MNB

Hyper-parameters:

macro avg

weighted_avg

default

Emotion

Score for Emotion: 0.4397625421953207 Accuracy for Emotion: 0.4397625421953207 Precision (Weighted) for Emotion: 0.48926029471973104 F1 Score (Weighted) for Emotion: 0.3719129846247145 F1 Score (Macro) for Emotion: 0.22479721508367329 precision recall f1-score support 0 0.53 0.52 0.53 2069 1 0.65 0.38 0.48 1226 2 0.56 0.20 0.30 1051 3 0.36 0.12 0.18 1615 4 0.16 0.24 2276 0.46 5 0.50 0.11 0.17 745 6 0.08 0.14 959 0.46 7 0.56 0.17 0.26 1208 8 0.61 0.06 0.11 389 9 0.53 0.08 0.14 926 10 1531 0.44 0.15 0.22 11 0.61 0.11 0.18 585 12 0.75 0.03 0.06 268 13 0.57 0.08 0.14 609 14 0.12 0.68 0.07 383 15 0.79 0.71 0.75 1481 16 0.00 0.00 0.00 66 17 0.25 0.52 0.17 872 18 0.73 0.42 0.53 1035 19 0.00 0.00 0.00 148 20 0.39 0.89 0.54 11077 21 0.57 0.20 0.30 875 22 0.00 0.00 0.00 122 23 0.49 0.06 0.11 961 24 0.00 0.00 0.00 152 25 0.59 0.07 0.12 287 26 0.54 0.13 0.21 736 27 0.53 0.13 0.21 712 0.44 34364 accuracy

0.48

0.49

0.22

0.37

34364

34364

0.18

0.44

COI	11 0	1010	911		G C 1																										
	o - <mark>1</mark>	167	21	6	9	34	9	3	8	3	9	11	1	0	12	1	31	2	15	49	0	666	12	3	4	2	2	1	30		
	1 -	32	821	0	10	11	1	7	0	1	1	12	2	1	3	2	5	0	16	7	0	263	2	0	0	1	1	1	13		
	2 -	14	11	374	34	12	3	7	13	2	8	21	11	3	2	4	5	0	1	1	1	491	5	0	4	1	3	2	2		- 8000
			36		340		5	24	16	4	14	43	14	9	1	4	17	1	6	9	1	982	1	0	4	1	6	6	11		
			32	11		412		17	14	5	7	35	8	3	5	8	17	0	14	20	2	1352		0	10	2	2	4	8		
		14 17	6	4	10 22	24	139	3 254	3 46	6	6 5	10	0	0	2	3	9	0	6	8	3	399 582	17	0	1	0	3	3	3		
		23	8	7	14	21	5		297	4	5	6	2	0	6	0	5	0	0	5	1	688	1	0	8	0	2	0	19		
		10	5	4	7	13	5	2	3	133	2	4	1	2	0	0	1	0	3	8	0	202	16	0	0	0	0	1	1		
	9 -	14	6	20	33	21	14	12	11	4	140	28	6	3	0	5	3	1	4	2	2	536	3	0	6	0	9	27	9		- 6000
	o -	33	31	34	50	43	5	23	18	6	11	335	5	6	3	6	1	0	2	3	1	927	4	0	7	1	4	11	6		
1	1 -	6	6	37	36	10	1	7	5	0	9	15	158	4	1	10	0	1	1	2	0	265	3	0	3	0	1	6	1		
_ 1	2 -	5	7	7	17	2	0	1	3	1	2	3	10	41	0	2	1	0	1	2	1	155	2	0	1	0	6	2	4		
True label		65	10	2	11	17	3	2	11	8	1	6	0	0	106		4	0	27	8	0	276	3	0	1	0	0	1	21		
		4	5	6	11	3	3	3	1	0	1	8	3	1	1	117		0	1	1	4	152	2	0	2	0	0	4	5		
1		70 0	9	3	2	11	11	3	4	0	3	7	0	1	8	1	1106	9	25 1	7	0	106 55	10	0	0	0	14	3 6	0		
			84	2	11	22	9	2	6	5	4	6	2	0	8	0	16	0	336	35	0	283	7	0	4	1	0	1	6		- 4000
		57	10	0	7	21	4	0	2	4	1	6	1	1	5	0	5	0		658	0	194	3	0	3	0	0	1	1		
	9 -	3	1	5	4	2	2	4	1	2	4	3	1	1	1	4	0	0	0	0	24	110	2	0	1	1	1	3	0		
	0 - 1	.86	171	92	121	154	38	78	90	27	36	137	20	9	26	19	42	2	40	69	5	9572	46	0	24	5	14	29	37		
	1 -	39	11	4	12	31	17	8	5	17	10	7	2	0	4	1	9	3	15	15	0	400	281	0	5	0	1	2	4		
	2 -	16	3	1	2	4	4	1	1	0	0	1	0	0	0	0	1	0	6	0	0	91	3	7	0	0	0	0	0		
			18	18	23	23	3	24	5	5	10	19	2	0	6	4	3	0	6	6	0	677	4	0	86	2	4	5	15		- 2000
2	"	7	0	3	1	6	5	1	1	0	2	1	0	0	0	1	7	0	13	1	0	82	1	0	1	18	0	3	0		
2		1	3 12	2	2 23	5 21	3 5	3	6	5	4 19	4 16	4	7	0	0	3	2	0	1	0	89 358	2	0	1 5	0	150 37	19 192	0		
2			14	14	10	8	0	8	7	3	5	5	0	2	7	1	2	0	2	5	0	355	2	0	5	1	0	2	217		
	•	Ó	i	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		
														Pre	edict	ed la	bel														

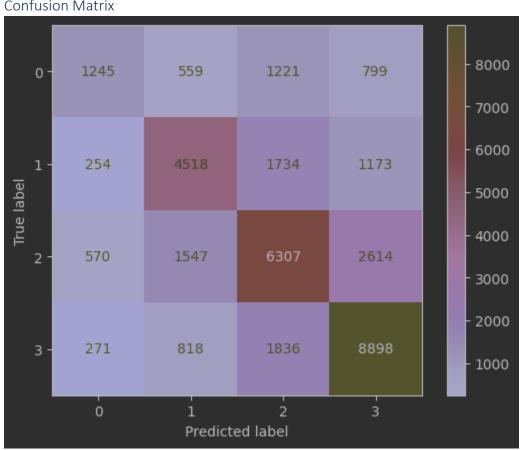
Sentiment

Score for Sentiment: 0.6100570364334769 Accuracy for Emotion: 0.6100570364334769

Precision (Weighted) for Emotion: 0.6054869973993441 F1 Score (Weighted) for Emotion: 0.6028268711398485 F1 Score (Macro) for Emotion: 0.5676173771892744

	precision	recall	f1-score	support
0	0.56	0.31	0.40	3840
1	0.59	0.59	0.59	7596
2	0.57	0.57	0.57	11077

3	0.66	0.75	0.71	11851
accuracy macro_avg weighted_avg	0.60 0.61	0.56 0.61	0.61 0.57 0.60	34364 34364 34364
Confusion Matrix				



DT

Hyper-parameters:

default

Emotion

Score for Emotion: 0.5957979280642532 Accuracy for Emotion: 0.5957979280642532 Precision (Weighted) for Emotion: 0.6123241872646431 F1 Score (Weighted) for Emotion: 0.592676569178555 F1 Score (Macro) for Emotion: 0.5123542638921981

support
2069
1226
1051
1615

4	0.47	0.57	0.51	2276	
5	0.49	0.54	0.52	745	
6	0.47	0.55	0.51	959	
7	0.58	0.60	0.59	1208	
8	0.49	0.55	0.52	389	
9	0.44	0.45	0.45	926	
10	0.54	0.47	0.50	1531	
11	0.55	0.40	0.46	585	
12	0.47	0.41	0.44	268	
13	0.54	0.43	0.48	609	
14	0.69	0.56	0.62	383	
15	0.88	0.82	0.85	1481	
16	0.40	0.35	0.37	66	
17	0.58	0.46	0.51	872	
18	0.75	0.69	0.72	1035	
19	0.46	0.26	0.33	148	
20	0.71	0.66	0.68	11077	
21	0.67	0.37		875	
22	0.55	0.17	0.26	122	
23	0.58	0.22	0.32	961	
24	0.55	0.19		152	
25	0.67	0.51	0.57	287	
26	0.68	0.38		736	
27	0.70	0.41	0.52	712	
accuracy			0.60	34364	
macro avg	0.57	0.50	0.51	34364	
weighted avg		0.60	0.59		

