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Evaluate the Changes in Stress Level Using Facial Thermal Imaging

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Abstract : This paper proposes a stress recognition system from multi-modal bio-potential signals. For stress recognition, Support Vector Machines (SVM) and LDA are applied to design the stress classifiers and its characteristics are investigated. Using gathered data under psychological polygraph experiments, the classifiers are trained and tested. The pattern recognition method classifies stressful from non-stressful subjects based on labels which come from polygraph data. The successful classification rate is 96% for 12 subjects. It means that facial thermal imaging due to its non-contact advantage could be a remarkable alternative for psycho-physiological methods.

Keywords : stress, thermal imaging, face, SVM, polygraph
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