

Artificial Emotional Intelligence: AI perspectives on emotional transmediation in contemporary science-fiction opera

Dr Alexandra Huang-Kokina, University of Edinburgh, United Kingdom

Abstract

This paper investigates the confluence of artificial intelligence (AI), the performing arts, and emotion communication, focusing on how generative AI and social robotics – today’s forefront disruptive technologies – can facilitate an exploration of emotional dynamics across artistic mediums. Drawing on the intermedial and multimodal capacities of opera, this paper presents AI-enhanced opera as a pivotal case study to examine the multimodal *transference* of emotions through music, speech, scenography, dramatic narrative, and physical action. It specifically focuses on the distinct sub-genre of ‘science-fiction opera’, ranging from the internationally acclaimed *Aniara* (1959) to *The Tale of the Great Computing Machine* (2022) in the Swedish tradition and recent proliferations in MIT Media Lab, which epitomise the convergence of AI and cyborg fantasies in the dreamscape of multimedia juxtaposition; these works illuminate the intricately expressive, physiological, and experiential dimensions of emotional *transformation* via opera’s multi-layered emotional fabric. This paper argues that these operas, innovatively blending AI and artistic creativity, forge new emotional experiences beyond traditional configurations. Catalysed at the liminal space of digital and intermedial collaboration, this idiosyncratic emotional *transmediation* simulates cognitive processes and emotional responses that evoke desires, dreams, affects, and memories, thus altering our self-perception and interaction with intelligent machines. In doing so, sci-fi opera not only speculates but also realises the paradigm of affective robotics, celebrating AI’s progressive capacity to foster human emotional engagement and induce emotions in itself. Overall, by putting together critical theories from media and cultural studies, AI ethics, emotion AI, and digital humanities, this study contributes to an understanding of digital innovation in cultural contexts, highlighting AI’s pivotal role in transforming emotional experiences in the arts.

Keywords

Artificial emotional intelligence, Science-fiction opera, Emotion transmediation

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Bio

Dr **Alexandra Huang-Kokina** is an early-career academic at the University of Edinburgh (U.K.) and a visiting research fellow at Linnaeus University (Sweden). Her work lies at the crossroads of music, literature, digital humanities, and intermediality studies. Her upcoming book with Palgrave Macmillan, *The Musical Performativity of Twentieth-Century Piano Novels*, explores piano playing in non-traditional settings as vehicles for socio-political activism. Her recent pilot concert project, 'Critical & Creative Digital Dynamics', revolves around experimental digital innovations in contemporary chamber music performance. Her upcoming project, 'Enhancing Opera Experiences: AI innovations and audience participation in 21st-century digitally-mediated theatre', integrates AI methodologies into multimedia opera performance; it aims to revolutionise opera audience engagement and immersion, facilitating the genre's adaptation into an increasingly AI-driven society.