																														- 700
	1659	11	3	17	47	9	1	7	4	1	6	1	1	20	1	31	0	26	46	0	142	17	3	4	1	2	2	11		ı
1-		1004		11	15	3	0	7	2	3	6	4	0	4	0	2	0	21	5	0	98	17	0	6	0	0	2	6		
2 -			711		12	2	4	6	2	5	16	7	1	2	2	1	0	2	2	0	107	2	0	3	0	0	4	1		- 600
	43			970	30	6	8	19	3	27	42	14	6	4	3	4	0	3	2	1	233	6	0	4	0	2	13	4		
	150	49	47	129	1288	29	12	12	10	18	27	4	3	9	6	7	1	16	17	2	394	19	3	15	1	3	6	6		
	27	10	16	31	60	388	4	6	6	11	5	2	0	1	2	6	0	5	7	0	115	13	0	0	0	2	3	1		
	23	18	22	63	38	11	541	81	0	5	7	1	2	1	2	1	0	0	3	0	119	5	0	5	0	1	2	10		
	23	12	28	48	44	12	111	717	2	0	6	0	2	9	0	2	0	2	3	0	174	2	0	5	2	0	1	12		- 500
	18	3	8	12	23	12	7	4	258	2	4	0	0	1	1	3	0	2	4	0	61	22	0	4	0	0	1	0		
	22	21	46	85	52	13	18	9	10	422		2	2	1	4	2	0	4	4	2	133	3	0	4	4	4	20	5		
	36			158			40	19	7		737		5	4	2	1	1	1	4	0	228	1	0	5	1	3	13	6		
11 -	11	13	59	79	23	3	18	7	7	27	28		8	0	4	0	0	2	2	0	62	0	1	2	0	0	3	2		- 40
12 -	7	8	14	32	16	3	2	6	4	14	7	10	91	0	0	0	0	1	0	0	29	1	1	0	0	3	5	2		
13 - 14 -	75	24	12	13	38	9	9	22	6	3	11	0	1	267	1	5	0	10	7	0	80	4	0	2	0	0	0	12		
14 - 15 -	94	6	10	12 19	13 21	13	6 3	6 5	3	10 5	8	9	2	3 8	205	1 1162	1 0	0	10	0	32 35	9	1	0	0	0 5	3	0		
16 -	3	0	3	4	3	3	2	1	1	1	1	1	2	0	3	1	27	0	0	0	7	0	0	1	0	2	4	0		
17 -		119	6	13	59	14	4	7	9	6	6	1	0	29	2	19	1	401	19	0	61	1	2	1	3	0	3	1		- 30
	91	11	6	10	23	14	8	4	11	2	4	1	2	10	2	8	0	27	716	0	37	0	0	0	0	1	0	0		
	4	3	4	16	8	7	4	6	2	11	4	5	4	1	10	0	0	0	0	51	23	0	0	0	0	1	3	1		
	333	229	283	406	638	174	260	273	102	179	288	72	37	78	59	61	8	105	74	22	7160	45	2	58	2	6	37	47		
21 -	55	15	8	21	75	42	13	9	38	17	25	4	1	15	0	12	1	19	10	0	172	327	1	1	0	0	2	2		- 20
22 -	20	3	0	4	13	3	4	3	2	2	2	0	2	4	0	2	0	7	0	0	34	5	29	1	0	0	0	0		
23 -	32	27	31	75	98	19	28	15	10	36	34	10	1	10	4	4	1	10	7	1	273	6	0	212	0	3	2	15		
24 -	21	3	1	3	14	8	1	0	1	3	0	1	1	2	0	5	0	9	2	0	28	1	0	1	29	0	3	1		
25 -	2	8	6	15	13	7	6	2	1	14	19	6	7	0	0	16	5	0	2	1	27	1	0	7	0	151	12	1		
26 -	6	13	24	45	33	15	4	5	8	61	30	13	11	2	11	7	7	4	2	5	117	2	0	5	0		304	1		- 10
27 -	35	16	22	32	41	5	12	21	3	15	17	5	2	18	4	4	0	4	1	4	107	6	0	9	0	0	3	296		
											10	11	12 Pro	13 edict	14 ed la	15 bel	16	17	18	19	20	21	22	23	24	25	26	27		
																														0

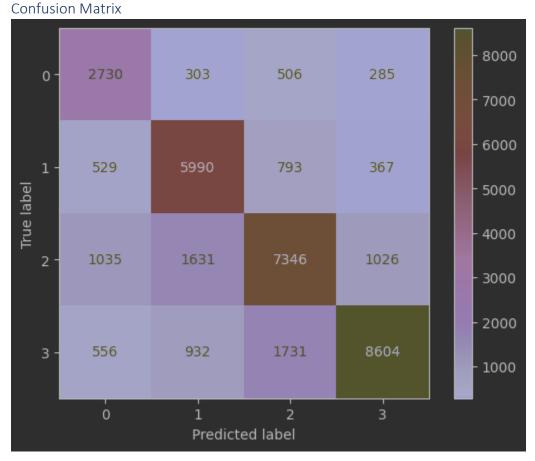
Sentiment

Score for Sentiment: 0.7210452799441276
Accuracy for Emotion: 0.7210452799441276

Precision (Weighted) for Emotion: 0.7322662048390615 F1 Score (Weighted) for Emotion: 0.7234404452427878 F1 Score (Macro) for Emotion: 0.7081389607742599

	precision	recall	II-score	support
0	0.58	0.72	0.64	3840
1	0.66	0.77	0.71	7596
2	0.71	0.67	0.69	11077

3	0.84	0.74	0.79	11851
accuracy macro_avg weighted_avg	0.70 0.73	0.72 0.72	0.72 0.71 0.72	34364 34364 34364



MLP

Hyper-parameters:

default

Emotion

Score for Emotion: 0.5758642765685019 Accuracy for Emotion: 0.5758642765685019

Precision (Weighted) for Emotion: 0.5688540009909064 F1 Score (Weighted) for Emotion: 0.5698661637580398 F1 Score (Macro) for Emotion: 0.507047923081078

	precision	recall	f1-score	support
0	0.64	0.67	0.65	2111
1	0.65	0.68	0.67	1213
2	0.53	0.54	0.53	1035
3	0.46	0.40	0.43	1684
4	0.46	0.36	0.41	2158
5	0.49	0.47	0.48	681

6	0.51	0.46	0.48	1025
7	0.56	0.48	0.52	1172
8	0.47	0.61	0.53	423
9	0.43	0.39	0.41	919
10	0.48	0.47	0.47	1576
11	0.52	0.46	0.49	588
12	0.47	0.49	0.48	276
13	0.45	0.39	0.42	583
14	0.55	0.54	0.54	338
15	0.84	0.82	0.83	1408
16	0.43	0.37	0.40	81
17	0.54	0.51	0.53	910
18	0.65	0.80	0.71	1000
19	0.46	0.39	0.42	180
20	0.63	0.70	0.66	11089
21	0.49	0.55	0.52	903
22	0.43	0.30	0.35	141
23	0.44	0.27	0.34	981
24	0.37	0.36	0.36	154
25	0.49	0.64	0.56	299
26	0.52	0.48	0.50	743
27	0.55	0.48	0.51	693
accuracy			0.58	34364
macro avg	0.52	0.50	0.51	34364
weighted avg	0.57	0.58	0.57	34364
_				

