

A Study of the Development and Deployment of Emotionally Intelligent Artificial Intelligence

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Abstract. This paper examines the relationship between artificial intelligence (AI) and emotional intelligence (EI), particularly in light of the growing deployment of emotionally responsive AI systems in sensitive human contexts (e.g., healthcare, education, and customer service). Although AI has made significant progress in understanding and simulating human emotions through affective computing, it remains structurally incapable of experiencing emotions, as AI lacks consciousness and self-awareness—a phenomenon known as the "empathy gap." At an emotional level, AI can simulate empathy through data-driven models. Emotionally intelligent AI can approximate empathy through its data-driven model, but these simulations are not equivalent to genuine empathy. This distinction also raises ethical concerns, as users may experience emotional reactions or develop trust in AI systems that can't actually comprehend or grasp emotions. Such an illusion of empathy, enforced by HAT for humans to harmonically anthropomorphise machines, can make some individuals be emotionally dependent and/or manipulated (especially the ones who are vulnerable). It also highlights key risks associated with emotionally intelligent AI, including bias in emotion recognition, emotional manipulation by both commercial and political sectors of society, and the disruption of genuine human interactions. It acknowledges that although AI can augment the user's enjoyment and engagement, it must be implemented and designed ethically and transparently if it is to remain a supportive tool and not a replacement for genuine human empathy.

Keywords: Artificial Intelligence; Emotional Intelligence; affective computing; empathy gap; ethical AI.

INTRODUCTION

One of the most significant health challenges Artificial Intelligence (AI) has addressed is the evolution from rule-based systems to adaptive, data-driven technologies capable of performing highly complex cognitive processes. Thanks to advances in deep learning, natural language processing and affective computing, AI today operates in fields that previously belonged exclusively to human emotions. Author [1] introduced the term Emotional Intelligence (EI) as the ability to recognise and manage one's own and others' feelings. As AI steps into emotionally sensitive areas, such as education, healthcare, and mental healthcare, the intersection of AI technology and EI has attracted significant attention as a critical research direction [2-3]. The rise of affective computing, a field that enables machines to recognise and replicate human emotions, has also contributed to this trend. An emotionally intelligent AI system utilises facial expressions, voice

tone, and behavioural patterns to enhance the user experience and facilitate empathetic interactions [4]. Applications in the mental health area (such as chatbots capable of using speech to identify depression or anxiety) mirror the growing attention to emotion-aware AI to offer more scalable support [5, 6]. But this development raises philosophical and moral questions. Can machines ever really learn what emotions are, or are they simply faking probabilistic or heuristic responses?

Artificial intelligence can simulate emotions, but it does not naturally display genuine empathy or consciousness [7]. Yet, the emotionally intelligent AI is increasingly successful in areas such as education, where empathetic feedback enhances student motivation. There are also ethical problems surrounding surveillance and privacy. Emotion AI may be used for manipulation, profiling and exploitation, especially in areas with inadequate regulations [6]. The widespread use of AI

systems in various fields raises concerns of potential bias and security autonomy [8].

One key to solving these issues is collaboration across disciplines. Psychologists, ethicists, engineers, and policymakers must work together to ensure that emotionally intelligent AI is used responsibly. The growing use of such systems in caregiving, education, and customer service is likely to alter how humans perceive emotions and relationships [4]. This paper surveys the recent progress in AI-based emotional intelligence, focusing on both the practical aspects and the ethical and philosophical considerations of artificially intelligent machines. To create AI that's not only smart but also emotionally and socially responsible, it's essential to understand these dimensions.

Aim and Objectives of the Study. The study aims to explore interdisciplinary approaches to integrating artificial intelligence in curriculum development and assess their educational, ethical, and institutional implications.

