CHAPTER 4

LITERATURE REVIEW OF MEDICAL XAI APPLICATIONS

This section presents an overview of the research studies' conclusions as well as a critical critique of the studies that were chosen. Current Knowledge Representation and Research Domains make up this part. Table 1 represents the Literature review of medical XAI applications.

Table 1. Literature review of medical XAI applications.

Source	XAI representation	Effects	Explanation presentation time	Research focus
Cramer et al., 2008	Hybrid representation	Accuracy, Trust Transparency Trust	Following the suggestion and the user's desire for clarification	Media and Entertainment
Branley-Bell et al., 2020	Hybrid	Understandability	Following the suggestion and the user's desire for clarification	Healthcare
Cheng et al., 2019	Hybrid	Understandability	Following the user's request for an explanation as further information	Education
Daudt et al., 2021	Hybrid	Trust Understandability	Analysis reveals both with recommendations and when the user requests clarification despite not being mentioned explicitly	Healthcare

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Table 1. (Continued)

Source	XAI representation	Effects	Explanation presentation time	Research focus
Lee and Rich, 2021	Hybrid	Trust	Following the suggestion and the user's desire for clarification	Healthcare
Wang et al., 2019	Hybrid	Trust Understandability	Not explicitly	Healthcare
Xie et al., 2019	Hybrid	Trust	Not explicitly	Healthcare
Rodriguez-Sampaio et al., 2022	Hybrid	Trust Understandability	Following the suggestion and the user's desire for clarification	Healthcare
Bussone et al., 2015	Graphical	Trust	Following the suggestion and the user's desire for clarification	Healthcare
Cai et al., 2019	Graphical	Transparency	Following the suggestion and the user's desire for clarification	Healthcare
Eiband et al., 2019	Graphical	Transparency	Following the suggestion and the user's desire for clarification	Recommendation System
Hudon et al., 2021	Hybrid	Trust Understandability	Not mentioned Law	Media and Entertainment
Evans et al., 2022	Hybrid	Understandability	Following the suggestion and the user's desire for clarification	Healthcare
Ehsan et al., 2019	Hybrid	Understandability	recommendation	Media and entertainment
Kouki et al., 2019	Hybrid	Trust	recommendation	Media and entertainment
Ngo et al., 2020	Hybrid	Transparency	recommendation	Media and entertainment

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Table 1. (Continued)

Source	XAI representation	Effects	Explanation presentation time	Research focus
Schmidt et al., 2020	Hybrid	Trust	Following the suggestion and the user's desire for clarification	Media and entertainment
Szymanski et al., 2021	Hybrid	Understandability Transparency Trust Understandability	Following the suggestion and the user's desire for clarification	E-commerce
Eslami et al., 2018	Hybrid	Understandability	Following the suggestion and the user's desire for clarification	E-commerce
Conati et al., 2021	Hybrid	Transparency	Following the suggestion and the user's desire for clarification	Education
		Fairness	Following the suggestion and the user's desire for clarification	Education
Putnam and Conati, 2019	Hybrid	Trust	Following the suggestion and the user's desire for clarification	Education
Li et al., 2021	Hybrid	Transparency	Following the suggestion and the user's desire for clarification	Human Resource
Khosravi et al., 2022	Hybrid	Trust	Following the suggestion and the user's desire for clarification	Management Education
Binns et al., 2018	Hybrid	Understandability Fairness	recommendation	Transportation, Finance
Chromik et al., 2021	Hybrid	Trust Understandability Usability	Following the suggestion and the user's desire for clarification	Finance

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Table 1. (Continued)

Source	XAI representation	Effects	Explanation presentation time	Research focus
Cirqueira et al., 2020	Hybrid	Trust	Following the suggestion and the user's desire for clarification	Finance
Liu et al., 2021a	Hybrid	Transparency Understandability Fairness	Following the suggestion and the user's desire for clarification	Legal
Liu et al., 2021b	Hybrid	Transparency	Following the suggestion and the user's desire for clarification	Social Networking
Górski and Rama krishna, 2021	Hybrid	Transparency Understandability Fairness	With the recommendation and after the user demands explanation	Legal
Lim and Dey, 2009	Hybrid	Trust	Following the suggestion and the user's desire for clarification	Digital Assistant
Janssen et al., 2020	Hybrid	Transparency Fairness	Following the suggestion and the user's desire for clarification	E-Governance
Bankins et al., 2022	Hybrid	Trust	recommendation	Human Resource Management
Dodge et al., 2019	Hybrid	Trust Fairness	Following the suggestion and the user's desire for clarification	E-Governance
Lim et al., 2009	Hybrid	Understandability	Following the suggestion and the user's desire for clarification	Recommendation System

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Table 1. (Continued)

Source	XAI representation	Effects	Explanation presentation time	Research focus
Brennen, 2020	Hybrid	Trust Usability	Following the suggestion and the user's desire for clarification	Recommendation System
Schrills and Franke, 2020	Hybrid	Trust	Following the suggestion and the user's desire for clarification	Recommendation System
Broekens et al., 2010	Hybrid	Transparency	Following the suggestion and the user's desire for clarification	Healthcare
Chazette and Schneider, 2020	Hybrid	Understandability	With the recommendation	Transportation
Schneider et al., 2021	Hybrid	Understandability	With the recommendation	Transportation
van der Waa et al., 2020	Hybrid	Understandability Transparency	With the recommendation	Transportation
Park et al., 2021	Hybrid	Trust	Following the suggestion and the user's desire for clarification	Human Resource
Hong et al., 2020	Hybrid	Trust	Following the suggestion and the user's desire for clarification	Social networking
Liao et al., 2020	Hybrid	Trust Transparency	Following the suggestion and the user's desire for clarification	Social networking
Wang and Moulden,	Hybrid	Transparency	Following the suggestion and the user's desire for clarification	Social networking