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		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		_	_	_	_		_	_		_	_	_	_		- 7000
		1395		7				5	10	8	9	11	3	3	37	3	43	0	38	79		227		9	6	4	1	6	17		7555
			826		15	18	2	11	9	4	5	18	5	6	16	2	7	1	60	13	2	149	8	1	11	0	3	4	11		
				511		16	4	9	9	3	19	42	19	5	6	7	3	0	3	4	1	197	6	1	8	0	3	5	8		
	3 - 4 -	101	33	96	699 54	48 881	16	12 28	28 17	14 34	49 33	71 73	30 15	18	11 26	5 9	9	3	9 35	9	7	387 668	18 58	1	14 28	2	7 11	23 15	14		
	5 -	17	5	7	14		319	4	7	10	12	12	2	6	20	3	6	1	14	9	2	191		1	20	10	4	10	2		- 6000
	6 -	12	9	8	23	21	4	446		2	15	21	2	3	0	3	5	2	1	2	2	241		0	11	2	4	5	16		
		13	5	12	28	24	9	77	580	11	10	16	5	2	13	0	3	1	8	8	1	335	9	1	7	1	4	6	28		
		10	3	4	6	10	7	1	3	254	6	7	1	0	5	1	5	0	3	11	0	74	28	0	5	0	1	4	1		
		7	7	17	40	21	9	7	7	9	359	49	13	5	4	5	3	2	5	8	8	233	13	2	8	1	11	49	9		- 5000
		25	15	38	71	42	14	28	9	3	26	777	19	10	6	8	5	3	9	6	4	365	22	1	28	1	7	20	13		
	11 -	3	7	39	46	7	2	10	5	5	14	34	271	12	4	3	1	0	3	5	0	104	7	2	3	1	1	8	1		
	12 -	3	2	6	17	7	1	2	3	1	11	4	6	102	0	6	0	0	1	2	2	51	5	1	6	2	6	6	3		
Irue label	13 -	50	11	7	14	15	8	2	17	9	5	6	1	0	240		7	0	22	22	0	127	15	2	2	1	0	1	26		- 4000
True	14 -	5	4	4	12	3	2	2	4	3	7	5	8	2	1	188		0	2	1	9	59	5	1	8	0	2	10	2		
	15 -	65	8	2	5	11	12	2	1	3	3	3	0	2	8		1152		23	12	0	65	17	1	0	7	8	2	2		
	16 -	2	0	1	7	1	7	0	0	1	0	9	1	2	1	1	1	26	0	0	0	16	0	5	1	7	6	6 4	2		
	17 - 18 -	52 37	78 5	2	5	14	7	1	2	6	1	4	1	1	32 6	1	17 5	0		820	1	114	16	0	0	3	0	2	1		- 3000
	19 -	1	2	2	3	6	6	2	3	1	5	2	6	1	1	7	0	1	1	0	64		3	0	1	0	2	4	2		
	20 -				227					111				56	71	41	46					7773					30	104			
	21 -	22	7	4	6	34	22	10	7	29	10	16	3	3	6	0	15	1	13	12	1	156	483	4	6	4	2	5	4		
	22 -	15	2	0	6	6	0	1	2	2	2	0	0	5	1	0	4	0	3	0	0	29	5	52	5	0	0	0	0		- 2000
	23 -	14	17	11	26	74	9	20	6	15	29	42	11	7	4	4	6	2	6	10	3	302	10	0	295	2	10	7	22		
	24 -	8	1	1	1	12	9	1	0	0	3	1	1	0	0	1	4	0	8	2	0	22	2	1	4	52	1	3	0		
	25 -	1	2	2	9	4	3	5	0	3	12	6	3	6	2	0	8	1	0	1	1	30	1	1	12	0	201	13	2		
	26 -	3	9	13	28	12	8	3	2	11	39	32	12	6	1	12	4	6	3	5	3	120	4	1	4	2	36	385	1		- 1000
	27 -	23	10	9	15	16	4	9	18	2	9	7	4	5	10	4	7	0	4	1	1	128	-	0	14	3	2	_	364		
												10	11	12 Pre		14 ed la	15 bel	16	17	18			21	22	23	24	25	26	27		
																															0

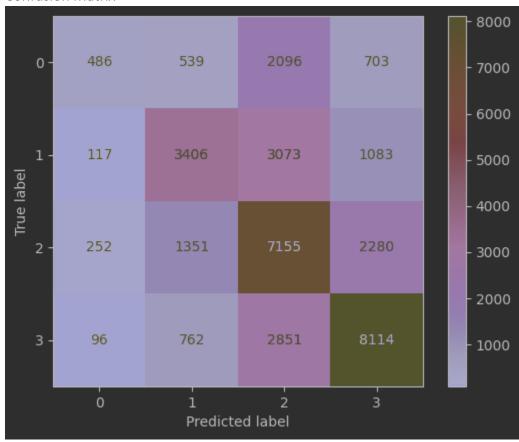
Sentiment

Score for Sentiment: 0.5605575602374578
Accuracy for Emotion: 0.5605575602374578

Precision (Weighted) for Emotion: 0.5669766498918233 F1 Score (Weighted) for Emotion: 0.5438949258055783 F1 Score (Macro) for Emotion: 0.4838282812103384

	precision	recall	f1-score	support
0	0.54	0.13	0.20	3871
1	0.56	0.46	0.50	7719
2	0.48	0.65	0.55	11089
3	0.67	0.69	0.68	11685

accuracy			0.56	34364
macro_avg	0.56	0.48	0.48	34364
weighted_avg	0.57	0.56	0.54	34364



MNB (Grid Search CV)

Hyper-parameters:

alpha

Emotion

alpha emotion = 0.36

Best estimator (Emotion): MultinomialNB(alpha=0.36), Best Score: 0.3834754 477508645

Accuracy for Emotion: 0.4887964148527529

Precision (Weighted) for Emotion: 0.48370589971275646 F1 Score (Weighted) for Emotion: 0.4637513743481372 F1 Score (Macro) for Emotion: 0.363446634702298

	precision	recall	f1-score	support
0	0.54	0.62	0.58	2111
1	0.59	0.62	0.61	1213
2	0.48	0.37	0.42	1035
3	0.41	0.27	0.32	1684

4	0.39	0.24	0.30	2158	
5	0.37	0.30	0.33	681	
6	0.46	0.28	0.35	1025	
7	0.46	0.31	0.37	1172	
8	0.52	0.26	0.35	423	
9	0.48	0.22	0.30	919	
10	0.43	0.30	0.35	1576	
11	0.54	0.29	0.38	588	
12	0.46	0.16	0.23	276	
13	0.43	0.19	0.26	583	
14	0.57	0.30	0.39	338	
15	0.73	0.80	0.76	1408	
16	0.20	0.01	0.02	81	
17	0.50	0.36	0.42	910	
18	0.65	0.62	0.63	1000	
19	0.46	0.06	0.11	180	
20	0.47	0.73	0.57	11089	
21	0.51	0.40	0.45	903	
22	0.56	0.06	0.11	141	
23	0.38	0.18	0.25	981	
24	0.41		0.12		
25	0.59	0.32	0.41	299	
26	0.44	0.31	0.36	743	
27	0.48	0.34	0.40	693	
accuracy			0.49	34364	
macro avg	0.48	0.32	0.36		
weighted avg	0.48	0.49	0.46		

	7111	u Ji	011	171	atri																											
	0 -	1167	21	6	9	34	9	3	8	3	9	11	1	0	12	1	31	2	15	49	0	666	12	3	4	2	2	1	30			
		32	821	0	10	11	1	7	0	1	1	12	2	1	3	2	5	0	16	7	0	263	2	0	0	1	1	1	13			
		14	11	374	34	12	3	7	13	2	8	21	11	3	2	4	5	0	1	1	1	491	5	0	4	1	3	2	2		- 800	00
	3 -	31	36	68	340	30	5	24	16	4	14	43	14	9	1	4	17	1	6	9	1	982	1	0	4	1	6	6	11			
	4 -	102	32	11	35	412	21	17	14	5	7	35	8	3	5	8	17	0	14	20	2	1352	12	0	10	2	2	4	8			
		14	6	4	10	24	139	3	3	6	6	10	0	0	1	3	9	0	6	8	3	399	17	0	1	0	3	3	3			
	6 -	17	16	14	22	22	3	254		0	5	21	1	2	2	2	1	0	0	2	0	582	2	0	1	0	0	2	8			
		23	8	7	14	21	5		297	4	5	6	2	0	6	0	5	0	0	5	1	688	1	0	8	0	2	0	19			
	8 -	10	5	4	7	13	5	2		133	2	4	1	2	0	0	1	0	3	8	0	202		0	0	0	0	1	1			
	9 -	14	6	20	33		14	12	11		140		6	3	0	5	3	1	4	2	2	536	3	0	6	0	9	27	9		- 600	00
		33	31	34	50	43	5	23	18	6		335	5	6	3	6	1	0	2	3	1	927	4	0	7	1	4	11	6			
	11 -	6	6	37	36	10	1	7	5	0	9		158	4	1	10	0	1	1	2		265	3	0	3	0	1	6	1			
ē	12 -	5	7	7	17	2	0	1	3	1	2	3	10	41	0	2	1	0	1	2	1	155	2	0	1	0	6	2	4			
True label	13 - 14 -	65 4	10	2 6	11	17 3	3	2	11	8	1	6 8	0	1	106	117	4	0	27	8	0	276 152	3	0	2	0	0	1	21 5			
롣	15 -	70	9	3	2	11	11	3	4	2	3	7	0	1	8		1106		25	7	0	106		0	0	1	14	3	1			
	16 -	0	1	0	1	1	1	1	1	0	1	0	0	1	0	1	0	9	1	0	0	55	0	0	1	0	0	6	0			
	17 -	60	84	2	11	22	9	2	6	5	4	6	2	0	8	0	16	0	336		0	283	7	0	4	1	0	1	6		- 400	00
	18 -	57	10	0	7	21	4	0	2	4	1	6	1	1	5	0	5	0		658		194	3	0	3	0	0	1	1			
	19 -	3	1	5	4	2	2	4	1	2	4	3	1	1	1	4	0	0	0	0		110	2	0	1	1	1	3	0			
	20 -	186	171	92	121	154	38	78	90	27	36	137	20	9	26	19	42	2	40	69	5	9572	46	0	24	5	14	29	37			
	21 -	39	11	4	12	31	17	8	5	17	10	7	2	0	4	1	9	3	15	15	0	400	281	0	5	0	1	2	4			
	22 -	16	3	1	2	4	4	1	1	0	0	1	0	0	0	0	1	0	6	0	0	91	3	7	0	0	0	0	0			
	23 -	13	18	18	23	23	3	24	5	5	10	19	2	0	6	4	3	0	6	6	0	677	4	0	86	2	4	5	15			
	24 -	7	0	3	1	6	5	1	1	0	2	1	0	0	0	1	7	0	13	1	0	82	1	0	1	18	0	3	0		- 200	00
	25 -	1	3	2	2	5	3	3	0	0	4	4	1	4	0	0	3	2	0	1	0	89	2	0	1	0	150	19	0			
	26 -	4	12	3	23	21	5	4	6	5	19	16	4	7	0	4	4	2	3	4	0	358	2	0	5	0	37	192	3			
	27 -	18	14	14	10	8	0	8	7	3	5	5	0	2	7	1	2	0	2	5	0	355	2	0	5	1	0	2	217			
		ó	i	2	3	4	5	6	7	8	9	10	11	12 Dr	13 edicte		15	16	17	18	19	20	21	22	23	24	25	26	27			
														Pre	edicti	eu ia	bei															
																															- 0	

