IJEAST

INTERNATIONAL JOURNAL
OF ENGINEERING APPLIED SCIENCE
AND TECHNOLOGY

VOLUME : 10 ISSUE : 03 Print / Issue Publication Date: 03-Sep-2025

ISSN : 2455-2143

DOI : 10.33564/IJEAST.2025.v10i03.007

Indexed In

Google SCHOLAR OPEN ACCESS doi Crossref

WWW.IJEAST.COM

editor@ijeast.com

International Journal of Engineering Applied Sciences and Technology, 2025
Vol. 10, Issue 03, ISSN No. 2455-2143, Pages 39-44
Published Online July 2025 in IJEAST (http://www.ijeast.com)

ADVANCING EMOTIONALLY INTELLIGENT ARTIFICIAL INTELLIGENCE: CHALLENGES, FRAMEWORKS, AND FUTURE DIRECTIONS

Raveendra K Wagh
School of Management and Labour Studies,
Tata Institute of Social Sciences, Mumbai, India

Abstract— **The incorporation of emotional intelligence (EI) into artificial intelligence (AI) is a paradigm shift from rational computation to empathic and socially conscious systems. This theoretical paper discusses the development, existing challenges, major frameworks, and future directions in creating emotionally intelligent AI. By integrating cross-disciplinary literature from cognitive science, affective computing, and machine learning, the research offers an interdisciplinary overview of the subject. The article ends by making an appeal for ethically responsible, inclusive, and human-centered methods to move this transformative frontier forward.**

Keywords— **Emotional Intelligence, Artificial Intelligence, organizational performance, human-machine interactions, inter professional emotional skills.**

I. INTRODUCTION

Artificial Intelligence has long centered on logic, data processing, and task automation. The advent of emotionally intelligent AI—a system that can sense, interpret, and respond to human emotions—constitutes a dramatic breakthrough toward more natural and effective human-AI communication. Emotional intelligence in computers not only results in greater user satisfaction but also promises application in healthcare, education, and customer service.

The development of Artificial Intelligence (AI) has revolutionized several industries by reaching a greater level of efficiency, customization, and decision-making. However, as increasingly more AI technologies are getting significantly integrated into human-oriented environments, the need for machines that can identify and respond to human emotions skyrocketed. This evolution calls for the development of Emotionally Intelligent AI (EIAI), which reconciles computational intelligence with emotional intelligence to facilitate more authentic and empathetic human-computer interactions (Erol et al., 2020; Narimisaei et al., 2024). Founded on the seminal theories of emotional intelligence by Salovey and Mayer (1990) and popularized in applied leadership by Goleman (1995), EIAI seeks to bridge the gap of emotion between artificial systems and human users.

Emotional intelligence (EI) has long been linked with increased interpersonal communication, psychological well-being, and organizational performance (Karimi et al., 2021; Cao et al., 2022). In high-stakes disciplines like medicine, EI yields improved patient outcomes and decreased employee burnout (McNulty & Politis, 2023; Emami Zeydi & Karkhah, 2023). Encouraged by such advantages, recent research has advocated for the integration of EI values into AI systems, particularly in empathy-driven applications, ethical decision-making, and flexibility (Davenport & Kalakota, 2019; Hachoumi & Eddabbah, 2024). There are complications to this. These are algorithmic limitations in the detection of affect, ethical issues around the collection and use of affect data, and translating human feelings into a computational language (Narimisaei et al., 2024; Neethirajan, 2024).

To manage such complexities, multidisciplinary design becomes a requirement that integrates psychological theory, human-computer interaction design, and robust data-driven models (Wang et al., 2024). Blended frameworks that strike a balance between automation and human-centered principles are on the rise, particularly in marketing and service sectors where personalization is paramount (Govindaraj et al., 2024; Monica & Soju, 2024). Moreover, socio-emotional competence is emphasized by emotionally intelligent leadership frameworks and group dynamics research as being essential to business achievement, and these may be leveraged to guide the design of EIAI (Coronado-Maldonado & Benítez-Márquez, 2023; Mattingly & Kraiger, 2019).

II. LITERATURE REVIEW

The EI work and the incorporation of EI in AI technology are a new interdisciplinary focus on emotionally responsive technology development that improves human-computer relationships. Salovey and Mayer (1990) originally defined emotional intelligence as the capacity to recognize one's own and others' emotions, and to utilize these as a guide for thought and behavior. Under this presumption, Goleman (1995) noted EI as a key factor in leadership, communication, and empathy—skills that are increasingly needed in AI systems deployed in human-centric environments.

