



# Affective Computing for Enhancing Affective Touch-Based Communication Through Extended Reality

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## Abstract

Nowadays, affective computing (AC), especially affective touch, plays a significant role in the next generation of human-computer, computer-computer and human-human communications. This is because it allows more senses in human communication to be included simultaneously and interactively, enabling innovative communications both between computers and humans, and between humans and humans. In this paper, we discuss applications and methodologies that researchers, including the author, have recently achieved by utilizing affective computing, affective touch, and extended reality (XR). Our purpose is to review our research work experience and other state-of-the-art results and propose a line of research to use these results in a future work or application. To begin with, we give an overview of extensive works using affective computing and emotion recognition systems for social media. After that, we explore some recent interesting research works about affective touch. Next, augmented reality (AR)-based applications using affective touch communication and affective computing are presented. Then, we review recent virtual reality-based systems using affective touch communication and affective computing. By understanding these approaches for extended reality-based applications with affective touch communication and affective computing presented recently by leading researchers, we believe that it will encourage sustainable advancements regarding human interactions in an integrated cross-disciplinary area.

## Keywords

Extended reality   Augmented reality   Virtual reality   Force Jacket   Affective computing

Affective touch communication   Multimodal communication

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## Notes

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