

# **Explorations in Post-Digital Design: Aesthetics, Computational Creativity, and Sustainability**

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Preface

Nguyen Duc Son, Elena Papadaki

## **Chapter 1**

[\*\*From the Digital Revolution to the Postdigital Condition: Contexts, Implications, and Critical Perspectives in Art and Design\*\*](#) (pages 1-32)

Nguyen Duc Son, Elena Papadaki

This chapter aims at providing an overview of the formation and development, as well as some basic concepts, of digital art in the digital and post- digital era. It also traces and explores technological as well as cultural developments integrated into art and design that have reshaped creative processes, aesthetic paradigms, and notions of authorship, thus providing a context for further analysis. By addressing critical issues such as sustainability, ethics, and cultural responsibility, it not only establishes a conceptual framework for understanding contemporary creative practices in the postdigital condition but also provides a theoretical foundation for the discussions presented in the other subsequent chapters of the present volume.

## **Chapter 2**

[\*\*Beyond the Algorithm: Rethinking Authorship and Creative Agency in Post-Digital Design\*\*](#) (pages 33-66)

Valisher Sapayev, R. N. Ravikumar, Dilmurod Turaev, S. Aarthi, Ismailov Azizbek, Tulaganova Dilfuza Abdukabilovna

This chapter explores the transformation of authorship in the post- digital era, where human creativity converges with algorithmic agency and audience participation. Tracing historical shifts from modernist notions of the “artist- genius” to postmodern intertextuality and computational creativity, it examines how algorithms evolve from

passive tools to active co- creators. Through theoretical discussion and case studies on generative art, AI- assisted product design, and algorithmically curated exhibitions, the chapter highlights hybrid authorship as a relational and networked practice. Ethical, legal, and philosophical concerns ranging from intellectual property and authenticity to bias and accountability are critically analyzed. The proposed model emphasizes inclusive, collaborative, and ethically responsible creativity, offering pathways for design education, cultural production, and future research.

### **Chapter 3**

#### **Not a Threat but a Mirror: Reclaiming Artistic Identity in the Age of AI** (pages 67-96)

Junghyun Kim

The rapid development of artificial intelligence is reshaping creative practice in art and design. While AI is often framed as a threat to human creativity, this study approaches it differently. By understanding AI as a mirror, the focus shifts from what it produces to how human thought and judgment are structured. This paper argues that AI does not weaken creativity, but makes its conditions more visible. While AI accelerates processes through repetition and efficiency, human creative practice remains grounded in temporality and decision- making. This shift also affects education, moving from knowledge transmission toward the cultivation of thinking. In this context, students are not simply users of AI, but subjects who interpret and direct it. Ultimately, the difference between human and AI lies not in creativity itself, but in the capacity to assign meaning and make decisions. From this perspective, AI does not replace creative practice, but repositions it. This study further suggests that aura is not lost, but reconfigured within contemporary technological environments.

### **Chapter 4**

#### **Computational Creativity and Sustainability in Post-Digital Design** (pages 97-132)

Samadhan C. Mali, Vaibhav V. Godase, Altaf Osman Mulani, Swapnil R. Takale, Rahul G. Ghodake

Computational creativity has evolved from a technical skill to an epistemic force reshaping design. This chapter explores how computational creativity, sustainability, and the post- digital condition intersect, proposing the From Code to Care frame work to align computational design with ecological responsibility, social equity, and ethical accountability. Using a qualitative, exploratory approach, it synthesizes case studies, sustainability reports, and studio practices. The chapter extends computational sustainability by integrating Green AI principles, life- cycle thinking, explainable AI, and

data- provenance models. Findings show that parametric tools, AI- driven generative methods, and machine- learning workflows improve material efficiency, customisation, and participatory design, while challenges persist, including energy- heavy AI, unequal access, and opaque algorithms. The framework positions computational creativity as a responsible practice rooted in transparency and ecological stewardship, offering a stronger foundation for sustainable, ethical design futures.

