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Discrepancy and Thematic Bibliometric Analyses of the Remaining Limitations in Artificial Intelligence

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Abstract
As artificial intelligence (AI) advances, it is essential to continuously comprehend its limitations to optimise the integration of AI into autonomous systems that empower humans. The first objective of this study is to highlight the key capabilities of both humans and AI, focusing on the differences and identifying limitations of AI from the literature. Through discrepancy analysis, this study uses a Venn diagram to visualise the remaining limitations of AI into five key domains: (i) emotional intelligence, (ii) consciousness and awareness, (iii) creative imagination, (iv) communication, and (v) ethical decision-making. Furthermore, this study employs thematic bibliometric analysis to provide a more detailed examination of each AI limitation as the second objective. This study has identified underdeveloped and emerging research themes with potential for future development, such as emotion recognition, human-computer interaction, digital health, and situational awareness, which may require further research. Additionally, this study commends the ongoing efforts to harness AI's computational power and algorithmic innovations to enhance AI's overall performance and applicability. ©2024 IEEE.

Author Keywords
AI champion; ChatGPT; thematic map; traits discrepancy; Venn diagram

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