Objectives:

- 1) To examine the current capabilities of emotionally intelligent AI systems in detecting, interpreting, and simulating human emotions through technologies like affective computing and natural language processing.
- 2) To explore real-world applications of AI-powered emotional intelligence in key sectors such as healthcare, education, customer service, and human resources.
- 3) To evaluate the ethical and social challenges associated with emotionally intelligent AI, including issues of bias, privacy invasion, emotional manipulation, and the empathy gap.
- 4) To assess the limitations of AI in replicating genuine human empathy, particularly in emotionally sensitive environments like therapy, caregiving, and interpersonal communication.
- 5) To recommend ethical, cultural, and regulatory frameworks for the responsible development and deployment of emotionally aware AI systems that align with human values and emotional diversity.

Conceptual Background

1) Artificial Intelligence (AI). Artificial Intelligence (AI) refers to the capability of machines to perform functions that would typically require human intelligence (think learning, pattern

recognition, problem solving and language comprehension). The latest advancements in ML, DL, and neural networks are shaping AI to mimic human cognition better [9]. Modern NLP techniques have enabled AI systems to understand sentiment, emotion, and context in human text in the same way humans do [10]; this is what lies at the heart of emotionally intelligent AI, whereby computers, through processing the facial gestures, tone of voice, physiological cues, and even the typed-in words) try to simulate emotional awareness [4]. Affective computing is also being utilised across various industries, including education, healthcare, and customer service, to facilitate human-robot interaction. The convergence of cognitive and emotional intelligence in machines, as AI becomes more social, hints at a future of more people-friendly, holistic technology. However, such advances also raise daunting ethical and philosophical questions: Can AI truly feel? – or does it just feel as if it feels? – blurring boundaries around whether there is any limit to machine empathy and emotional trust.

2) Emotional Intelligence (EI). Emotional intelligence is defined as the capacity to recognise, understand, and manage emotions in oneself and others. Initially proposed by authors [11] and popularised by the author [1], the underlying constructs of EI are self-awareness, self-regulation, motivation, empathy, and social skills. These skills are crucial for leadership, communication, and emotional wellbeing [1, 12]. The relevance of EI in technology has gained an elevated profile as AI systems increasingly function in emotionally sensitive arenas. People with high EI are more flexible, better at dealing with stress, and have good judgment – a characteristic that is now informing the creation of emotionally attuned AI [13, 14]. For instance, AI systems applied to healthcare and education have been developed to recognise and respond to emotional stimuli, thereby enhancing user interaction and engagement [15]. They are leveraging EI in HR practices and AI-human interfaces to promote empathy and trust among users [16, 17]. As the boundary between humans and machines blurs, building emotional intelligence into AI systems is becoming increasingly vital. Emotional intelligence remains at the heart of human connection, and it has become the soil from which emotionally aware, human-focused AI products are growing.

3) The Convergence of AI and EI. The intersection of AI and EI is probably best observed in the

emergence of affective computing, an interdisciplinary research field aiming to create systems capable of recognising, interpreting, and responding to human emotions. Affective computing, first introduced by Rosalind Picard (1997), has undergone significant development due to advances in digital technology and rapid advances in machine learning, facial recognition, natural language processing (NLP), and speech processing. These tools have begun to incorporate facial expression recognition, vocal tone and pitch analysis, and sentiment detection from text, all of which enable machines to interface with human emotional behaviour in subtle ways. Affective psychotherapy-driven AI platforms are on the rise across healthcare, education, customer care, and mental health, enabling higher user engagement. For example, emotionally intelligent AI chatbots can utilise empathetic feedback to respond to user distress in therapeutic contexts, or AI tutors can adapt teaching strategies based on a learner's emotional mood [18, 19].

Nevertheless, simulating EI in machines remains highly controversial. With the rise of emotional computer interaction, AI and EI are becoming increasingly intertwined. Communicating with machines about machines now redefines what can be expected from interaction with them in terms of trust and emotional depth.

