Chapter 9
Emotional AI and Human Interaction:
Transforming Expression, Trust, and Relationship

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ABSTRACT

Artificial Intelligence (AI) is rapidly becoming emotionally responsive systems that also shape the human communication and relationship building. In this paper, the author investigates how emotional intelligence is applied in AI-based interaction and how it influences human expression, trust, and social connectivity. The paper is based on the research conducted in the field of affective computing, neuroscience, and organizational studies, identifying the role played by conversational agents and emotion-sensitive technologies in transforming digitally mediated relationships within sectors. Even though emotional AI improves interaction and personalized assistance, it presents ethical issues associated with bias, privacy, and authenticity.

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The paper underlines that responsible governance and human-centered design are relevant in order to have emotionally intelligent AI reinforcing, instead of destabilizing, meaningful human relationships in an increasingly digital world.

INTRODUCTION

Artificial Intelligence (AI) is progressively growing out of its purely rule-based and computational implementation to be a socially embedded technology that can engage with human beings on an emotionally rich level. Although the initial stages of AI evolution were focused on the automation, optimization, and logical judgment, the modern trends are focused on emotional sensitivity, recognition of feelings, and responsiveness. This change is a indication of a developing academic awareness that emotion is core to cognition, conduct and social relations as opposed to being peripheral to rational thought. The neuroscientific studies show that emotion and cognition are closely related processes affecting decision-making and control of the behaviors (Dolan, 2002). Therefore, the inclusion of the emotional intelligence into the AI systems is a major breakthrough in the intelligent technology evolution. The origin of emotional AI can be traced back to the groundbreaking project on affective computing by Picard (1997), who proposed a notion that an ability to recognize, analyze, and simulate human emotions in a machine is a viable option. Affective computing broadened the scope of AI beyond data processing to encompass emotive recognition and reactive control. Continuing on this framework, more recent developments have made multimodal dialogue systems which can produce sentiment-/emotion-controlled reactions thus improving the naturalness and empathy of human-AI communication (Firdaus et al., 2020). In addition, the general discourses of emotion in AI emphasize the interdisciplinary character of the psychology and neuroscience and machine learning towards developing systems that are more context-aware and socially responsive (Assunção et al., 2022).

The growing numbers of conversational agents and emotionally responsive systems being deployed across the fields of healthcare, education, and customer service demonstrate the transformative potential of emotional AI. A review of literature conducted by Laranjo et al., (2018) shows that conversational agents could offer personalized guidance, encourage interaction with the user, and support behavior change interventions. Likewise, virtual reality environments that can be fully immersive show promise in terms of emotional awareness, development of empathy, and behavioral control (Riva et al., 2011). These advances indicate that AI is increasingly becoming an active subject instead of a passive technology. On the group level, the emotional intelligence plays very crucial role in group dynamics and relations cohesion. According to Druskat and Wolff (2001), team-based systems