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Mean of Correlation Method for Optimization of Affective States Detection in Children (Article)

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Abstract

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At the moment, most of the studies on classification of affective states for children focus on visual observations and physiological cues, where all data collection for measuring physiological signals are contact-based and invasive. With the requirement of having the measuring device attached to the body approach, distraction of the subject normally masks the true affective states of the subject due to discomfort. In this paper, a non-invasive, contactless, and less distraction method is proposed to measure the physiological cues of the subjects using their thermal imprints from frontal face imaging. A thermal image camera is used to identify basic affective states, where it is a contactless and seamless device with ability to read the radiated thermal imprint of the subjects' facial skin temperature. This paper proposes an effective algorithm of texture analysis based on novel technique using Gray Level Co-occurrence Matrix approach to be applied so as to identify blood-flow region. The cues from the first order statistics are computed in the identified blood flow region and concatenated along with second order statistics cues, in order to construct feature vectors to administer the vital and distinguishable characteristic pattern between affective states in thermal images. Result from the fine

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