Theoretical Framework

This work is informed by two theoretical frameworks: the Cognitive-Affective Theory of Mind and the Human-Machine Interaction (HMI) Framework. More recently, the Cognitive-Affective Theory of Mind, initially proposed by authors [20], has also been extended to model how artificial systems can perform affective reasoning. Based on this theory, the capacity to recognise emotions in others is not simply a general role of affective reflection in the exchange-copying problem. Still, it is likely also based on cognitive inferences made about others [21]. In the field of AI, it has become a concern whether machines can formulate an "artificial theory of mind" to simulate the cognitive and affective dynamics of human-human interaction [22]. The second theoretical block is provided by the Human-Machine Interaction (HMI) framework. It focuses on how emotionally intelligent AI systems shape trust, comfort and associated outcome behaviours. As AI increasingly penetrates emotionally charged environments, such as

healthcare, education, and customer support, the psychological and behavioural effects of these interactions are crucial [23]. Systems with emotional sensitivity, capable of responding to user moods and emotions, have been reported to yield higher empathic perception and better decision-making quality in digital engagements [24]. Collectively, these models facilitate a multifaceted consideration of emotionally intelligent AI, drawing on contributions from psychology, machine learning, and ethics to explore how machines might imitate, affect, or react to human emotions.

RESULTS AND DISCUSSION

AI and Emotional Intelligence: Technological Developments

1) Emotion Detection. A key aspect of Emotional Intelligence (EI) is the ability to detect emotions in the context of AI. It enables machines to perceive and interpret human emotions from bodily activity, using sensory and computational techniques. The most common method is facial expression recognition using a convolutional neural network (CNN) to analyse the tiny movements of facial muscles [25, 26]. Such systems can recognise emotions – such as happiness, anger, or fear – with high accuracy, reaching 98% or higher, especially in well-controlled environments. Another powerful modality is Voice (Voice-based emotion detection), as AI systems can process vocal cues, such as pitch, tempo, timbre, or inflexion, to detect the emotional state of speakers. Studies have shown that Deep Learning can now determine stress, excitement, or sadness using only audio data, making it helpful for mental health and call centre applications [27]. Natural Language Processing (NLP) has advanced, and text sentiment analysis models, such as BERT (Bidirectional Encoder Representations from Transformers) and GPT, examine word usage, grammar, and context to understand emotional tone in written texts [10]. AI customer service bots and digital mental health systems now incorporate these tools. Major commercial platforms provide real-time emotion analytics across health, automotive, and marketing, which can enhance the user experience and enable emotionally intelligent interactions [28].

2) Emotion Generation. The production of emotionally adequate reactions in artificial intelligence (AI) generally contributes significantly to narrowing the chasm separating machine logic

and human emotion. Recent large language models (LLMs), including OpenAI's ChatGPT-4o, have shown greater ability to convey emotional tone in their outputs, matching the emotional descriptions of empathetic dialogue and nuance. GPT-4 achieved a projected EQ of 117 when tested on simulated emotion recognition tasks, performing slightly better than the average human participant at around 89% in understanding emotional cues in a textual conversation [29]. This change is enabled by reinforcement learning with human feedback (RLHF) and pretraining on massive-scale, emotionally diverse corpora, allowing these models to understand and produce language patterns that express emotional intent [30]. For example, LLMs can adapt their tone to emotions such as sorrow, happiness, or exasperation, offering users a chatbot experience that appears emotionally aware. But even though AI can fake emotional replies, it doesn't "feel" emotions. Machine empathy is ultimately still an illusion, based on pattern matching and probabilistic modelling, rather than an embodied, affective experience [31]. There are specific sectors where emotional authenticity is crucial, such as the mental health field. Nevertheless, emotionally generative AI is finding use cases particularly in therapeutic chatbots, customer service automation, and social robotics, where it contributes to user satisfaction, engagement, and perceived levels of empathy.

3) Adaptive Learning. Adaptive AI learning enables programs to develop and improve based on user feedback and emotions continually; this is a remarkable feature, particularly useful in emotionally sensitive domains such as mental health, education, and human-robot interaction. By leveraging reinforcement learning and context-aware memory, AI can provide personalised responses tailored to the user's history and emotional state [32]. Emotionally intelligent chatbots, such as Meta's BlenderBot and Microsoft's Xiaoice, utilise deep neural networks to detect cues about mood changes, recall past conversations, and adjust their tone accordingly. By simulating empathetic engagement, these systems improve the user experience in iT and EC [33]. Long-term memory mechanisms enable the AI to anticipate emotional needs – e.g., recognising early symptoms of distress or recalling preferences – so it can offer more customised, supportive interactions. Yet as the AI becomes more attuned to emotions, it also raises ethical issues. The acquisition and utilisation of sensitive emo-

tional data can result in manipulation or an invasion of privacy, in particular for commercial purposes [34]. Although they lack emotions, adaptive learning can evoke emotional responses, and the similarity of emotional reactions can foster a connection to more human-like behaviour. It is an essential step toward emotionally intelligent and user-centric AI design.