In the healthcare setting, EI has been linked with numerous desirable outcomes, including professionalism and staff well-

being. Karimi et al. (2021) established that greater EI is linked with improved quality care, improved patient outcomes, and staff psychological empowerment. Cao et al. (2022) also established that EI decreases burnout in healthcare workers, particularly when faced with workplace problems such as violence. The significance of these findings highlights the importance of affective skills in high-stakes situations, paving the way to incorporating analogous capabilities into AI technologies utilized in the same environments.

Educational and training settings also highly prioritize empathy and interprofessional emotional skills. McNulty and Politis (2023) argue that incorporating EI into health education fosters collaboration and empathy—skills fundamental to human-centered care. Supporting this, Mattingly and Kraiger (2019) report meta-analytic data that EI can be efficiently trained, and therefore the same development models might be adapted for AI systems that should learn emotional reactions across time.

In technology, more recent research has explored how human emotional capabilities are being transferred to AI. Erol et al. (2020) define the main elements required for artificial emotional intelligence (AEI) as perception, regulation, and proper mechanisms of emotional response in human-computer interaction. Narimisaei et al. (2024) build on this by examining existing emotion recognition technology and pointing out the difficulty with providing rich, context-aware emotional responses to AI. Hachoumi and Eddabbah (2024) also contend that the merger of EI and AI can drive professional growth and lifelong learning, particularly in healthcare, whereby adaptive emotional systems can offer cognitive as well as emotional support.

The people-oriented perspective is also championed in AI applications outside healthcare. Neethirajan (2024) writes about the use of AI-powered sensor technologies in agriculture that could embed emotional sensitivity towards enhancing animal welfare, recommending the wider use of emotional intelligence concepts in AI systems design. Organizational dynamics also benefit from EI, as argued by Coronado-Maldonado and Benítez-Márquez (2023), who established that emotionally intelligent leadership improves team communication, motivation, and cohesion. These human-centered outcomes provide a valuable template for the development of AI systems that can facilitate trust and collaboration in work environments.

III. THE ROLE OF AI IN EMOTIONAL INTELLIGENCE

The bringing of Artificial Intelligence (AI) into areas traditionally the preserve of human emotional processes is a paradigm change in the digital age. The growing presence of AI in emotional intelligence (EI) is an indicator, not just of technical progress, but of a need for more empathetic, reactive, and humane systems within society. It is argued by experts that AI can now transition from functional automation to relational interaction, in which machines can see, understand, and even replicate human emotions (Erol et al., 2020; Narimisaei et al., 2024). This ability can improve human-machine collaboration, particularly where emotional awareness is always at the center, i.e., healthcare, education, marketing, and leadership.

Emami Zeydi and Karkhah (2023) point out how AI involves critical care nurses in emotional labor and rehabilitation, while Davenport and Kalakota (2019) present the higher potential of AI in improving diagnostic precision and patient involvement. Such tools, when imbued with emotional intelligence, can potentially reduce clinical burnout and improve interpersonal care relationship. Ibrahim (2024) supports this argument by employing the UTAUT model to describe AI adoption in the Jordanian healthcare, emphasizing that emotional acceptance of AI technologies is the driver of successful adoption. Similarly, McNulty and Politis (2023) emphasize empathy and EI as fundamental in medical training and suggest that AI systems that have emotional indicators can better align with human values in clinical training and support.

Emotional intelligence is also essential in teamwork and leadership. Coronado-Maldonado and Benítez-Márquez (2023) demonstrate that emotionally intelligent leadership has a relationship with better team performance, communication, and morale. This is employed to inform developing AI applications within organizational settings, where a collaborative digital agent can offer emotionally satisfying working conditions. As Singh et al. (2024) contend, the embedding of EI in AI has the potential to sustain "the human touch" in more automated environments and assist hybrid models of machine-human interaction that are both efficient and empathetic.

Technologically, the intersection of elastic sensors, machine learning, and artificial synapses is making more intuitive systems of emotional recognition possible (Sun et al., 2024). These intelligent systems are able to interpret vocal tones, facial expressions, and behavioral signals, further making the AI responsive to emotional context. Yet there are also ethical implications. Hemade et al. (2024) examine how feelings toward AI—particularly fear and uncertainty—are moderated by personality and societal narratives, which reflect deeper psychological and cultural anxieties.

