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Study on the Emotion Quantification Method using the Facial Expression Feature Space

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Facial expression recognition for emotional communication between humans and machines has been investigated in recent studies. Previously, we proposed a method for generating a person-specific emotional feature space using self-organizing maps and counter propagation networks (CPN). The feature space expresses the correspondence between the changes in facial expression patterns and the degree of emotions in a two-dimensional space centered on "pleasantness" and "arousal." In this study, we investigated the number of dimensions and the size of the CPN mapping space for generating a facial expression feature space that allows detailed emotion quantification.

Key Words : Facial expression recognition, Emotion estimation, Facial image processing, CPN