

摘要

人工智慧（artificial intelligence，AI）圖像生成技術對數位圖像創作領域產生了顯著的影響，不僅改變了產業的工作流程，也讓更多創作者能夠進行高品質的數位圖像創作。本研究從視覺元素與視覺傳達的角度探索 AI 生成與人工繪圖的特性，邀請 5 位視覺設計專家以及 5 位非視覺設計專家共同參與 AI 生成與人工繪圖的創作，並透過 32 份問卷調查和文本相似度比較方法，對 8 項視覺元素以及 20 幅 AI 生成與人工繪圖進行了評估。研究結果顯示：AI 繪圖在形狀、比例以及線條等視覺元素上的體驗評價較高，但在傳達節奏與韻律元素上的評價較差。此外，AI 生成與人工繪圖在傳達創作意象的效果上並無顯著差異。專家可透過優化提示詞提升 AI 的輔助效果，但整體仍未超越人工繪圖；對非專家而言，AI 繪圖效果有限，且在個別組別中人工繪圖的表現更佳。

關鍵詞：人工智慧、生成式 AI、AI 圖像生成、視覺元素

Abstract

Artificial intelligence (AI) image generation technology has significantly impacted the field of digital image creation, transforming industry workflows and enabling more creators to produce high-quality digital artwork. This study explores the characteristics of AI-generated images and manual drawings in terms of visual elements and visual communication. It involved five visual design experts and five non-experts in both manual and AI-assisted creation. Using 32 survey responses and text similarity comparison, the study evaluated eight visual elements and assessed 20 AI-generated and manually drawn images. The results indicate that AI-generated images received higher ratings for visual elements such as shape, proportion, and line quality but performed less effectively in conveying abstract concepts like rhythm and harmony. Additionally, there was no significant difference in the effectiveness of conveying creative imagery between AI generation and manual drawing. Experts were able to enhance the auxiliary effect of AI through optimized prompts, though overall, AI generation did not surpass manual drawing. For non-experts, the effectiveness of AI-generated images was limited, and in specific cases, manual drawing demonstrated superior results.

Keywords: artificial intelligence, generative AI, AI image generation, visual elements