Monica and Soju (2024) highlight how AI is revolutionizing service marketing as it makes the customer experience more personalized and emotionally intelligent. Similarly, Casetti (2024) informs us that emotionally intelligent AI systems were the focus of much attention at the Mobile World Congress, highlighting the commercial drive driving this technological change. Hachoumi and Eddabbah (2024) further emphasize the double role of AI and EI as agents for professional development and lifelong learning, particularly in emotionally demanding careers. Kaneria and Mehta (2024) support such prudence by inquiring whether AI is a friend or foe to human emotional richness, suggesting maintaining control and transparency when developing emotionally intelligent AI. In service and business, emotionally intelligent AI is being

increasingly utilized to better engage users and interact with brands.

Lastly, as Luckin (2024) says, future education and professional training will have to shift towards developing human emotional intelligence and AI literacy. It is not about substituting human feeling but about adding richer human capabilities in interaction with intelligent systems that are capable enough to recognize and accommodate emotional nuance. The promise of AI in emotional intelligence, then, is to play both mirror and mediator—mirroring human emotional subtlety and augmenting our own capacity for connection in an increasingly digital existence.

IV. CHALLENGES IN DEVELOPING EMOTIONALLY INTELLIGENT AI

Development of emotionally intelligent artificial intelligence (EIAI) is a multidimensional set of challenges that intersect technical, ethical, organizational, and societal domains. Machine learning, deep learning, and automation have empowered the capability of AI in cognitive domains (Aggarwal et al., 2022), but imitation of human emotional intelligence is an extremely complex and so far in general unsolved problem. One of the largest hurdles is in the challenge of understanding, mimicking, and reacting to the entire range of human emotions, which are richly contextual, culturally embedded, and frequently vague (Erol et al., 2020). This is also complicated by the intrinsic limitations of existing affective computing technology, which will typically only use surface measures like facial expression or voice tone with no deeper comprehension of emotional meaning or purpose.

Technical constraints also result from the insufficiency of emotionally annotated data and difficulties in training AI systems to manage dynamic and spontaneous human interactions. Remote patient monitoring, for instance, as Shaik et al. (2023) opine, is difficult for AI since it is problematic for AI to stay sensitive and dependable in emotionally rich or high-urgency situations that require more than algorithmic accuracy—empathy, judgment, and responsiveness. Similarly, Voigtlaender et al. (2024) highlight that in healthcare professions like neurology, AI emotional misinterpretation can have harmful impacts, especially where patients depend on emotionally sensitive diagnoses or support.

Organizational and ethical issues further complicate the way in which EIAI can be incorporated. Rane (2024) questions transparency, accountability, and objectivity of usage in tools such as the generative ChatGPT and Gemini that become particularly significant when such tools endeavor to simulate human emotional characteristics in usage such as in human resource management or counseling. Scalability and contextualization remain challenges. Based on Erol et al. (2020), emotional intelligence demands that AI systems react adaptively in real-time to diverse user actions, cultural attitudes, and environmental situations—skills difficult to instill in static models. The possibility of emotional manipulation, crossing of psychological boundaries, or facilitating biased conduct patterns continues to be a serious issue. Anane-Simon and Atiku (2024) also warn that startup ecosystems based on quick scalability and competitive innovation might value functionality and cost-effectiveness above emotional intelligence, resulting in AI systems devoid of authentic empathetic interactions.

In addition, emotional intelligence in AI requires interdisciplinary knowledge—a harmony between computer science, psychology, linguistics, and sociology—that is as yet underdeveloped in the majority of the present research and application models (Coronado-Maldonado & Benítez-Márquez, 2023). Most systems continue to function in narrow disciplinary silos, producing emotionally vacuous or brittle reactions. Even in fields such as accounting, where AI uptake is quickly increasing, Ajayi-Nifise et al. (2024) emphasize the danger of depersonalization and the minimization of human-focused communication to transactional exchanges with long-term implications for emotional resonance in the workplace.

V. FRAMEWORKS FOR EMOTIONALLY INTELLIGENT AI

Implementations to create Emotionally Intelligent Artificial Intelligence (EIAI) have surfaced where affective computing, psychology, neuroscience, and machine learning converge. They seek to emulate the human capacity for receiving, understanding, and acting on emotional information—inevitably a sophisticated process involving delicate, context-dependent mechanisms. Current models are most concerned with emotion detection systems, response generation frameworks, and interaction protocols by which AI can simulate or get trained in emotional conduct. Yet, there still exist glaring gaps across integration, flexibility, and scalability areas that necessitate the introduction of more comprehensive and multi-disciplinary models.

