

Emotion Recognition in the Wild Task

Arousal

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Valence

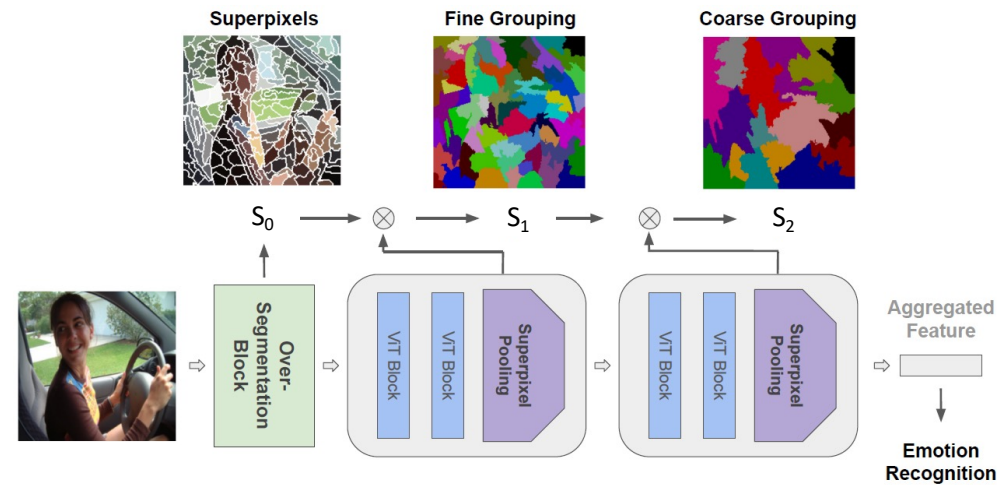
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Emotional States

Happy Angry Sad ...

How does this character feel?

Our Superpixel Feature Pooling Fusing



Competitive Accuracy on CAER-S Dataset

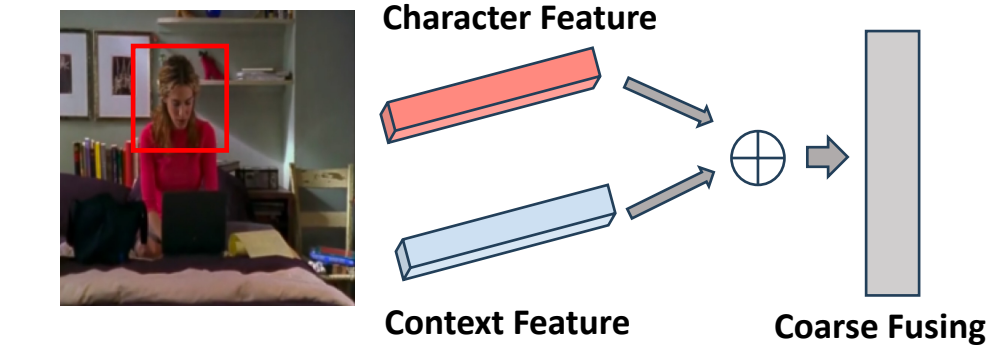
Methods	CAER-NET	EMOT-NET	SIB-Net	GCN-CNN
Accuracy (%)	73.47	74.51	74.56	77.21

Methods	GRERN	RRLA	EmotiCon	VRD	Ours
Accuracy (%)	81.31	84.82	88.65	90.49	76.54

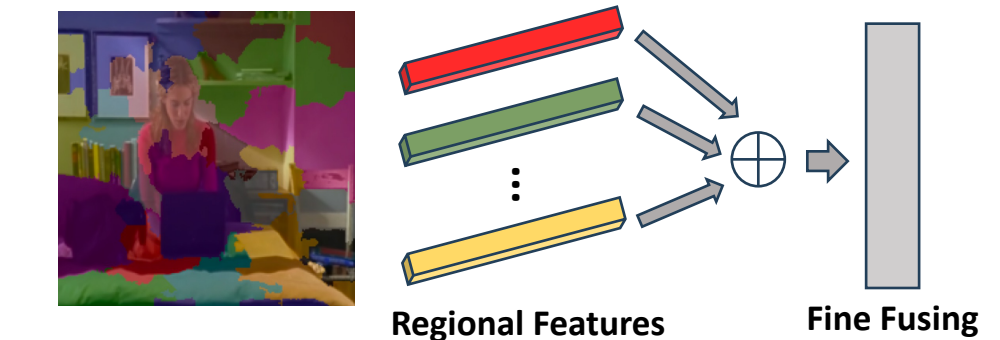
Improved RMSE on VEATIC Dataset

Method	RMSE↓		
	Valence	Arousal	Overall
VEATIC-NET	0.3084	0.2410	0.2747
Ours	0.2577	0.2268	0.2423

Traditional Detection-based Feature Fusing



More Refined Region-based Feature Fusing



Consistent Superior Precision on EMOTIC Dataset

Category	EMOT-NET	GCN-CNN	CAER-NET	RRLA	VRD	EmotiCon	CCIM	Ours
Affection	26.47	47.52	22.36	37.93	44.48	38.55	40.77	64.22
Anger	11.24	11.27	12.88	13.73	30.71	14.69	15.48	65.62
Annoyance	15.26	12.33	14.42	20.87	26.47	24.68	24.47	65.81
Anticipation	57.31	63.2	52.85	61.08	59.89	60.73	95.15	70.81
Aversion	7.44	6.81	3.26	9.61	12.43	11.33	19.38	71.67
Confidence	80.33	74.83	72.68	80.08	79.24	68.12	75.81	60.79
Disapproval	16.14	12.64	15.37	21.54	24.54	18.55	23.65	65.50
Disconnection	20.64	23.17	22.01	28.32	34.24	28.73	31.93	70.84
Disquietment	19.57	17.66	10.84	22.57	24.23	22.14	26.84	66.76
Doubt/Confusion	31.88	19.67	26.07	33.5	25.42	38.43	34.28	59.45
Embarrassment	3.05	1.58	1.88	4.16	4.26	10.31	16.73	60.59
Engagement	86.69	87.31	73.71	88.12	88.71	86.23	97.41	61.17
Esteem	17.86	12.05	15.38	20.5	17.99	25.75	27.44	63.51
Excitement	78.05	72.68	70.42	80.11	74.21	80.75	81.59	70.22
Fatigue	8.87	12.93	6.29	17.51	22.62	19.35	15.53	78.61
Fear	15.7	6.15	7.47	15.56	13.92	16.99	15.37	66.46
Happiness	58.92	72.9	53.73	76.01	83.02	80.45	83.55	67.35
Pain	9.46	8.22	8.16	14.56	16.68	14.68	17.76	68.99
Peace	22.35	30.68	19.55	26.76	28.91	35.72	38.94	71.30
Pleasure	46.72	48.37	34.12	55.64	55.47	67.31	64.57	63.93
Sadness	18.69	23.9	17.75	30.8	42.87	40.26	45.63	57.78
Sensitivity	9.05	4.74	6.94	9.59	15.89	13.94	17.04	66.48
Suffering	17.67	23.71	14.85	30.7	46.23	48.05	21.52	65.32
Surprise	22.38	8.44	17.46	17.92	16.27	19.6	26.81	59.14
Sympathy	15.23	19.45	14.89	15.26	15.37	16.74	47.6	65.01
Yearning	9.22	9.86	4.84	10.11	10.04	15.08	12.25	67.76
mAP	27.93	28.16	23.85	32.41	35.16	35.28	39.13	65.96

Simultaneously Learned Groupings

