernstein, 2023).

Conclusion

This research concludes that the emergence of all-in-one AI workspaces like OREATE does not signal the obsolescence of the artist but rather the birth of the Augmented Strategist. The Practice as Research (PaR) framework confirms that the symbiotic relationship between human intentionality and algorithmic output is most effective when the artist maintains strict curatorial authority. While the machine provides unprecedented speed in Technical Synthesis, it lacks the teleological intent to independently work on narrative briefs (Eisner, 1996; Bernstein, 2023).

The successful transition through the stages of comic production—from script to final rendering—proves that GAI is most powerful when relegated to a subordinate role, handling the synthesis of assets while the human artist manages the "verbal-image interface" and cultural nuances (McCloud, 1993). Ultimately, this study asserts that the future of professional graphic production lies in the mastery of Prompt Engineering and high-level art direction, ensuring that the creative process remains a transparent *glass box* of human-led innovation rather than an automated "black box" of machine probability.

Recommendations

Based on the findings of this study, the following recommendations are proposed for the professional and academic design communities:

Curriculum Reform in Design Education: Educational institutions should pivot from teaching purely technical software proficiency to prioritizing AI Literacy and Creative Strategy. Students must be taught how to critically evaluate AI outputs for ethical bias and technical *hallucinations* rather than passively accepting machine-generated assets (Menon, 2024).

Standardization of Prompt Engineering: Prompting should be recognized as a core design skill. Practitioners should develop a standardized vocabulary for role-based and contextual prompting to ensure that the AI co-pilot is guided by accurate historical, cultural, and aesthetic parameters.

Ethical Frameworks for Hybrid Works: There is a need for clear industry guidelines regarding the attribution of works created through human-AI collaboration. This study recommends a transparency-first approach where the use of GAI as a co-pilot is disclosed, while the intellectual property remains anchored to the human designer who provided the strategic intent.

Integration of Human-in-the-Loop Workflows: Professional studios should adopt workflows that intentionally integrate AI at the ideation stage while reserving the final refinement and brand-matching stages for human designers. This ensures efficiency without sacrificing the unique, human signature of the brand (Frontiers, 2025).

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