One of the earliest works in this field is Calvo and D'Mello's (2010) affect detection framework, which classifies affective AI systems as emotion sensing units (e.g., facial, vocal, physiological signals), processing (with models like Bayesian networks and neural networks), and emotion modeling. This framework established the basis for systems attempting to capture affective states, but they all fail miserably at the richness and diversity of context and culture in emotional expression.

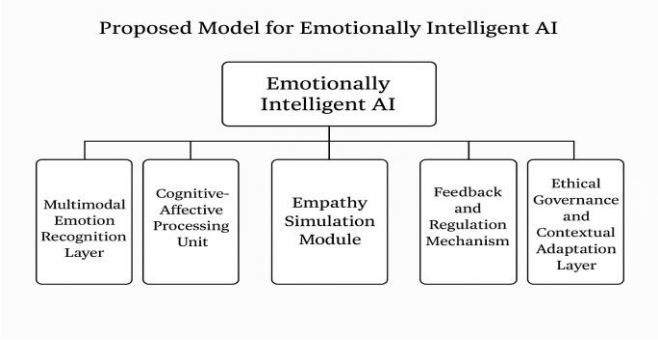
Erol et al. (2020) extend such root models by proposing a multi-level AEI architecture of perception, reasoning, learning, and regulation processes to facilitate cooperative social interaction between human and machine. Their strategy prioritizes "emotion elicitation" and "response formulation" modules that are dynamically adaptive to interpersonal contexts. However, even in its completeness, this model continues to have problems with real-world scalability and interpretive accuracy of complex human emotions.

International Journal of Engineering Applied Sciences and Technology, 2025
Vol. 10, Issue 03, ISSN No. 2455-2143, Pages 39-44
Published Online July 2025 in IJEAST (http://www.ijeast.com)

Additional progress can also be observed in Narimisaei et al. (2024), who present an extensive review of emotion recognition and responding processes in AI systems. They emphasize the requirement for integrating multimodal data (visual, audio, and text) and the need for AI to learn not only how to detect emotions but also when and how to respond empathetically. Their conclusions are that the majority of current systems do not have the emotional regulation aspect that is so important to emotionally intelligent behavior.

Within application domains like healthcare, models for EIAI are starting to converge more with professional education and patient activation objectives. Hachoumi and Eddabbah (2024) contend a model that combines emotional intelligence with adaptive learning systems to allow AI to make a valuable contribution to lifelong learning and compassionate care. In parallel, Shaik et al. (2023) also recognize the necessity of emotionally intelligent AI for remote patient monitoring systems, pointing out that though the technological basis is available, the majority of models are unable to adjust dynamically in real-time to the emotional state of patients—a key shortcoming in high-stress situations such as intensive care.

Voigtlaender et al. (2024) and Coronado-Maldonado and Benítez-Márquez (2023) also refer to the organizational and ethical aspects of EIAI frameworks. Such researchers recommend models that integrate not just technical emotional recognition but also ethical decision-making layers, organizational empathy, and team-based emotional feedback systems. In corporate settings like marketing, Hao and Liu (2024) mention the possibility of emotionally intelligent AI revolutionizing customer interaction through real-time mood analysis and adaptive communication but point out that existing frameworks tend to focus more on functional outcomes than genuine emotional alignment.



Considering these observations, a candidate model for Emotionally Intelligent AI would incorporate five central components:

1. Multimodal Emotion Recognition Layer – using inputs from facial expressions, tone of voice, physiological signals, and text analysis to decode user emotions with contextual awareness.
2. Cognitive-Affective Processing Unit – the synergy of machine learning and rule-based reasoning to mimic humanlike appraisal and interpretation of emotional data.
3. Empathy Simulation Module – creating context-relevant and ethically correct responses of understanding, concern, or support.
4. Feedback and Regulation Mechanism – enabling learning from user feedback, self-regulation of responses, and adaptation of emotional expressions over time.
5. Ethical Governance and Contextual Adaptation Layer – making sure that emotional interactions are culturally sensitive, transparent, and consistent with organizational and social values.

