

Table S1: Comparison of the proposed models with the state-of-the-art

#	Title	Modalities	Methodology	Emotions Recognized	SI	Arousal (%)	Valence (%)
1	Zhang et al., 2021 [38]	EEG, EMG, EDA, RESP	Regularized Deep Fusion of Kernel Machines (RDFKMs)	LA, HA, LV, HV	Y	63.10	64.50
2	Ayata et al., 2020 [19]	RESP, PPG, FTT	Random forest	LA, HA, LV, HV	Y	73.08	72.18
3	Bota et al., 2020 [10]	ECG, EDA, RESP, BVP	SVM, QDA, Random Forest, Decision Tree, Gaussian Naive Bayes	LA, HA, LV, HV	Y	60.00	56.90
4	Cimtay et al., 2020 [12]	Face, EEG, GSR	CNN	Angry, Disgust, Sad, Happy, Afraid, Neutral, Surprised	Y	53.80*	53.80*
5	H. Huang et al., 2020 [5]	GSR, RESP, EOG, EEG	CNN	Relax, Excitement, Fear, Depression	N	82.92*	82.92*
6	Wang et al., 2020 [4]	ECG, SCL, tEMG	MDBN	-	N	87.32	83.69
7	Hassan et al., 2019 [6]	EDA, PPG, EMG	DBN	Happy, Relaxed, Disgust, Sad, Neutral	N	89.53*	89.53*
8	Y. Huang et al., 2019 [39]	EEG, Face	SVM	LV, HV, LA, HA	N	74.23	80.30
9	Zhu et al., 2019 [7]	EEG, EOG, EMG	HNN	Valence, Arousal	N	79.00	83.00
10	Kwon et al., 2018 [40]	EEG, GSR	CNN	LA, HA, LV, HV	N	76.56	80.46
11	Yin et al., 2017 [9]	EEG, EMG, EOG, EDA, TEMP, BVP, RESP	ESAE	LA, HA, LV, HV	N	77.19	76.17
12	Proposed Unimodal-1	EEG	Stacking	LA, HA	Y	56.00	-
13	Proposed Multimodal-1	zEMG, EOG	Logit Boost	LV, HV	Y	-	59.00
14	Proposed Unimodal -2 **	Plethysmograph	LDA	LA, HA	Y	55.50	-
15	Proposed Unimodal -3**	EOG	LDA	LV, HV	Y	-	60.00
16	Proposed Unimodal -4 **	EDA	Logistic	LV, HV	Y	-	58.25
17	Proposed Unimodal - 5 **	zEMG	Logistic	LV, HV	Y	-	58.25

* The experiment reports the average score as the experiment is on discrete emotions.

** - Proposed method with minimum number of signals