Sentiment

alpha_sentiment=1

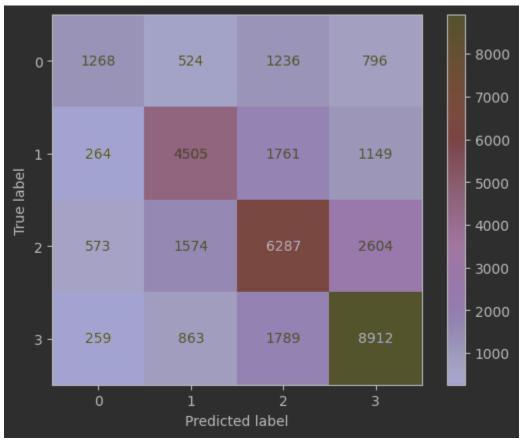
Best estimator (Sentiment): MultinomialNB(alpha=1), Best Score: 0.53839043
67141189

Accuracy for Emotion: 0.6124723547898964

Precision (Weighted) for Emotion: 0.6070489450627047 F1 Score (Weighted) for Emotion: 0.6054871499390746 F1 Score (Macro) for Emotion: 0.5722786365590198

	precision	recall	fl-score	support
0	0.55	0.33	0.41	3871
1	0.61	0.60	0.60	7719

2 3	0.57	0.56	0.57	11089
	0.66	0.76	0.71	11685
accuracy macro_avg weighted_avg	0.60 0.61	0.56 0.61	0.61 0.57 0.61	34364 34364 34364



DT (Grid Search CV)

Hyper-parameters:

"criterion":("gini", "entropy"), "max depth":(100,3), "min samples split":(12,5,30)

Emotion

Best estimator (Emotion): DecisionTreeClassifier(max_depth=100, min_samples_split=30)

Best Score: 0.4044639513068846

Accuracy for Emotion: 0.5089628681177977

Precision (Weighted) for Emotion: 0.5139248586697427 F1 Score (Weighted) for Emotion: 0.4676219536378908 F1 Score (Macro) for Emotion: 0.37062609486706116

	precision	recall	f1-score	support
0	0.58	0.55	0.57	2111
1	0.60	0.68	0.64	1213
2	0.50	0.36	0.42	1035

3	0.40	0.20	0.27	1684
4	0.42	0.19	0.26	2158
5	0.44	0.20	0.28	681
6	0.46	0.25	0.32	1025
7	0.51	0.25	0.34	1172
8	0.54	0.31	0.40	423
9	0.44	0.15	0.23	919
10	0.44	0.21	0.29	1576
11	0.62	0.27	0.37	588
12	0.41	0.15	0.22	276
13	0.51	0.18	0.27	583
14	0.59	0.35	0.44	338
15	0.85	0.79	0.82	1408
16	0.38	0.11	0.17	81
17	0.60	0.37	0.46	910
18	0.71	0.66	0.68	1000
19	0.53	0.13	0.21	180
20	0.47	0.86	0.61	11089
21	0.63	0.31	0.42	903
22	0.70	0.05	0.09	141
23	0.46	0.09	0.15	981
24	0.49	0.12	0.19	154
25	0.58	0.50	0.54	299
26	0.57	0.26	0.36	743
27	0.51	0.31	0.39	693
accuracy			0.51	34364
macro_avg	0.53	0.32	0.37	34364
weighted_avg	0.51	0.51	0.47	34364

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	_																													
0	-1176	22	5	10	31	9	3	17	3	4	5	6	1	12	0	27	0	38	40	0	618	15	2	1	0	2	2	24		
1	- 36	837	3	7	14	2	3	5	1	2	8	5	0	3	0	3	1	18	9	0	275	3	0	4	0	2	1	8		- 8000
2	- 13	14	322	50	10	4	8	7	3	9	14	7	3	0	4	1	0	2	2	1	511	2	0	4	0	1	3	2		
3	- 34	38	68	351	39	7	14	14	5	14	38	15	5	4	2	8	0	2	9	1	963	7	0	4	0	4	5	9		
4	- 107	31	19	41	449	19	11	11	10	15	35	7	3	5	8	12	1	16	22	1	1413	15	0	8	7	3	5	9		
5	- 21	7	7	9	17	142		8	6	9	7	1	0	1	3	8	0	8	10	0	428	13	0	1	2	6	4	1		
6	- 15	17	4	24	16	0	246	36	0	7	13	1	1	2	3	1	0	2	5	1	548	6	0	1	0	3	1	8		
7	- 19	16	11	17	15	7		278	0	4	5	2	0	7	1	2	0	0	9	0	757	2	0	6	0	1	3	16		
8	7	6	4	3	13	6	1		141	2	4	1	0	0	1	2	0	2	7	0	224	18	0	2	0	0	1	0		6000
9	- 19	7	18	30	21	8	5	9		132		7	5	1	4	4	0	1	4	0	546	5	0	6	1	13	25	9		
10	- 30	29	32	57	38	7	21	10	7		346	6	4	1	4	5	0	3	8	1	915	3	0	8	0	7	6	11		
11	- 9	6	28	36	13	1	11	4	2	9		144	5	1	3	1	0	3	2	0	301	2	0	3	0	0	1	3		
12	- 3	4	/	12	3	0	1	2	2	8	9	2	38	0	2	3	0	1	1	1	146	1	0	0	0	5	2	3		
Ine label	59	10	8	8	9	2	3	13	4	3	8	3	0	114	0	6	0	20	14	3	297 162	6	0	0	0	0	2	23		
14 15	75	9	2	4	11	14	4	3	2	3	3	0	1	8		1110		18	10	0	110	12	0	0	0	11	4	0		
16	- 3	1	0	0	1	1	0	0	1	1	1	0	2	0	1	1	4	1	0	0	46	0	0	0	0	1	4	1		4000
17		112	2	10	13	11	1	5	0	2	7	2	0	11	2	20	0	266		0	299	4	0	6	0	0	1	5		- 4000
18	- 50	8	3	9	10	10	3	3	6	0	7	2	1	7	0	5	0		677		167	2	0	2	0	2	1	0		
19	- 2	1	5	5	2	3	3	0	1	3	0	3	3	1	5	0	0	0	1		100	1	0	1	1	1	3	0		
20		168	78	120			108		40	49	141		13	15	24	42	1	47	71	2	9391	46	1	31	5	17	24	47		
21	- 34	7	7	8	35	18	8	6	27	5	10	1	0	6	0	8	1	18	13	0	376	291	0	4	0	0	2	0		
22	- 12	3	1	0	3	2	1	2	0	0	2	0	0	0	0	3	0	4	0	0	94	2	11	0	0	0	0	0		
23	- 17	17	17	21	33	2	16	8	5	8	28	5	0	5	2	5	0	2	7	0	654	3	0	84	0	3	5	17		
24	- 12	2	1	2	5	7	0	0	0	0	1	0	0	0	2	6	0	7	2	0	71	2	0	0	16	0	2	0		- 2000
25	- 1	2	1	4	4	3	4	1	0	8	5	1	4	1	0	6	1	0	3	0	111	1	0	2	0	150	15	1		
26	- 7	12	10	18	18	7	2	1	2	24	19	4	3	0	5	2	6	3	2	2	371	1	0	3	0	45	195	3		
27	- 27	6	15	10	8	2	8	6	1	3	10	1	0	6	1	4	0	1	3	0	338	4	0	6	0	0	2	220		
	ó	i	2	3	4	5	6	7	8	9	10	11	12	13	14		16	17	18	19	20	21	22	23	24	25	26	27		
													Pre	eaict	ed la	bei														
																														0