This envisioned model seeks to transcend emotion-detection strategies of limited scope toward a more comprehensive, human-centric design. By integrating empathy, flexibility, and moral reasoning into emotionally intelligent artificial intelligence, we can facilitate more effective application in healthcare, leadership, education, and marketing that reinforces instead of undermines the emotional intelligence necessary for human connection.

VI. FUTURE DIRECTIONS IN EMOTIONALLY INTELLIGENT AI

The future of Emotionally Intelligent Artificial Intelligence (EIAI) holds the promise of transforming the way technology engages with and reacts to human emotion, especially in the realms of education, healthcare, marketing, and professional services. As AI shifts from a tool for automation to one of emotional interaction, researchers and builders are concentrating on designing systems that are not only intelligent but also emotionally attuned, ethically sound, and socially responsive.

In the field of education, emotionally intelligent AI has been anticipated to have a revolutionary impact. Luckin (2024) believes in a reimagined model of education in which AI augments, not replaces, human intelligence by enhancing critical thinking, empathy, and socio-emotional learning. Abulibdeh et al. (2024) note the adoption of AI in education for sustainable development in Industry 4.0, proposing that EIAI is capable of personalizing learning experiences, identifying emotional disengagement, and giving real-time feedback to enhance student well-being and motivation. Correspondingly, Karakose (2024) investigates the sensational question of whether AI could possibly replace school principals someday. While unlikely, future EIAI systems could support administrative decision-making and student management through emotionally sensitive data analytics and relationship-centered design.

In healthcare, emotionally intelligent AI holds promise for augmenting human care in emotionally charged settings. Voigtlaender et al. (2024) emphasize the role of AI in neurology, where emotionally adaptive systems could improve patient support, communication, and mental health

interventions. The creation of such AI should take into account the affective labor that has historically been done by humans, as advocated by Perrotta et al. (2024), who posit that next-generation AI needs to mediate emotional interactions with sensitivity and ethical consciousness—particularly when used in intimate, therapeutic, or educational settings.

The business and professional services industry will also be the gainers of emotionally intelligent systems, especially for marketing and customer interaction. Hao and Liu (2024) list future research directions in interactive marketing that involve the creation of emotionally sensitive chatbots and recommendation systems. These systems will help produce more personalized, empathetic, and emotionally matched customer experiences, inducing loyalty and satisfaction in more digital markets. In addition, hybrid intelligence, that combination of human and machine cognitive-emotional ability, is becoming a leading principle in the conception of next-generation systems. Pavlova et al. (2024), in their article on hybrid intelligence in dentistry, contemplate a future in which EIAI works alongside professionals in decision-making, patient communication, and empathy-based care.

VII. CONCLUSION

Emotionally intelligent AI is a visionary target in the development of artificial intelligence. Though great strides have been taken toward affective computing and emotion recognition, various technical, ethical, and conceptual challenges persist. Addressing these issues entails more than algorithmic innovation in design and data gathering—it demands a deep rethinking of emotion, empathy, and human values as theoretically conceived and practically operationalized within artificial systems. The full potential of emotionally conscious systems can only be achieved through a comprehensive, cross-disciplinary approach based on ethics and human values. The extent of emotionally intelligent influence on human growth and its growing relevance to AI. As the discipline of emotionally intelligent AI continues to evolve, the necessity is to take cues from both psychological knowledge and technological expertise in an effort to break out of current limitations and engineer systems that are not only smart but also emotionally perceptive and socially aware. Emotional intelligence is not a single construct, and such nuance comes at the expense of having huge computational resources, loads of testing, and ongoing human involvement.

VIII. REFERENCES

[1]. Abulibdeh A, Zaidan E, Abulibdeh R. Navigating the confluence of artificial intelligence and education for sustainable development in the era of industry 4.0: Challenges, opportunities, and ethical dimensions. Journal of Cleaner Production. 2024;140527.

[2]. Aggarwal, K., Mijwil, M. M., Sonia, G., et al. (2022). Has the future started? The current growth of artificial intelligence, machine learning, and deep learning. Iraqi Journal of Computer Science and Mathematics, 3(1), 115–123. https://doi.org/10.52866/ijcsm.2022.01.01.013

[3]. Ajayi-Nifise, A. O., Odeyemi, O., Mhlongo, N. Z., Ibeh, C. V., Elufioye, O. A., & Awonuga, K. F. (2024). The future of accounting: Predictions on automation and AI integration. World Journal of Advanced Research and Reviews, 21(2), 399–407.