Applications in Key Sectors

1) Healthcare. Emotionally intelligent AI is revolutionising the medical world, especially in mental health. One of the most popular applications is the AI-facilitated chatbots Woebot and Wysa, which provide users with real-time psychological support based on CBT principles. These tools are based on Natural Language Processing (NLP) and sentiment analysis to recognise the emotional cues in user conversations, providing empathetic responses and assisting users in therapeutic exercises [35]. Woebot, for example, communicates with users in text and detects emotional states using affective computing algorithms. There is evidence that users may develop emotional attachment to these chatbots, with reports of decreased anxiety and depression symptomatology after short-term use [36, 37]. Enlevva's Wysa, likewise, relies on AI-based dialogue management – listening to speech so that it can adjust to the user's tone and mood – to be a helpful sidekick to users for whom traditional therapy might be too expensive, too intimidating, or too far away. AI also extends beyond chatbots to emotionally intelligent robot caregivers, such as robot pets like the PARO therapeutic robot in Japan, as well as to diagnostic instruments that observe patients' facial expressions or vocalisations for hints of distress or cognitive decline [38]. Notwithstanding such developments, questions around privacy and the ethical limits of AI in sensitive emotional spaces remain. However, affective AI has shown promise in improving access to and support for mental health, particularly in resource-constrained or hyperactive contexts.

2) Education. AI with emotional intelligence is one way AI in education is changing the game, enabling more individualised, student-driven learning experiences. These systems may be able to determine learners' emotional states – e.g., confusion, frustration, and boredom – through facial recognition, voice tone analysis, and keystroke dynamics. Emotion-aware AI: AI that can adapt its responses in real time not only reduces learning anxiety but also increases engagement

[29]. Emotion-aware intelligent tutoring systems (ITS), for instance, adapt teaching strategies to students' affective cues, such as providing motivational prompts or simplifying content in response to signs of stress or cognitive overload [4]. Virtually intelligent assistants, who are mainly based on natural language processing and sentiment analysis, encourage and build a supportive environment, notably in a context of remote learning [39, 40]. These technologies provide a human-like interaction, thus presenting a more personalised Cam Chat App that is obviously more engaging to users. However, concerns about ethics persist, including the risks of emotional data misuse, algorithmic bias, and violations of students' privacy. Although these concerns need to be addressed thoughtfully, the potential of EQ AI in education is highly promising. It can improve instruction quality and foster a deeper emotional connection between learners and digital platforms, quietly shaping the future of digital education.

3) Business and Customer Service. The incorporation of Emotion AI into business and customer service has improved the relationship between companies and clients, enabling companies to enhance customer satisfaction, brand loyalty, and service efficiency [41]. Sentiment analysis, natural language processing (NLP), and even facial or voice recognition enable businesses to interpret what their customers are feeling in real time, enabling more empathetic responses. Some customer service tools, such as Salesforce Einstein and Microsoft Azure Cognitive Services, feature emotion recognition to accurately gauge frustration, satisfaction, or confusion through text or spoken tone, allowing an organisation to provide the appropriate response [42]. These facilities enable businesses to manage issues themselves, escalate cases as needed, and ultimately decrease churned customers, thanks to an optimal customer experience. For instance, AI chatbots that listen for emotional signals to gauge the urgency of a customer request or to de-escalate heated conversations. Affective virtual agents, such as those in the Second Life chatroom, utilise emotion-scanning chatbots and pre-trained models, including BERT and GPT-4, which process emotional complexes and return relevance between inputs and outputs [10, 30]. Emotion AI has been utilised not only in support services but also in areas such as marketing and sales, with tools that track emotions by analysing consumers' reactions to ads or product descriptions, allowing

companies to optimise campaigns in real time for increased engagement [43, 44]. Yet as is also the case with Emotion AI across the industry, there are ethical issues surrounding privacy, data consent and algorithmic bias. Still, its ability to humanise digital conversations is becoming a more valuable asset in managing customer relationships.