Sentiment

Best estimator (Sentiment): DecisionTreeClassifier(max_depth=100, min_samples_split=5

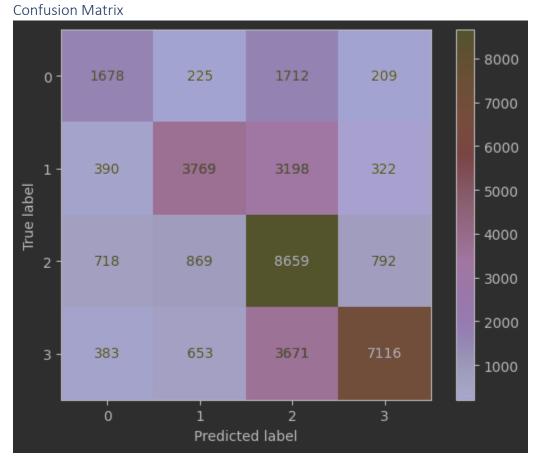
Best Score: 0.515219404662324

Accuracy for Emotion: 0.6230939355139099

Precision (Weighted) for Emotion: 0.6687341188723662 F1 Score (Weighted) for Emotion: 0.6249230250322402 F1 Score (Macro) for Emotion: 0.5986613471716806

	precision	recall	f1-score	support
0	0.54 0.69	0.45	0.49	3871 7719

2	0.51	0.79	0.62	11089
3	0.85	0.60	0.70	11685
accuracy			0.62	34364
macro_avg	0.65	0.59	0.60	34364
weighted_avg	0.67	0.62	0.62	34364



MLP (Grid Search CV)

Hyper-parameters:

"activation":("identity", "logistic", "tanh", "relu"), "hidden_layer_sizes":((5,5),(5,10)),

Emotion

Unable to converge to a final model

Sentiment

Unable to converge to a final model

[&]quot;solver":("adam","sgd")

New Training/Test Split

MNB

Hyper-parameters:

default

Emotion

Score for Emotion: 0.39273658479804446
Accuracy for Emotion: 0.39273658479804446
Precision (Weighted) for Emotion: 0.3790727928793306
F1 Score (Weighted) for Emotion: 0.3214243457337185

F1 Score (Macro) for Emotion: 0.18140672572768532

F1 Score	(Macro)	for Emot	ion: 0.18	14067257276	8532
	pr	ecision	recall	f1-score	support
	0	0.50	0.48	0.49	550
	1	0.46	0.30	0.37	301
	2	0.42	0.16	0.23	261
	3	0.17	0.06	0.09	420
	4	0.25	0.10	0.15	555
	5	0.26	0.06	0.10	155
	6	0.30	0.07	0.11	239
	7	0.37	0.12	0.18	305
	8	0.46	0.05	0.09	115
	9	0.20	0.04	0.07	228
	10	0.27	0.09	0.14	372
	11	0.42	0.11	0.17	136
	12	1.00	0.03	0.05	74
	13	0.36	0.05	0.09	175
	14	0.62	0.05	0.09	100
	15	0.70	0.71	0.70	347
	16	0.00	0.00	0.00	11
	17	0.44	0.14	0.21	216
	18	0.58	0.40	0.47	225
	19	0.00	0.00	0.00	46
	20	0.38	0.82	0.52	2792
	21	0.36	0.14	0.20	227
	22	0.00	0.00	0.00	23
	23	0.17	0.04	0.07	245
	24	0.00	0.00	0.00	33
	25	0.50	0.06	0.11	83
	26	0.44	0.12	0.19	187
	27	0.49	0.12	0.19	170
accur	acy			0.39	8591
macro	_	0.36	0.15	0.18	8591
weighted_a	_	0.38	0.39	0.32	8591

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	264	7	0	8	11	3	1	2	0	1	3	1	0	0	0	18	0	4	10	0	210	4	0	2	0	0	0	1			
	15	91	2	8	3	0	0	0	1	0	2	0	0	0	0	5	0	1	2	0	167	1	0	0	0	0	1	2		ŀ	2000
	3	3	42	15	5	1	2	2	0	0	6	2	0	1	0	4	0	0	0	0	172	1	0	1	0	0	0	1			
	5	5	8	26	10	2	2	1	0	3	9	3	0	0	0	6	0	0	0	0	333	2	0	3	1	0	1	0			
	22	8	1	8	58	2	2	2	0	3	8	1	0	1	0	3	0	0	6	0	416	7	0	5	0	0	1	1			
	2	1	0	0	5	10	0	3	0	0	0	0	0	0	0	5	0	3	2	0	119	5	0	0	0	0	0	0			
	2	1	0	1	4	0	16	7	0	0	4	0	0	1	0	1	0	0	0	0	199	1	0	2	0	0	0	0			
	8	1	0	3	2	0	5	36	0	1	2	0	0	0	0	6	0	1	2	0	234	1	0	1	0	0	0	2			
	4	1	0	1	4	1	0	0	6	0	0	0	0	0	0	1	0	0	2	0	92	3	0	0	0	0	0	0		-	150
	4	2	1	8	4	1	0	0	0	9	3	4	0	1	0	1	0	1	1	0	181	1	0	2	0	1	2	1			
	3	6	4	13	11	1	2	0	0	2	34	1	0	0	0	3	0	1	0	0	289	0	0	2	0	0	0	0			
11 -	1	1	7	5	2	0	0	1	0	0	2	15	0	0	0	0	0	0	1	0	98	1	0	0	0	0	0	2	н		
12 -	2	1	2	4	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	59	0	0	0	0	0	1	1			
13 -	21	4	1	1	4	0	0	2	0	1	1	0	0	9	0	4	0	5	5	0	108	4	0	1	0	0	2	2			
	3	2	0	2	1	0	0	0	1	1	1	1	0	0	5	0	0	0	0	0	81	0	0	1	0	0	1	0			
15 -	19	5	1	0	0	1	1	1	0	0	0	0	0	0	0	245	0	5	2	0	61	2	0	1	0	1	2	0			100
16 -	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0			100
17 -	22	12	0	0	6	0	0	0	0	0	1	0	0	4	0	4	0	30	13	0	122	1	0	1	0	0	0	0			
18 -	17	3	0	1	1	0	0	0	0	1	0	0	0	0	0	3	0	2	89	0	106	0	0	0	0	0	0	0			
19 -	81	0 37	25	44	2 75	12	J.	35	2	10	38	4	0	6	0	0 23	0	9	0	0	39 2297	0 21	0	0 19	0	1	0 12	6			
20 - 21 -	7	1	1	1	73	13	20	22	2	2	20	1	0	0	0	4	0	1	11	0	160	32	0	0	0	0	12	0			
21 -	4	0	0	0	2	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	14	1	0	0	0	0	0	0			
23 -	3	2	0	0	9	0	0	0	1	3	6	0	0	0	1	1	0	1	2	0	204	0	0	10	0	0	0	2			
24 -	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	0	2	0	0	26	0	0	0	0	0	0	0			500
25 -	0	0	0	1	2	0	0	1	0	2	0	0	0	0	0	6	0	0	1	0	58	0	0	2	0	5	5	0			
26 -	2	0	1	2	2	0	0	0	0	4	2	2	0	0	0	4	0	2	1	0	136	1	0	3	0	2	23	0			
27 -	16	3	3	2	3	0	1	2	0	0	1	0	0	1	0	0	0	0	2	0	112	1	0	3	0	0	0	20			
	0	i	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27			
													Pre	dict	ed la	bel															

