**ABSTRACT**

Most of the existing music recommendation systems use collaborative or content based recommendation engines. However, the music choice of a user is not only dependent to the historical preferences or music contents. But also dependent to the mood of that user. This paper proposes an emotion based music recommendation framework that learns the emotion of a user from the signals obtained via wearable physiological sensors. In particular, the emotion of a user is classified by a wearable computing device which is integrated with a galvanic skin response (GSR) and photo plethysmography (PPG) physiological sensors. This emotion information is feed to any collaborative or content based recommendation engine as a supplementary data. Thus, existing recommendation engine performances can be increased using these data. Therefore, in this paper emotion recognition problem is considered as arousal and valence prediction from multi-channel physiological signals. Experimental results are obtained on 32 subjects’ GSR and PPG signal data with/out feature fusion using decision tree, random forest, support vector machine and k-nearest neighbors algorithms. The results of comprehensive experiments on real data confirm the accuracy of the proposed emotion classification system that can be integrated to any recommendation engine. Index Terms—Emotion Aware Recommendation Engine, Emotion Recognition, Galvanic Skin Response, Machine Learning, Physiological Signals, Photo Plethysmography