

Interdisciplinary Strategies to Mitigate Gender Bias in AI-Generated Imagery

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Abstract

This work presents findings from Project LENA, an interdisciplinary inquiry into gender bias in images produced by artificial intelligence (AI) platforms. Employing a mixed-methods design that combines experimental prompt engineering, quantitative-qualitative visual analysis, and critical evaluation, the study traces how text prompts, platform architectures (DALL·E, Midjourney, Stable Diffusion, Flux AI), and training datasets collectively shape stereotyped gender representations. Early results demonstrate that inclusive prompting, diversification of training corpora, and heightened user awareness markedly reduce biased outputs, fostering more equitable visual portrayals. Drawing on these insights, we are proposing practical recommendations for ethical and responsible AI deployment, with attention to educational settings. LENA project underscores the centrality of critical digital literacy, algorithmic transparency, and an intersectional feminist lens in cultivating an inclusive digital culture that empowers educators and learners to engage reflectively and transformatively with emerging visual-generation technologies. Our work concludes by outlining future research directions integrating human-centered design and policy frameworks.

Keywords: ethics; fairness; images; machine learning; technology