Sentiment

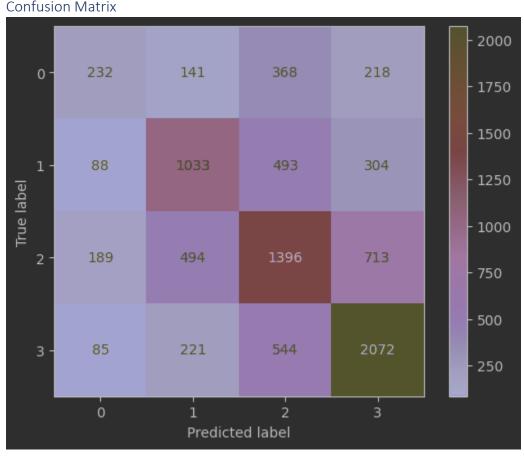
Score for Sentiment: 0.5509253870329415 Accuracy for Emotion: 0.5509253870329415

Precision (Weighted) for Emotion: 0.5407647987441085
F1 Score (Weighted) for Emotion: 0.5430198776222547
F1 Score (Macro) for Emotion: 0.5014829594840788

Precision recall f1-score support

	precision	recall	fl-score	support
0	0.39	0.24	0.30	959
1	0.55	0.54	0.54	1918
2	0.50	0.50	0.50	2792

3	0.63	0.71	0.67	2922
accuracy macro_avg weighted_avg	0.52 0.54	0.50 0.55	0.55 0.50 0.54	8591 8591 8591
Confinion Matrix				



DT

Hyper-parameters:

default

Emotion

Score for Emotion: 0.3620067512513095 Accuracy for Emotion: 0.3620067512513095

Precision (Weighted) for Emotion: 0.37844542808066867 F1 Score (Weighted) for Emotion: 0.3622201069186187 F1 Score (Macro) for Emotion: 0.28331844542697787

	precision	recall	f1-score	support
0	0.42	0.59	0.49	550
1	0.39	0.57	0.47	301
2	0.26	0.42	0.32	261
3	0.18	0.27	0.21	420
4	0.21	0.28	0.24	555
5	0.19	0.28	0.23	155

6	0.19	0.28	0.23	239
7	0.31	0.32	0.31	305
8	0.27	0.30	0.28	115
9	0.17	0.19	0.18	228
10	0.26	0.27	0.26	372
11	0.26	0.24	0.25	136
12	0.21	0.16	0.18	74
13	0.21	0.15	0.18	175
14	0.48	0.40	0.43	100
15	0.75	0.75	0.75	347
16	0.14	0.27	0.18	11
17	0.30	0.19	0.24	216
18	0.53	0.52	0.52	225
19	0.25	0.13	0.17	46
20	0.50	0.41	0.45	2792
21	0.39	0.23	0.29	227
22	0.00	0.00	0.00	23
23	0.23	0.09	0.13	245
24	0.07	0.03	0.04	33
25	0.43	0.31	0.36	83
26	0.32	0.17	0.22	187
27	0.43	0.24	0.31	170
accuracy			0.36	8591
macro_avg	0.30	0.29	0.28	8591
weighted_avg	0.38	0.36	0.36	8591

					IX																									
	326	12	6	6	34	9	4	4	3	5	5	1	1	8	0	20	1	9	19	0	64	9	1	2	0	0	0	1		
	20	172	9	14	8	1	1	2	1	3	6	2	1	1	0	1	0	8	0	1	45	0	0	2	1	0	2	0		10
	5	3	110	46	7	4	4	4	1	9	14	7	2	2	1	0	0	0	0	0	38	1	0	1	0	0	1	1		
	10	19	48	112	24	8	8	11	2	14	26	9	4	1	0	6	0	2	3	0	100	3	0	3	1	0	5	1		
	44	20	9	34	157	10	10	7	5	12	19	4	2	5	2	3	0	11	8	0	166	10	0	8	1	0	3	5		
	10	4	5	6	20	43	1	3	1	2	7	1	0	1	0	1	0	4	1	0	34	8	0	1	1	0	1	0		
	9	5	7	20	11	3	66	34	1	4	11	1	2	1	0	1	0	0	1	1	52	2	0	4	0	1	0	2		- 80
	11	6	12	14	11	4	58	97	1	4	2	0	2	2	1	2	0	0	1	0	70	1	0	2	0	0	0	4		
	5	1	1	7	11	5	1	3	34	3	2	0	1	1	0	3	0	2	5	0	27	2	0	0	0	0	1	0		
	4	4	11	25	12	5	7	6	2	44	16	7	3	3	6	2	1	1	1	4	49	3	0	0	1	1	8	2		
	9	13	26	39	22	7	14	4	1	18	101	7	1	1	1	1	1	0	2	0	92	0	0	6	0	2	2	2		
11 -	3	4	16	19	7	1	2	3	1	6	6	32	3	1	1	0	1	0	1	0	22	1	0	1	0	0	5	0		
12 -	1	5	6	11	2	1	0	0	1	2	3	5	12	0	2	0	0	0	0	0	19	0	0	0	0	2	1	1		- 60
13 -	24	14	4	10	14	5	1	12	3	0	2	0	0	27	0	4	0	6	5	0	28	6	0	2	1	0	0	7		
14 -	2	2	9	5	2	0	3	2	1	1	4	3	1	0	40	1	1	0	0	2	16	0	0	1	0	0	3	1		
15 -	26	4	1	2	8	6	1	2	0	1	1	0	1	3	0	260	1	8	1	0	10	2	0	1	4	2	1	1		
16 -	1	0	1	0	1	1	0	0	2	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0		
17 ·	29	32	3	4	17	3	3	0	3	2	3	1	0	13	0	5	0	42 7	19 116	0	28	3	0	0	0	0	0	0		
	1	1	1	1	3	3	1	0	3	8	0	1	0	0	6	0	0	0	0	6	7	0	0	2	0	0	0	2		- 40
19 - 20 -			-	_			137				137		15	41	13	18	7	23	23	9	1136		1	23	3	9	25	14		
20 -	140	3	3	9	18	11	4	5	13	7	3	0	13	6	2	1	0	5	5	0	58	53	1	2	0	1	1	1		
22 -	6	0	0	0	4	0	1	0	0	0	0	1	0	0	0	1	0	1	0	0	7	2	0	0	0	0	0	0		
23 -	8	12	3	10	35	5	6	1	3	6	10	1	1	2	2	1	1	2	5	0	95	3	0	23	0	2	2	6		
24 -	4	0	0	2	7	2	0	1	1	0	0	0	0	0	0	4	0	4	0	0	5	2	0	0	1	0	0	0		
25 -	1	0	2	6	4	3	1	3	0	9	3	0	2	1	0	4	1	0	0	0	8	0	0	3	0	26	6	0		- 20
26 -	1	1	8	15	11	6	1	3	2	21	5	3	0	2	4	2	3	1	2	0	46	1	0	3	0	14	31	1		
27 -	14	6	7	8	11	0	8	5	0	7	5	2	2	4	1	0	1	5	2	1	33	2	0	6	0	0	0	40		
	Ó	i	2	3	4	5	6	7	8	9	10	11	12			15	16	17	18	19	20	21	22	23	24	25	26	27		
27 -	—	-	2		-	_		7	-	9	-	11				15	16		_		_	-	-	_	-	-	-	-		

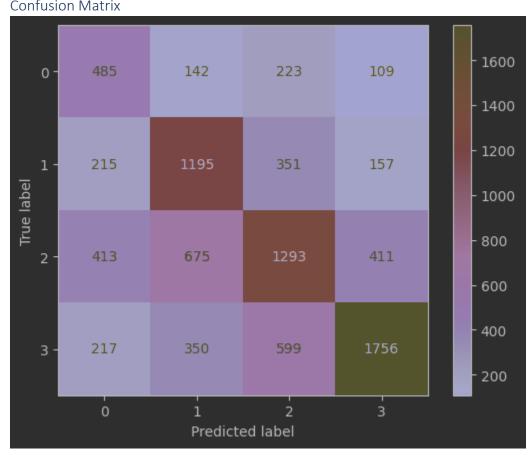
Sentiment

Score for Sentiment: 0.5504597834943545 Accuracy for Emotion: 0.5504597834943545

Precision (Weighted) for Emotion: 0.569542883739723 F1 Score (Weighted) for Emotion: 0.5548763766687818 F1 Score (Macro) for Emotion: 0.5324586761773381

	precision	recall	f1-score	support
0	0.36	0.51	0.42	959
1	0.51	0.62	0.56	1918
2	0.52	0.46	0.49	2792

