

Supplementary Materials

The supplementary materials consist of 3 Tables that show the statistics of the PELD dataset and the results of Single-Task (ST) and Multi-Task (MT) with respect to each individual speaker for predicting response emotions in 3 classes and 7 classes respectively.

Table 1: Number of dialogues per each speaker in PELD dataset

Speaker	Train	Val	Test	Total
Chandler	880	97	108	1085
Joey	912	109	102	1123
Monica	850	94	107	1051
Phoebe	782	87	103	972
Rachel	921	112	123	1156
Ross	928	87	108	1123

Table 2: Number of dialogues for the Train, Val, and Test set for sentiments with respect to each speaker

Speaker	Emotion	Train	Val	Test	Total
Chandler	Negative	265	31	32	328
	Neutral	409	39	50	498
	Positive	206	27	26	259
Joey	Negative	235	33	26	294
	Neutral	403	45	48	496
	Positive	274	31	28	334
Monica	Negative	267	38	31	336
	Neutral	338	38	46	422
	Positive	245	18	30	293
Phoebe	Negative	224	17	24	265
	Neutral	327	48	48	423
	Positive	231	22	30	283
Rachel	Negative	341	47	45	433
	Neutral	362	37	45	444
	Positive	218	28	33	279
Ross	Negative	291	29	34	354
	Neutral	420	30	43	493
	Positive	217	20	31	268

Table 3: Number of dialogues for the Train, Val, and Test for emotions with respect to each speaker

Speaker	Emotion	Train	Val	Test	Total
Chandler	Anger	118	17	8	143
	Disgust	27	2	3	32
	Fear	72	6	8	86
	Joy	131	17	18	166
	Neutral	409	39	50	498
	Sadness	48	6	13	67
	Surprise	75	10	8	93
Joey	Anger	94	10	12	116
	Disgust	19	5	3	27
	Fear	57	13	6	76
	Joy	167	21	17	205
	Neutral	403	45	48	496
	Sadness	65	5	5	75
	Surprise	107	10	11	128
Monica	Anger	131	13	12	156
	Disgust	20	4	3	27
	Fear	62	13	8	82
	Joy	160	13	17	190
	Neutral	338	38	46	422
	Sadness	54	8	8	70
	Surprise	85	5	13	103
Phoebe	Anger	98	4	10	112
	Disgust	18	3	3	24
	Fear	38	4	6	48
	Joy	158	15	23	196
	Neutral	327	48	48	423
	Sadness	70	6	5	81
	Surprise	73	7	7	87
Rachel	Anger	148	21	22	191
	Disgust	17	4	5	27
	Fear	74	9	7	90
	Joy	167	16	19	202
	Neutral	362	37	45	444
	Sadness	102	13	11	126
	Surprise	51	12	14	77
Ross	Anger	122	14	13	149
	Disgust	16	2	1	19
	Fear	89	13	8	110
	Joy	151	14	18	183
	Neutral	420	30	43	493
	Sadness	64	8	12	84
	Surprise	66	6	13	85

Table 4: Predicting 3 class emotional responses for the next utterance in a dialogue using Single-Task (ST) learning

Speaker	Negative	Neutral	Positive	m-avg	w-avg
Chandler	0.422	0.531	0.280	0.434	0.485
Joey	0.291	0.505	0.550	0.449	0.478
Monica	0.426	0.340	0.470	0.412	0.396
Phoebe	0.470	0.518	0.250	0.413	0.429
Rachel	0.438	0.535	0.589	0.520	0.531
Ross	0.363	0.384	0.373	0.378	0.374
Mean	0.401	0.468	0.418	0.434	0.448

Table 5: Predicting 3 class emotional responses for the next utterance in a dialogue using Multi-Task (MT) learning

Speaker	Negative	Neutral	Positive	m-avg	w-avg
Chandler	0.523	0.642	0.468	0.544	0.572
Joey	0.483	0.594	0.459	0.512	0.522
Monica	0.424	0.315	0.495	0.411	0.410
Phoebe	0.580	0.321	0.346	0.416	0.418
Rachel	0.505	0.466	0.461	0.477	0.477
Ross	0.541	0.510	0.390	0.480	0.493
Mean	0.509	0.475	0.436	0.473	0.482

Table 6: Predicting 7 class emotional responses for the next utterance in a dialogue using Single-Task (ST) learning

Speaker	Anger	Disgust	Fear	Joy	Neutral	Sadness	Surprise	m-avg	w-avg
Chandler	0.0	0.0	0.181	0.266	0.586	0.153	0.133	0.188	0.381
Joey	0.200	0.105	0.0	0.146	0.553	0.0	0.279	0.183	0.332
Monica	0.235	0.0	0.250	0.162	0.482	0.200	0.125	0.204	0.325
Phoebe	0.344	0.0	0.142	0.250	0.574	0.0	0.250	0.233	0.351
Rachel	0.444	0.0	0.0	0.456	0.568	0.296	0.347	0.301	0.418
Ross	0.133	0.0	0.206	0.321	0.435	0.0	0.320	0.202	0.308
Mean	0.226	0.017	0.129	0.266	0.533	0.108	0.242	0.218	0.352

Table 7: Predicting 7 class emotional responses for the next utterance in a dialogue using Multi-Task (MT) learning

Speaker	Anger	Disgust	Fear	Joy	Neutral	Sadness	Surprise	m-avg	w-avg
Chandler	0.375	0.0	0.125	0.388	0.560	0.153	0.250	0.305	0.422
Joey	0.250	0.333	0.166	0.294	0.520	0.200	0.272	0.324	0.410
Monica	0.250	0.0	0.125	0.235	0.521	0.250	0.153	0.304	0.410
Phoebe	0.300	0.0	0.166	0.260	0.520	0.200	0.142	0.304	0.412
Rachel	0.272	0.400	0.142	0.263	0.533	0.272	0.071	0.308	0.412
Ross	0.230	0.0	0.250	0.277	0.534	0.250	0.153	0.302	0.412
Mean	0.279	0.122	0.162	0.286	0.531	0.221	0.163	0.308	0.413