## **Chapter 5**

### **Generative AI and Sustainable Design Futures: Computational Creativity for Post-Digital Innovation** (pages 133-156)

M. Nasrin Sulthana, Venkatesh Thulasidoss, Shashank Rathore, Zaman Javed, R. Swadhi

The chapter critically reviews how far Generative Artificial Intelligence (AI) is transforming processes of creative work and sustainability paradigms in the post- digital design environment. The synthesis of computational creativity and principled sustainable design thinking suggests that the study interrogates the role of generative models in improving operational efficiency, inclusivity, and ecological stewardship in the architectures, product design, and digital arts. It describes a holistic approach in which AI- based generative systems are connected to ethical innovation and eco- intelligent creativity, thus defining design as a double artefact, artistic and socio- technical at the same time. The discussion that follows predicts the issues related to algorithmic authorship, ethics of data, and the reasonable use of sustainable resources, and at the same time, predicts Generative AI as the catalyst of resilient, adapting, and sustainable design futures.

## **Chapter 6**

### **From Prompt-to-Prototype: A Practice-Based Approach to Computational Creativity and Cross-Cultural Pedagogy** (pages 157-196)

Thy Ho Hoang Ngoc

Generative AI tools like Midjourney and DALL- E are disrupting traditional brand identity design workflows, introducing text- to- image generation as a new method for visual exploration and concept development. Yet designers lack systematic approaches for integrating AI into strategic visual research and brand positioning processes. This chapter introduces the “From Prompt- to- Prototype” framework through practice- based research integrating design experiments, brand identity studio teaching at the University of Greenwich Vietnam, interviews with design professionals, and

comparative analysis of Vietnamese and South Korean branding contexts. Contributions include a systematic workflow for AI- assisted brand visual research, pedagogical strategies for teaching prompt design as part of brand strategy, and a theoretical model reconceptualizing creative agency in human- AI collaboration.

## **Chapter 7**

### **The Function Blockchain NFT and Ownership Design and Painting** (pages 197-232)

Diep Nguyen Thi Ngoc

In the rapidly evolving landscape of the Fourth Industrial Revolution, blockchain technology, NFTs, and digital ownership have emerged as key instruments transforming the domains of design and art. This chapter examines how these technologies transform our perceptions of authorship, authenticity, and value in contemporary art. Blockchain offers transparent methods for verifying copyright and tracing the origins of artworks, thereby minimizing duplication and enhancing the safeguarding of intellectual property. NFTs function as digital ownership certificates, enabling artists to trade and monetize their artwork in innovative manners, thereby sustaining creativity in an era where AI can effortlessly replicate content. Digital ownership fundamentally alters the methods of sharing, exhibiting, and monetizing art within virtual and metaverse contexts. The chapter advocates for a post- digital paradigm that amalgamates aesthetics, computational creativity, and sustainability, positing that technology both preserves and enhances the cultural and economic significance of art and design.

## **Chapter 8**

### **The Role of NFTs in Promoting Cultural Democratization, Sustainability, and Accessibility to Computer-Assisted Designs Among Indian Female Artists** (pages 233-268)

Gaman Palem, Bala Krishna Gadamma, S. Md. Azash

This research explores the dynamic relationship between NFTs, digital transformation, and business sustainability, particularly through the lens of female artists. The study investigates how female artists use NFTs to sustain and transform their artistic practices and how they interpret such practices within societal constructs. The research explores the possible benefits of computer- assisted design as NFTs in the digital domain, highlighting how they ensure accessibility and democratisation of art for Indian female artists. Employing exploratory methods, the research examines sustainability in three pronged directions: environmental (mitigating the carbon

footprint of NFTs), economic (market openness, and financial stability), and social (community engagement, artistic expression, and cultural equality).