[4]. Anane-Simon, R., & Atiku, S. O. (2024). Artificial intelligence and automation for the future of startups. In Ecosystem dynamics and strategies for startups scalability (pp. 133–153). IGI Global.

[5]. Calvo, R. A., & D'Mello, S. (2010). Affect detection: An interdisciplinary review of models, methods, and their applications. IEEE Transactions on Affective Computing, 1(1), 18–37.

[6]. Cao, Y., Gao, L., Fan, L., Jiao, M., Li, Y., & Ma, Y. (2022). The influence of emotional intelligence on job burnout of healthcare workers and mediating role of workplace violence: A cross-sectional study. Frontiers in Public Health, 10, 892421. https://doi.org/10.3389/fpubh.2022.892421

[7]. Casetti, C. (2024). Lion's share for artificial intelligence at Mobile World Congress [Mobile Radio]. IEEE Vehicular Technology Magazine, 19(2), 8–14.

[8]. Coronado-Maldonado, I., & Benítez-Márquez, M. D. (2023). Emotional intelligence, leadership, and work teams: A hybrid literature review. Heliyon, 9(10), e17643. https://www.sciencedirect.com/science/article/pii/S2405844023075643

[9]. Davenport, T., & Kalakota, R. (2019). The potential for artificial intelligence in healthcare. Future Healthcare Journal, 6, 94–98. https://doi.org/10.7861/futurehosp.6-2-94

[10]. Emami Zeydi, A., & Karkhah, S. (2023). Nursing the future: How artificial intelligence empowers critical care nurses to revolutionize intensive care unit rehabilitation. Journal of Nursing Reports in Clinical Practice, 2(1), 1–2.

[11]. Erol, B. A., Majumdar, A., Benavidez, P., Rad, P., Choo, K. K. R., & Jamshidi, M. (2020). Toward artificial emotional intelligence for cooperative social human–machine interaction. IEEE Transactions on Computational Social Systems, 7(1), 234–246. https://doi.org/10.1109/TCSS.2019.2922593

[12]. Goleman, D. (1995). Leadership: The power of emotional intelligence. More Than Sound.

[13]. Govindaraj, M., Gnanasekaran, C., Khan, P., Gnanamanickam, S. V., & Hoang, S. D. (2024). Humanizing the digital touch: Strategies for balancing automation in modern marketing. In Balancing automation and human interaction in modern marketing (pp. 175–202). IGI Global.

[14]. Hao, A., & Liu, H. (2024). Guest editorial: Artificial intelligence application and future research directions in interactive marketing. Journal of Research in Interactive Marketing, 18(1), 1–5.

[15]. Hemade, A., Hallit, R., Malaeb, D., Sakr, F., Dabbous, M., Merdad, N., & Obeid, S. (2024). The mediating effect of dark future between personality traits and fear of artificial intelligence in Arab young adults.

[16]. Ibrahim, M. M. A. (2024). Exploring emotional intelligence in Jordan's artificial intelligence (AI) healthcare adoption: A UTAUT framework. Journal of Electrical Systems, 20(10s), 502–541. https://doi.org/10.52783/jes.5143

[17]. Kaneria, G., & Mehta, K. A. (2024). Artificial intelligence (AI) – Threat or collaboration to humanity in the 21st century: Myth or truth. In Revolutionizing the AI-Digital Landscape (pp. 15–24). Productivity Press.

[18]. Karakose, T. (2024). Will artificial intelligence (AI) make the school principal redundant? A preliminary discussion and future prospects.

[19]. Karimi, L., Leggat, S. G., Bartram, T., Afshari, L., Sarkeshik, S., & Verulava, T. (2021). Emotional intelligence: Predictor of employees' well-being, quality of patient care, and psychological empowerment. BMC Psychology, 9(1), 93. https://doi.org/10.1186/s40359-021-00593-8

[20]. Luckin, R. (2024). Nurturing human intelligence in the age of AI: Rethinking education for the future. Development and Learning in Organizations: An International Journal.

[21]. Mattingly, V., & Kraiger, K. (2019). Can emotional intelligence be trained? A meta-analytical investigation. Human Resource Management Review, 29(2), 140–155. https://doi.org/10.1016/j.hrmr.2018.03.002

[22]. McNulty, J. P., & Politis, Y. (2023). Empathy, emotional intelligence and interprofessional skills in healthcare education. Journal of Medical Imaging and Radiation Sciences, 54(2), 238–246. https://doi.org/10.1016/j.jmir.2023.02.014

[23]. Monica, R., & Soju, A. V. (2024). Artificial intelligence and service marketing innovation. In AI Innovation in Services Marketing (pp. 150–172). IGI Global.

