How Explainable Medical AI Unlocks Patient Disclosure

Wansaja BADDEGAMAGE
Université Jean Moulin Lyon 3
Julien Cloarec
iaelyon School of Management, Université Jean Moulin Lyon 3, Magellan
Nour Alrabie
Université Toulouse Jean Jaurès
Maxime Ducret
Hospices Civils de Lyon, Université Claude Bernard Lyon 1, Laboratoire de Biologie
Tissulaire et Ingénierie Thérapeutique

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Abstract

Explainable artificial intelligence (XAI) is vital for building trust, addressing privacy concerns, and promoting user engagement, particularly in sensitive domains such as healthcare. This study examines the relationships between of XAI, trust, privacy concerns, well-being, and the willingness to disclose personal information. Study 1 reveals that XAI significantly increases trust and decreases privacy concerns, indirectly encouraging information disclosure through trust as a mediator. Study 2 explores the influence of disease severity on user interactions with medical AI, finding that more severe conditions reduce trust, thereby limiting disclosure. Mediation analyses thus underscore trust as the primary mechanism linking XAI to user engagement. These findings underscore the importance of designing transparent, user-focused AI systems that enhance trust and address privacy apprehensions, offering a framework for fostering broader adoption of medical AI technologies.

Keywords

Medical Artificial Intelligence, Explainable Artificial Intelligence, Transformative Privacy Calculus

Track

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