## **Chapter 9**

### **Exploring Museum Art With Interactive AR and AI Technologies to Increase Engagement in Vietnam** (pages 269-292)

Chi Cam Nguyen

This study introduces a comprehensive strategy that combines Augmented Reality (AR) and Artificial Intelligence (AI) to enhance visitor engagement and artistic appreciation in museums, responding to the growing need for contemporary cultural experiences in the post-digital age. The study, based on a constructivist learning framework, emphasizes the active involvement of visitors in deriving personal meaning through interactive, reflective, and multifaceted contact with artworks. AR tool presents layered information of an artwork, including historical contexts, artistic techniques, and socio-cultural influences. Concurrently, AI analyzes the two-dimensional visual components (foreground, background, figures, etc.) to generate personalized, reflective prompts based on established datasets. This study improves museum educational practices and fosters cultural preservation by establishing strong, enduring connections between visitors and artistic heritage.

## **Chapter 10**

### **Integrating Vietnamese Folk Art in Post-Digital Visual Arts Education** (pages 293-322)

Hanh Cao Minh Hong

This chapter argues that hybrid cultural approaches can offer a critical foundation for visual arts education in Vietnam, where traditional artistic identities are at risk of being overshadowed by globalized aesthetics. Drawing on hybrid culture and postcolonial art theory, the chapter proposes an interdisciplinary pedagogical model that integrates Western visual production methods with Vietnamese traditional art practices. Through project-based learning that combines hand-drawing techniques and digital post-production processes, students are encouraged to decode and reconstruct Vietnamese cultural identity within contemporary image-making. The model not only fosters intercultural dialogue but also challenges the dominance of imported aesthetic standards in art education. Ultimately, the chapter asserts that visual arts pedagogy must reinforce national cultural values while strategically positioning Vietnamese artistic practices within the global art landscape.

## **Chapter 11**

### **Classics Visualized With Artificial Intelligence: The Reconstruction of Aesthetics, Representation, and Creativity in Post-Digital Art Education** (pages 323-350)

Nuray Ergindir Küçükkaya

The rise of algorithmic culture has transformed art and design education, positioning artificial intelligence as a key collaborator in creative processes. This study explores the integration of generative AI in art education, its impact on aesthetic perception, and ethical debates on representation. Within Uskudar University's Artificial Intelligence and Design course, graduate students reinterpreted Turkish and world classics into 15 scenes, visualized through generative AI tools. These works provide a platform for post-digital discussions on aesthetics, perception, and pedagogy. Data on visual production, prompt writing, and aesthetic experience were analyzed through content analysis from a post-digital perspective. The study highlights AI's representational power, cultural biases, influence on aesthetic preferences, and the creative dynamics of human-machine collaboration, emphasizing its transformative potential in interdisciplinary art and design education.

## **Chapter 12**

### **Post-Digital Design Education and Learning Environments: A Review of Emerging Practices and Future Directions** (pages 351-376)

D. V. Lokeshwari

Over the recent years, post-digital design education has been changing at a breakneck pace, marked by the incorporation of new artificial intelligence, extended reality, and data-driven learning systems as well as the adoption of the hybrid and online studio environment due to the pandemic. This system review is based on 116 peer-reviewed studies that were published between 2009 and 2025 aiming to investigate the process of curriculum development, pedagogical approaches, technology integration, and student engagement on higher education design contexts. The discussion shows that the adoption of immersive tools, collaborative platforms, and generative AI are increasing in order to support creativity and match the needs of the industry, and issues related to the studio culture, equity, infrastructure, and ethical issues remain. It is on this understanding that the review recommends future research priorities focusing on scalable, inclusive, as well as sustainable post-digital pedagogical frameworks.

## **Chapter 13**

**Toward Post-Digital Futures: Integrating Design, Creativity, and Sustainability** (pages 377-416)

Nguyen Duc Son

The chapter reveals the reshaping of design within an increasingly complex technological and ecological landscape. Especially, postdigital design practices move beyond tool-centered approaches toward more relational and systemic modes of thinking, where designers act as mediators between human values, technological systems, and ecological realities. It also emphasizes the increasing significance of interdisciplinary collaboration, critical technological literacy, and adaptive creative practices in tackling global challenges. The chapter pays particular attention to the shift from sustainability as mitigation to regenerative and resilient design strategies that actively contribute to social and environmental well-being.