4) Human Resources and Leadership. Emotional Intelligence (EI) enabled by Artificial Intelligence (AI) is transforming the way human resource (HR) and business leaders manage people in today's organisations. Tools based on AI are now being leveraged in recruitment, performance appraisal, and leadership promotion evaluation to measure qualities such as empathy, adaptability, and emotional regulation [45]. Platforms such as HireVue and Pymetrics deploy algorithms to assess facial expressions, voice intonation, and language in videos to measure candidates' emotional intelligence and cultural fit. Recent studies indicate that companies that utilised EI-augmented AI experienced a significant increase in team productivity and reported greater empathy from managers [46-48]. Emotion AI is also a tool for leaders to help guide their communication and emotional tone, in the service of psychological safety in teams.

Additionally, HR can utilise ongoing EI monitoring to identify signs of burnout or other disengagement, enabling them to intervene promptly and safeguard employees [49]. However, concerns about affective surveillance, biased algorithms, and opacity continue to grow. Organisations may need to implement ethical governance to prevent emotionally intelligent AI in HR from misusing data or discriminating against human workers. However, when deployed responsibly, it is a powerful tool for improving an organisation's relationships, day-to-day operations, and employee morale.

Ethical and Social Considerations

1) Privacy and Surveillance. As emotionally intelligent AI systems become more sophisticated, legitimate concerns arise about data privacy and emotional surveillance. The technologies required to detect emotion – including facial recognition, voice modulation analysis, and sentiment tracking in text – necessitate the capture of intimate data, such as facial expressions, tone of voice, heart rate, and language use. These data are routinely collated without informed consent, prompting concern about the surveillance, stor-

age, and administration of individuals' personal information [50]. Workplaces, schools, and healthcare providers have adopted emotion-AI technologies to "improve" service provision, yet critics fear these technologies may undermine psychological autonomy and intensify managerial surveillance [49]. Biases in the training data of emotion-recognition systems have also made them prone to misinterpretations, particularly among diverse cultures, genders, and neurodiversity [51, 52]. Misattributions of emotions can result in unfair treatment or poor decision-making, particularly in high-stakes settings – such as hiring, policing or mental health assessment. So, AI-EI coupling can be a beneficial development. Still, there should be sufficient safeguards in place, through laws and privacy protection acts, to prevent rogue entities from exploiting this new technology to harm our world.

2) Bias and Discrimination. With AI systems incorporating emotion recognition, fears of embedded biases have escalated. Emotion recognition AI (ERAI) typically employs machine learning models trained on demographically imbalanced datasets, which can lead to bias when interpreting emotional expressions. Buolamwini [53] found that facial analysis algorithms made more mistakes in identifying Black faces as angry than White faces, due to racial biases in the training data [53, 54]. ERAI is also subject to cultural bias. People from different cultures may interpret gestures considered neutral or respectful in their own culture as negative, leading to misunderstandings that can result in discrimination in employment opportunities, law enforcement decisions, or healthcare diagnoses [55]. There is also a gender bias in which emotion classifiers frequently underestimate (or misclassify) women's expressions of emotion based on stereotypical training assumptions. These biases harm our society and further entrench systemic discrimination and undermine society's trust in emotionally intelligent AI. Developers need to create more inclusive and diverse datasets and implement ethical design principles that address these concerns. It takes a mix of cultural sensitivity, empirical validation, and transparent auditing – an interdisciplinary blend, you might say – to create emotion-aware AI systems that are fair and held accountable.

