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**Improving dimensional emotion recognition from physiological sensors data using ELM classifiers****Guendil Zied**

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Previous approaches for humans affect analysis and recognition in dimensional space was recently implemented based on physiological data processing and the application of several machine learning techniques. In this context we present a novel study for enhancing the recognition of emotion according to arousal valence dimensions with objective to exploit and evaluate the efficiency of a novel trend in advanced machine learning algorithms named Extreme Learning Machine (ELM) which will be applied for the prediction of emotional VA levels using many physiological instances from the multimodal emotion dataset (DEAP). Physiological features were extracted from multiple physiological signals and employed for the parameterization of the new trained model. Support Vector Machine (SVM) and two variants of ELM, Conventional Extreme Learning Machine (CELM) and a Graph Regularized Extreme Learning Machine (GRELM) were used to predict two or three levels of arousal and valence from the input original features, after the evaluation of the proposed approach experimental results show that the ELM classifiers can improve the classification accuracy when it is used for dimensional emotion recognition and archive well compared to the others classification algorithms as SVM.

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