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Proceedings of the Annual Meeting of the Cognitive Science Society

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Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 47(0)

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Publication Date

2025

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Peer reviewed

Redefining External Memory in the AI Era

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Abstract

External memory, traditionally conceptualized within the extended cognition framework (Clark & Chalmers, 1998), has evolved from debates about its status versus internal memory (Michaelian, 2012) to more pragmatic views emphasizing its role in intention offloading and cognitive scaffolding (Heersmink, 2020; Gilbert et al., 2023). While traditional approaches require external memory to be intentionally recorded and subsequently accessible, the emergence of personalized AI tools fundamentally transforms this human-tool relationship. Drawing on Chalmers' (2025) propositional interpretability framework, we propose that as AI systems become increasingly personalized through access to personal data, the criterion for external memory shifts from human-initiated recording to agent-driven construction of user propositional attitudes. To empirically validate how this reconceptualization captures the emerging nature of external memory, we compiled a comprehensive multimodal dataset including 5-year continuous audio recordings and life-logging data, revealing AI systems' capacity to reconstruct personal propositional attitudes from previously unconsidered forms of external memory.