3) Emotional Manipulation. As AI with emotional intelligence gets better at faking empathy, the danger of emotional manipulation grows. Emotion AI – which seeks to read and respond to hu-

man emotions to mimic, elicit, or modify them – is being deployed or trialled for use in call centres, the analysis of job candidates' interviews, political campaign strategy, and the wellbeing of online students. These systems can subtly determine specific responses to facilitate persuasion, trust, or engagement. For example, AI chatbots used in political campaigns or advertising could leverage emotional states to reinforce people's biases or influence their views without their awareness [XYH]; this corresponds with the "ELIZA effect", where people project a human-like understanding onto machines. First noted in the 1960s with the introduction of chatbots, this effect is now magnified by more sophisticated systems, such as GPT-4 and Replika, which provide emotionally aware, context-rich interactions [56]. Especially for more vulnerable or socially isolated users, it is possible to become attached to or trust these systems, confusing simulated empathy with genuine empathy [57]. In business, EAI is currently used in retail, call centres, and social media to guide customer sentiment and optimise satisfaction or loyalty [58]. In the absence of strong regulation and ethical oversight that can prevent abuses, these technologies risk manipulating users, subjecting us to more surveillance capitalism, and undermining informed consent. Fair placement is essential and requires openness to design and the responsible use of resources.

Challenges and Future Directions

1) The Empathy Gap. Even with the current progress in the field of affective computing, AI lacks emotions in the same way that humans do, a phenomenon commonly referred to as the "empathy gap" [59]. Although these systems may perceive emotional cues from facial expression, voice, and text, they are not sentient or self-reflective. They are capable of faking it, so to speak, rather than actually experiencing the world, leading to fears of Fake EQ in machines [60]; this is especially limiting for emotionally sensitive topics, such as mental health, parenting, and education, where authentic empathy is essential. Chatbots like Wysa and Replika are emotionally responsive, but they work through pattern recognition and rely on scripted replies rather than editable, lived emotional knowledge [61]. Although users can see that these interactions have compassionate properties, the systems lack a genuine moral sense or intuition. The illusion of empathy can lead to undue trust and emotional attachment, particularly among vul-

nerable populations [31, 62]. This has raised ethical concerns about the use of emotionally responsive AI in roles that require deep human connection and empathy. Several experts advocate for combining emotional modelling with ethical reasoning to improve AI behaviour, but without self-awareness, these machines cannot effectively model human emotional intelligence. The empathy gap remains a significant obstacle to the development of a fully human-like interface.

2) Interpretability and Transparency. Interpretability and Transparency: Emotionally Intelligent AI Systems Often Pose Challenges in These Areas. A majority of such systems are built using complicated machine learning architectures and algorithms, in the form of deep neural networks and transformer models, which operate as "black boxes", i.e., not able to explain how specific emotional predictions were obtained [63]. This level of opacity is particularly challenging for sensitive applications, such as mental health care, education, or judicial decision-making, where explanations of why an AI inferred an emotion are critical for trust and accountability. Therapists, educators, or legal officials must understand how the AI system draws its conclusions when classifying a user as "distressed" or "angry" through facial recognition or text sentiment analysis. Without clear pathways, excessive personal emotion, interpretation bias, or unjust results can occur when based on modest data or algorithms [64, 65]. To address this, researchers propose Explainable AI (XAI) frameworks that facilitate the interpretation of decision-making processes for human users. Techniques such as SHAP (Shapley Additive exPlanations) and LIME (Local Interpretable Model-agnostic Explanations) are being used to provide post-hoc explanations for emotional classifications, enabling the interpretation of outcomes, for example, vocal pitch, text sentiment, or microfacial expressions [66, 67]. Enabling interpretability in emotionally intelligent AI is not only practical but ethically responsible. Transparent systems should inspire trust in users, prevent abuse, and promote ethical behaviour.