3	0.72	0.60	0.66	2922
accuracy macro_avg weighted_avg	0.53 0.57	0.55 0.55	0.55 0.53 0.55	8591 8591 8591
Confusion Matrix				



MLP

Hyper-parameters:

default

Emotion

Score for Emotion: 0.5971365382376906 Accuracy for Emotion: 0.5971365382376906

Precision (Weighted) for Emotion: 0.5888006332289856 F1 Score (Weighted) for Emotion: 0.588324768349283 F1 Score (Macro) for Emotion: 0.5227948773878628

	precision	recall	f1-score	support
0	0 64	0.70	0.69	5237
0	0.64	0.72	0.68	
1	0.65	0.70	0.67	3015
2	0.61	0.48	0.54	2615
3	0.48	0.40	0.44	4202
4	0.54	0.37	0.44	5652
5	0.52	0.46	0.49	1781

6	0.56	0.40	0.47	2490	
7	0.58	0.56	0.57	2907	
8	0.47	0.54	0.50	1049	
9	0.48	0.34	0.40	2369	
10	0.53	0.47	0.50	3918	
11	0.52	0.48	0.50	1484	
12	0.41	0.51	0.45	725	
13	0.49	0.43	0.45	1458	
14	0.61	0.59	0.60	902	
15	0.83	0.85	0.84	3520	
16	0.42	0.41	0.42	178	
17	0.54	0.51	0.53	2113	
18	0.66	0.80	0.73	2428	
19	0.45	0.41	0.43	406	
20	0.64	0.75	0.69	27720	
21	0.53	0.52	0.52	2217	
22	0.44	0.27	0.34	354	
23	0.47	0.33	0.39	2398	
24	0.41	0.46	0.43	380	
25	0.62	0.56	0.59	768	
26	0.54	0.51	0.52	1920	
27	0.53	0.51	0.52	1704	
accuracy			0.60	85910	
macro_avg	0.54	0.51	0.52	85910	
weighted_avg	0.59	0.60	0.59	85910	

Con	lusi	UII	IVI	atı	IX																									
																														- 20000
0	-3774	52	14	26	108	26	4	25	23	14	20	9	5	57	6	98	5	101	199	3	495	61	18	25	11	2	7	49		
1		2123		45	26	5	11	13	10	14	22	21	18	42	3	22	5	127		2	317		0	23	6	0	10	19		
2	- 20			247		15	21	34	8	31	93	77	18	8	14	14	3	14	5	4	573		1	21	1	3	24	23		- 17500
3	- 61	87	183	1667	93	44	53	75	34	71	175	106	60	28	27	25	2	20	17	13	1156	43	0	54	7	7	51	43		
4	-290	73	34	115	2104	97	50	44	60	46	135	31	31	42	18	46	6	80	102	9	1855	127	22	107	28	11	45	44		
5	- 49	14	9	27	71	826	11	10	21	17	21	2	4	7	9	27	1	40	25	10	440	66	3	10	8	15	35	3		
6	- 32	48	27	49	47	20	993	236	19	22	59	14	15	17	10	8	2	8	14	7	731	25	3	25	2	4	10	43		- 15000
7	- 41	25	15	29	38	9	115	1633	18	17	39	4	11	26	6	9	0	11	20	12	725	19	3	21	2	3	7	49		
8	- 23	13	2	16	30	17	5	14	567	7	14	0	7	15	2	13	0	8	21	0	197	53	0	11	1	2	4	7		
9	- 25	29	41	122	52	32	24	23	20	814	142	54	39	15	17	12	3	15	13	19	610	22	4	47	10	15	112	38		
10	- 41	51	53	183	97	34	63	35	22	67	1837	47	39	16	26	20	7	12	17	5	1024	42	6	52	9	12	64	37		- 12500
11	- 15	13	55	114	33	7	14	7	9	25	51	705	32	8	18	8	4	5	6	2	287	9	1	10	1	6	29	10		
12	- 3	6	7	35	12	9	12	6	2	10	20	22	371	1	6	3	2	7	3	7	130	7	1	14	0	10	12	7		
Line label	- 125	31	10	19	41	11	4	35	15	4	6	2	3	621	5	11	0	69	43	5	283	21	1	16	6	0	6	65		
BE 14	- 7	15	10	23	13	11	4	9	6	7	7	26	7		533		2	1	1	11	153	6	0	13	1	3	23	9		- 10000
15	- 142		3	9	26	14	4	8	6	6	8	3	4	15		2983	1	44	21	2	103		2	2	17	27	15	6		
16	- 3	0	3	7	1	1	2	0	3	6	2	2	5	0	3	1	73	1	1	0	39	1	0	1	0	3	18	2		
17		155	3	13	37	14	5	11	19	17	10	3	8	62	5	45			110		288		10	11	26	1	3	13		
18	- 121 - 5	14	3	12	26 15	14 21	4 6	8	16	4 19	4	1	5	12 5	0 17	13	0	1	1951		143	3	0	6	3	1	2 15	6		- 7500
19 20			_													140		_				350		_	73	_	232			
20	- 68	20	3	29	106		5	22	74	17	29	9	9	23	5	23	0	23	29	4	_	1159		23	7	6	8	13		
22	- 53	2	5	5	9	3	3	1	4	7	5	1	0	9	1	11	1	17	3	0	92	16	97	4	2	0	3	0		
23	- 55	41	22	54	112	15	38	31	25	42	98	20	23	14	14	10	5	24	23	8	796		2	793	9	13	26	49		- 5000
24	- 20	2	2	3	27	13	2	1	1	2	4	0	2	2	0	13	0	13	2	1	77	9	1	4	174	1	3	1		
25	- 2	6	4	15	10	13	4	3	8	28	16	1	17	6	3	16	5	0	5	3	80	8	0	18	1	430	64	2		
26	- 13	21	20	58	25	27	7	19	10	110	39	29	18	7	11	12	17	17	11	7	350	10	0	22	7	66	977	10		
27	- 79	15	26	33	33	3	27	67	2	11	29	12	12	39	8	6	6	19	7	1	350	8	0	24	6	4	5	872		- 2500
	0	i	2	3	4	5	6	7	8	9	10	11		13			16	17	18	19	20	21	22	23	24	25	26	27		
													Pr€	edicte	ed la	bel														
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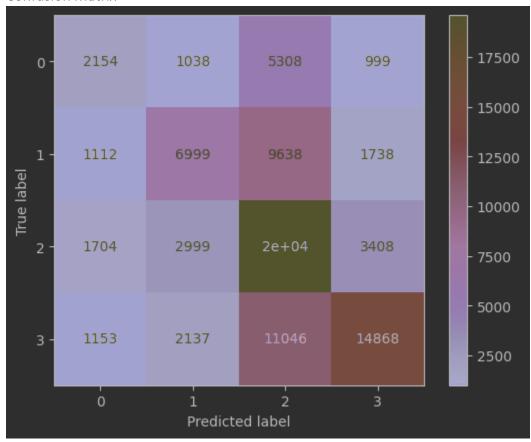
Sentiment

Score for Sentiment: 0.7235362588755675 Accuracy for Emotion: 0.7235362588755675

Precision (Weighted) for Emotion: 0.7224575726620288 F1 Score (Weighted) for Emotion: 0.722729062462972 F1 Score (Macro) for Emotion: 0.702261625427746

1100	ro, ror micor	.011. 0.70	2201020127	, 10
	precision	recall	f1-score	support
0	0.64	0.57	0.60	9499
1	0.71	0.73	0.72	19487
2	0.69	0.70	0.70	27720
3	0.78	0.79	0.79	29204

accuracy			0.72	85910
macro_avg	0.71	0.70	0.70	85910
weighted_avg	0.72	0.72	0.72	85910



MNB (Grid Search CV)

Hyper-parameters:

"alpha": (0.5, 0, 0.36, 1)

Emotion

alpha emotion = 0.5

Best estimator (Emotion): MultinomialNB(alpha=0.5), Best Score: 0.39059847

recall f1-score support

55012737

Accuracy for Emotion: 0.4847514841112792

precision

Precision (Weighted) for Emotion: 0.4857895395369976 F1 Score (Weighted) for Emotion: 0.45367634569944093 F1 Score (Macro) for Emotion: 0.34276040965248367

