

Table S1. Database search strings.

Database	Search string	Results
Scopus	TITLE-ABS-KEY ("artificial intelligence" OR "machine learning" OR "deep learning" OR "neural networks" OR "computer vision") AND TITLE-ABS-KEY ("pain assessment" OR "pain detection" OR "pain evaluation" OR "pain monitoring" OR "pain quantification" OR "pain recognition" OR "pain scoring") AND TITLE-ABS-KEY ("facial expression recognition" OR "facial expressions" OR "face recognition" OR "emotion recognition" OR "facial coding" OR "nonverbal communication" OR "visual perception") AND PUBYEAR > 2014 AND PUBYEAR < 2026 AND NOT (("neonatal*") OR ("adolescen*")) AND PUBYEAR > 2014 AND PUBYEAR < 2026 AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SUBJAREA , "MEDI")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (EXACTKEYWORD , "Adult") OR LIMIT-TO (EXACTKEYWORD , "Human") OR LIMIT-TO (EXACTKEYWORD , "Humans") OR LIMIT-TO (EXACTKEYWORD , "Male") OR LIMIT-TO (EXACTKEYWORD , "Female") OR LIMIT-TO (EXACTKEYWORD , "Facial Expression") OR LIMIT-TO (EXACTKEYWORD , "Pain Assessment") OR LIMIT-TO (EXACTKEYWORD , "Pain") OR LIMIT-TO (EXACTKEYWORD , "Artificial Intelligence") OR LIMIT-TO (EXACTKEYWORD , "Pain Measurement") OR LIMIT-TO (EXACTKEYWORD , "Machine Learning") OR LIMIT-TO (EXACTKEYWORD , "Facial Expressions"))	16
PubMed	("artificial intelligence"[tiab] OR "AI"[tiab] OR "machine learning"[tiab] OR "deep learning"[tiab] OR "neural networks"[tiab] OR "computer vision"[tiab]) AND ("pain assessment"[tiab] OR "pain detection"[tiab] OR "pain evaluation"[tiab] OR "pain monitoring"[tiab] OR "pain quantification"[tiab] OR "pain recognition"[tiab] OR "pain scoring"[tiab]) AND ("facial expression recognition"[tiab] OR "facial expressions"[tiab] OR "face recognition"[tiab] OR "emotion recognition"[tiab] OR "facial coding"[tiab] OR "nonverbal communication"[tiab] OR "visual perception"[tiab]) AND ("2015/01/01"[Date - Publication] : "2025/12/31"[Date - Publication]) AND (english[lang]) AND ("adult"[MeSH Terms] OR "humans"[MeSH Terms] OR "male"[MeSH Terms] OR "female"[MeSH Terms] OR "facial expression"[MeSH Terms] OR "pain"[MeSH Terms]) NOT (Review[pt] OR "Case Reports"[pt] OR "Editorial"[pt] OR "Letter"[pt]) NOT (neonatal*[tiab] OR adolescen*[tiab])	31
Web of Science	TS=("artificial intelligence" OR "machine learning" OR "deep learning" OR "neural networks" OR "computer vision") AND TS=("pain assessment" OR "pain detection" OR "pain evaluation" OR "pain monitoring" OR "pain quantification" OR "pain recognition" OR "pain scoring") AND TS=("facial expression recognition" OR "facial expressions" OR "face recognition" OR "emotion recognition" OR "facial coding" OR "nonverbal communication" OR "visual perception") AND TS=("adult") Refined by publication years (2015-2025), by articles written in English	4
Cochrane Library	("artificial intelligence" OR "machine learning" OR "deep learning" OR "neural networks" OR "computer vision") AND ("pain assessment" OR "pain detection" OR "pain evaluation" OR "pain monitoring" OR "pain	2

	recognition" OR "pain scoring") AND ("facial expression recognition" OR "facial expressions" OR "face recognition" OR "emotion recognition" OR "facial coding" OR "nonverbal communication" OR "visual perception") in Title Abstract Keyword	
IEEE	("artificial intelligence" OR "machine learning" OR "deep learning" OR "neural networks" OR "computer vision") AND ("pain assessment" OR "pain detection" OR "pain evaluation" OR "pain monitoring" OR "pain quantification" OR "pain recognition" OR "pain scoring") AND ("facial expression recognition" OR "facial expressions" OR "face recognition" OR "emotion recognition" OR "facial coding" OR "nonverbal communication" OR "visual perception")	26
	Filters Applied: 2015 – 2025 and Journals	