3) Regulation. The law governing emotionally intelligent Artificial Intelligence (AI) remains immature as technological innovation outpaces regulatory oversight. Indeed, as AI systems learn to recognise, interpret, and simulate emotions, their potential for misuse – particularly in contexts such as surveillance, advertising, or social

manipulation – has raised urgent calls for regulatory intervention [68]. The EU has taken the global lead in this area with the proposed EU AI Act, which categorises AI systems by risk level. As employed in sensitive applications such as workforce, education, or policing contexts, emotion recognition technologies are classified as a "high-risk" [69]. The Act requires transparency, human oversight, and documentation of how data is used in taking algorithmic actions. However, critics argue that enforcement remains sluggish and that the fact that it is nearly impossible to determine if a tool employs facial recognition makes implementation challenging, particularly due to cross-border issues. Likewise, the OECD Principles on AI, initiated in 2019, emphasise human-centred values, fairness, transparency and accountability in AI systems [69]. Dozens of countries, including the U.S., U.K., and Japan, have adopted these principles. Still, concrete regulations for emotion-aware AI remain scarce, especially in commercial contexts such as marketing or social media. Indeed, in places like Nigeria and much of Africa, regulation around AI and emotional data is essentially nonexistent. Without enforceable standards, there's a danger that the development of emotional AI will proceed faster than the implementation of legal protections, resulting in privacy violations, algorithmic bias and ethical lapses. Therefore, global and local regulations must evolve in tandem with technological advances to ensure ethical and socially responsible use.

4) Long-Term Psychological Impact. Emotionally responsive AI, such as chatbots and virtual companions, is disconcerting to some researchers, who fear it could play a significant role in our daily lives [57, 70]. Such systems purport to model empathetic emotional support, but prolonged dependence on them can debilitate real-life emotional faculties, particularly for young and impressionable users [71]. Turkle [72] alerts us to an "illusion of companionship without the demands of friendship" that brings together users – particularly children – with machines, rather than addressing the complexities of relations with human beings; this can result in a lack of emotional connection and social skills. Children raised with emotionally intelligent AI could also develop a false need for emotional reciprocity. Because AI is not truly conscious and does not experience genuine emotions, this incongruity can lead to confusion, disappointment, and even emotional dependence in humans. The onslaught

of human interaction in virtual environments has been positively associated with loneliness, anxiety, and depression in some studies, particularly when unaccompanied by human interaction in person [73]. To minimise risks, emotional AI needs to reinforce, not replace, human relationships; this argues for protections such as parental monitoring, emotional literacy training, and policy guidance that promote healthy digital behaviour. Ultimately, emotional AI should not replace human interaction, but rather augment it to foster genuine human connections.

CONCLUSIONS

The integration of AI and EI is a game-changing innovation in how humans interact with machines, spanning from automation to empathetic engagement. In healthcare, the classroom, business, and customer service, emotionally intelligent AI is being developed to understand, respond to, and, in some cases, trigger human-like emotional responses. This transformation, brought about by evenX, has the potential to create more human-centric, empathetic, and adaptive systems, which can enhance the overall human experience in natural and meaningful ways. However, as AI becomes increasingly emotionally intelligent, it raises complex ethical, social, and psychological questions. Machines cannot "feel", they are "acting" or pretending "what to do" when a series of data patterns is contained in their representations. This empathy – while practical for specific applications, such as mental

health chatbots or educational support systems – can blur the distinction between genuine compassion and algorithmic parroting. It's that we have to be highly wary of the dangers, which isn't only that we get emotionally manipulated or lapse into surveillance ourselves, but that something will be lost if we take this too far; if we come to over-reliance on these systems. AI emotional intelligence should therefore be treated as a tool to augment, but not replace, the emotional work, compassion, and relational depth that we, as humans, bring to the table. Its development and implementation should be based on ethics – specifically, privacy, transparency, fairness, and psychological safety – especially when conducting projects in vulnerable and emotionally charged environments. It is the role of developers, regulators, and users to collectively steer the direction this convergence ultimately takes. Good governance, balanced public information, and explicit normative guidelines, it is argued, will be necessary to ensure that emotionally intelligent devices ultimately contribute to human welfare without infringing upon autonomous agency or trust in society. Ultimately, AI with emotional intelligence has the potential to be transformative – but only if it is grounded in humanity, influenced by empathy, and driven by human values. As we proceed to develop the emotional capacities of machines, we need to deepen our focus on values-based innovation, inclusive design, and the preservation of what it means to be human.

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