BOOK REVIEW

MODELING VISUAL AESTHETICS, EMOTION AND ARTISTIC STYLE

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James Z. Wang and Reginald B. Adams Jr. (Eds). *Modeling Visual Aesthetics, Emotion and Artistic Style*. Cham, Switzerland, Springer, 2024. xxxi+396 pp. ISBN: 9783031502682

Abstract: This review examines *Modeling Visual Aesthetics, Emotion and Artistic Style*, edited by James Z. Wang and Reginald B. Adams, highlighting its interdisciplinary engagement with psychology, computer vision, art history, and machine learning in exploring how computational systems interpret emotion, aesthetic judgment, and artistic style. The review outlines recent developments in emotion modeling, algorithmic bias detection, feminist critiques of computational frameworks and the digital analysis of fine art. It emphasizes the editors' focus on ethical concerns, particularly gender and racial biases embedded in datasets, while also drawing attention to unresolved issues related to structural inequalities in cultural production and emerging surveillance technologies. Overall, the book is assessed as an important contribution to contemporary debates on the interaction between technology, emotion and artistic interpretation within machine learning research.

Human communication predates language, relying on gestures

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and facial expressions to convey emotion and social meaning. With advances in psychology and machine learning, computational systems increasingly interpret human recognition and interaction. Modeling Visual Aesthetics, Emotion and Artistic Style addresses this goal by exploring how computer vision models emotion, aesthetic judgment, and artistic style. Organized into seven parts and twenty-one chapters, the volume draws on psychology, computer vision, art history, and data science to enhance human–machine interaction. It also examines ethical concerns, particularly algorithmic bias in facial recognition and aesthetic evaluation, arguing that emerging machine learning tools can help expose and reduce entrenched power hierarchies

The first part of the book establishes the theoretical foundations of emotion modelling and machine learning. Benjamin Wortman identifies significant gaps between psychological theories of emotion and their computational application. He critically evaluates Ekman's widely accepted universal model of emotions, arguing that it fails to capture the diversity and complexity of emotional expressions in real-world contexts (3). Wortman further demonstrates the cultural limitations of psychological models, noting that behaviors such as smiling may signify happiness in the United States but may be interpreted differently in Eastern societies, sometimes even as a sign of foolishness. His analysis highlights the necessity of incorporating cultural variability into computational systems and emphasizes the importance of localized cultural understanding in machine learning processes (11–12). Complementing this discussion, Sitao Zhang examines formal learning and training models related to artistic style, aesthetics, and emotion, illustrating how machine learning and deep learning can extend computational modelling into emerging interdisciplinary fields aimed at improving human well-being.

The second part explores the human visual system and the ways computer modelling interprets bodily expressions for social interaction. N. Strand et al. analyse how human perception is encoded within computer vision technologies and how such systems can be employed to address gender bias. By examining facial perception through categories such as eyes, race,

gender/sex and emotional expression, the study highlights the importance of intersectionality in machine learning research. The authors emphasize that image generation should not reproduce harmful stereotypes but instead function as an ethical tool to expose and counter bias, thereby promoting broader social transformation (53–54). A related contribution by Flora Oswald advances a feminist perspective on computer vision. She argues that feminist scholarship has long confronted structural inequalities and systemic bias and can therefore provide a critical ethical framework for computational modelling (92). Through an intersectional feminist view, Oswald brings out both the limitations and possibilities of computer vision, stressing that technological systems often obscure existing power hierarchies. Nevertheless, she remains optimistic that ethically informed training of machine learning systems can foster more humane and socially responsive applications (99–100).

The third part focuses on methodological advances in detecting human emotions through computer vision. Daniel N. Albohn and Joseph C. Brandenburg investigate how neutral facial expressions contribute to evaluating and categorizing faces across variables such as gender, race, age, attractiveness, and health. Their chapter integrates psychological research with computational techniques, demonstrating that understanding non-emotional or "neutral" expressions is crucial for advancing studies of aesthetics and emotional perception (147). They conceptualize neutrality as an inherent ambiguity that contributes to the uniqueness of faces, fashion, and artistic representation. Rather than relying exclusively on algorithmic interpretation, the authors emphasize insights drawn from face-perception research traditions (149). Their findings reveal that neutral faces are rarely perceived as emotionally neutral by either humans or algorithms, highlighting the need for more ethically sensitive computational approaches capable of treating facial data fairly (158). This discussion situates computer vision within broader affective discourse.

The fourth part explores artistic production through computer vision, showing the convergence of technology and creativity in art analysis. QT Luong interprets photography as a

visual language requiring interpretation, context, and theoretical reflection, shaped by the experiences and biases of both photographer and viewer. He argues that images possess their own vocabulary and syntax (182). Kathryn Brown examines how computational datasets gain meaning, redefining "style" as encompassing conceptual, social, and material dimensions. Through contextual image analysis, she demonstrates how computer vision can derive interpretive meaning from artworks, thereby enriching aesthetic understanding and expanding approaches to artistic style (220–223).

The fifth and sixth parts explore practical applications and future directions of computational vision, including the interpretation of aesthetic and emotional expressions in human–virtual interactions. In the final section, David G. Stork analyzes videos and photographs using deep neural networks, showing how natural image datasets can generate surrogate artworks. These methods overcome earlier AI limitations by enabling richer interpretation, authentication, and attribution of artistic style (351–355). Stork also explains that surrogate art aids in detecting forged works through semantic segmentation, where pixel-level classification allows networks trained on such images to achieve higher accuracy than models trained only on conventional photographic datasets

Overall, the contributors offer important insights into interpreting images and videos through advanced computer vision, effectively linking traditional aesthetic scholarship with contemporary computational research. Its interdisciplinary approach integrates humanistic inquiry with machine learning while addressing ethical concerns, particularly gender and racial bias from feminist and intersectional perspectives. However, structural inequalities within cultural production and the ethical ambiguity of surveillance technologies receive limited attention, raising questions about technology's capacity to resolve deeper social hierarchies. Despite these gaps, the book remains a valuable resource for scholars and practitioners in computer science, ethics, digital humanities, art, education, and feminist studies.