[24]. Hachoumi, N., & Eddabbah, M. (2024). Emotional intelligence and artificial intelligence as catalysts for professional development and lifelong learning among healthcare professionals: A literature review. Artificial Intelligence in Health, 025080011. https://doi.org/10.36922/AIH025080011

[25]. Narimisaei, J., Naeim, M., Imannezhad, S., Samian, P., & Sobhani, M. (2024). Exploring emotional intelligence in artificial intelligence systems: A comprehensive analysis of emotion recognition and response mechanisms. Annals of Medicine and Surgery, 86(8), 4657–4663. https://doi.org/10.1097/MS9.0000000000002315

[26]. Neethirajan, S. (2024). Artificial intelligence and sensor innovations: Enhancing livestock welfare with a human-centric approach. Human-Centric Intelligent Systems, 4(1), 77–92.

[27]. Pavlova, D., Dovramadjiev, T., Daskalov, D., Peev, I., Mirchev, N., Dimova, R., & Radeva, J. (2024, February). Impact of artificial intelligence and human factors in hybrid intelligence dentistry. In International Congress on Information and Communication Technology (pp. 215–224). Springer Nature Singapore.

[28]. Perrotta, C., Selwyn, N., & Ewin, C. (2024). Artificial intelligence and the affective labour of understanding: The intimate moderation of a language model. New Media & Society, 26(3), 1585–1609.

[29]. Rane, N. (2024). Role and challenges of ChatGPT, Gemini, and similar generative artificial intelligence in human resource management. Studies in Economics and Business Relations, 5(1), 11–23.

[30]. Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. Imagination, Cognition and Personality, 9(3), 185–211.

[31]. Shaik, T., Tao, X., Higgins, N., et al. (2023). Remote patient monitoring using artificial intelligence: Current state, applications, and challenges. WIREs Data Mining and Knowledge Discovery, 13(2), e1485. https://doi.org/10.1002/widm.1485

[32]. Singh, A. P., Saxena, R., & Saxena, S. (2024). The human touch in the age of artificial intelligence: A literature review on the interplay of emotional intelligence and AI. Asian Journal of Current Research, 9(4), 36–50. https://doi.org/10.56557/ajocr/2024/v9i48860

[33]. Sun, T., Feng, B., Huo, J., Xiao, Y., Wang, W., Peng, J., & Liu, L. (2024). Artificial intelligence meets flexible sensors: Emerging smart flexible sensing systems driven by machine learning and artificial synapses. Nano-Micro Letters, 16(1), 14.

[34]. Voigtlaender, S., Pawelczyk, J., Geiger, M., Vaios, E. J., Karschnia, P., Cudkowicz, M., & Winter, S. F. (2024). Artificial intelligence in neurology: Opportunities, challenges, and policy implications. Journal of Neurology, 271(5), 2258–2273.

[35]. Wang, Y., Wang, L., & Siau, K. L. (2024). Human-centered interaction in virtual worlds: A new era of generative artificial intelligence and metaverse. International Journal of Human–Computer Interaction, 1–43.

IJEAST

INTERNATIONAL JOURNAL
OF ENGINEERING APPLIED SCIENCE
AND TECHNOLOGY

ABOUT IJEAST

International Journal of Engineering Applied Science and Technology (IJEAST) is a peer-reviewed, open access journal that publishes high-quality research papers in the field of Engineering, Applied Science and Technology.

IJEAST aims to provide a platform for researchers, academicians, and professionals to share their innovative ideas, research findings, and practical experiences with the global scientific community.

FOCUS AREAS

- Engineering
- Applied Science
- Technology
- Innovation & Development
- Interdisciplinary Studies

PEER REVIEWED
All submissions are rigorously peer reviewed to ensure quality.

OPEN ACCESS
Free and unrestricted access to research for all.

GLOBAL REACH
Connecting researchers and professionals worldwide.

TIMELY PUBLICATION
We ensure a swift and efficient publication process.

For more information, visit our website
www.ijeast.com

INTERNATIONAL JOURNAL
OF ENGINEERING APPLIED SCIENCE
AND TECHNOLOGY

editor@ijeast.com
www.ijeast.com
India

2455-2143