0	0.54	0.61	0.57	5237
1	0.58	0.59	0.59	3015
2	0.50	0.34	0.40	2615
3	0.41	0.25	0.31	4202

4	0.43	0.23	0.30	5652	
5	0.41	0.29	0.34	1781	
6	0.47	0.24	0.32	2490	
7	0.49	0.30	0.37	2907	
8	0.55	0.21	0.30	1049	
9	0.44	0.18	0.26	2369	
10	0.42	0.27	0.33	3918	
11	0.54	0.27	0.36	1484	
12	0.58	0.12	0.19	725	
13	0.46	0.19	0.26	1458	
14	0.58	0.28	0.38	902	
15	0.74	0.80	0.77	3520	
16	0.20	0.01	0.01	178	
17	0.47	0.31	0.37	2113	
18	0.64	0.63	0.63	2428	
19	0.52	0.03	0.05	406	
20	0.45	0.76	0.57	27720	
21	0.50				
22	0.39	0.03		354	
23	0.43	0.17	0.24	2398	
24	0.52			380	
25	0.58	0.27	0.37	768	
26		0.30			
27	0.51	0.33	0.40	1704	
accuracy			0.48	85910	
macro avg	0.49	0.30		85910	
weighted avg		0.48	0.45		

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0 - 221																															
1 - 100 1788 12 46 27 2 7 13 3 3 13 19 5 0 17 1 20 0 50 31 0 814 9 0 13 0 1 6 20 2 - 33 31 889 174 39 16 8 19 1 20 60 31 1 3 2 14 0 0 9 7 0 1206 9 0 11 1 2 2 16 13 3 - 86 85 172 1954 103 40 85 40 8 34 138 58 4 14 6 40 0 11 15 0 2131 19 0 26 0 4 43 26 4 320 05 31 76 1323 78 37 40 13 34 111 9 1 2 13 69 1 2																															- 20000
1 - 100 1788 12 46 27 2 7 13 3 3 13 19 5 0 17 1 20 0 50 31 0 814 9 0 13 0 1 6 20 2 - 33 31 889 174 39 16 8 19 1 20 60 31 1 3 2 14 0 0 9 7 0 1206 9 0 11 1 2 2 16 13 3 - 86 85 172 1954 103 40 85 40 8 34 138 58 4 14 6 40 0 11 15 0 2131 19 0 26 0 4 43 26 4 320 05 31 76 1323 78 37 40 13 34 111 9 1 2 13 69 1 2		_																													
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3 86 85 172 1054 103 40 45 40 8 34 138 58 4 14 6 40 0 11 15 0 2131 19 0 26 0 4 43 26 43 26 43 26 43 20 85 31 76 1323 78 37 40 13 41 11 9 1 2 13 69 10 44 57 0 3113 71 1 42 1 5 34 23 43 26	_															-															
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15000 1 2 28 33 15 37 47 3 607 137 2 8 8 45 3 1 5 5 4 13 0 5 13 1 1429 9 0 2 2 0 1 1 4 18 15000 1 5 6 28 15 26 55 15 75 863 4 9 37 1 0 0 14 6 27 0 0 9 12 0 1591 10 0 18 0 1 1 4 31 1 6 36 14 5 9 24 15 7 6 21 14 5 7 6 21 7 6 12 4 1 2 0 13 15 10 0 15 15 0 575 66 0 2 2 0 0 0 3 4 1 9 34 29 33 91 57 26 27 14 5 6 22 7 1 5 7 7 8 1 8 0 10 14 1 1331 17 0 17 1 9 72 19 10 60 57 56 137 102 24 61 21 3 41 1055 32 3 5 9 29 0 9 12 0 20 14 23 0 29 1 3 27 15 11 - 29 15 75 97 26 4 10 7 3 14 45 05 7 7 5 3 6 8 8 4 1 3 6 8 84 1 3 6 8 84 1 3 6 8 84 1 3 6 8 84 1 3 6 8 84 1 3 6 8 84 1 3 6 8 84 1 3 6 8 84 1 3 6 8 84 1 3 8 84														1		13		0						1	42	1	5		23		
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12500 1	6	- 28	33	15	37	47	3	607	137	2	8	45	3	1	5	4	13	0	5	13	1	1429	9	0	22	0	1	4	18		- 15000
9 34 29 33 91 57 26 27 14 5 426 78 27 1 5 5 7 18 0 10 10 14 1 1331 17 0 17 1 9 72 19 10 60 57 56 137 102 24 61 21 3 41 1055 32 3 5 9 29 0 9 12 0 210 23 0 29 1 3 27 15 11 29 15 75 97 26 4 10 7 3 14 5 45 73 20 10 18 8 84 1 2 3 0 6 0 5 6 0 420 5 0 11 0 8 11 6 12 - 16 10 11 48 14 5 14 5 14 5 0 10 18 8 84 1 3 3 6 0 5 0 270 3 23 0 10 4 1 0 626 14 0 9 0 0 0 4 50 13 - 166 28 16 14 36 8 4 7 2 7 5 3 6 12 17 0 12 17 0 1 249 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7	- 56	28	15	26	55	15	75	863	4	9	37	1	0	14	6	27	0	9	12	0	1591	10	0	18	0	1	4	31		
10 - 60	8	- 36	14	5	9	24	15	7	6	217	6	12	4	1	2	0	13	0	13	15	0	575	66	0	2	0	0	3	4		
11 - 29	9	- 34	29	33	91	57	26	27	14	5	426	78	27	1	5	7	18	0	10	14	1	1331	17	0	17	1	9	72	19		
12 - 16	10	- 60	57	56	137	102	24	61	21	3	41	1055	32	3	5	9	29	0	9	12	0	2104	23	0	29	1	3	27	15		- 12500
13 - 166 28 16 14 36 4 7 27 5 3 6 2 10 27 8 3 6 2 10 27 8 3 28 10 10 4 10 6 26 14 0 9 0 0 4 50 12 8 10 15 15 15 18 30 1 6 28 17 5 5 2 4 8 1 5 12 17 0 1 249 1 0 1 1 1 1 47 5 0 11 0 3 12 3 15 15 18 30 1 6 28 17 5 5 2 4 8 1 5 12 17 0 1 249 1 0 5 18 0 267 41 0 2 1 10 0 3 12 3 1 15 18 30 1 6 28 17 5 5 2 4 8 1 5 12 17 0 1 28 11 0 5 18 0 267 41 0 2 1 10 0 3 12 3 14 12 1 17 187 187 3 11 31 17 2 10 3 4 9 0 1 16 2 77 0 647 116 0 78 27 1 6 0 1 4 12 1 12 13 14 15 16 17 18 18 28 17 17 18 18 18 18 18 18 18 1	11	- 29	15	75	97	26	4	10	7	3	14	45	405	7	3	9	8	1	2	10	0	673	12	0	5	0	2	18	4		
15 - 183 30	_														_																
15 - 183 30	age 13																														
16 - 5																															- 10000
17 - 187 187 3 11 31 17 2 10 3 4 9 0 1 16 2 77 0 647 116 0 739 27 1 6 0 1 4 12 18 - 162 16 1 8 20 8 1 6 1 1 2 0 0 0 4 0 17 0 35 1522 0 604 8 0 4 0 0 5 3 19 - 6 2 1 18 20 21 4 3 0 9 10 5 1 5 8 4 0 1 0 11 253 4 0 2 0 0 14 4 20 - 838 439 333 466 699 287 276 415 73 201 619 112 27 136 80 222 3 187 261 6 15 243 11 248 3 27 172 185 21 - 100 21 5 15 75 60 18 12 25 9 23 1 0 7 1 41 0 20 18 0 974 766 0 9 1 1 7 8 8 22 - 61 2 7 3 7 4 0 1 1 7 6 0 0 3 1 12 0 9 1 0 210 5 9 4 0 0 1 0 1 0 23 - 63 36 18 65 88 17 29 17 2 17 80 4 5 4 6 22 0 16 17 0 1397 23 0 406 2 8 16 40 24 - 28 3 4 5 22 15 1 1 0 5 3 0 0 3 0 3 0 33 0 19 3 0 209 7 0 2 13 0 3 1 25 - 6 6 6 5 8 19 17 7 4 4 114 12 1 5 0 1 45 0 1 5 0 324 4 0 13 0 211 54 2 26 - 13 18 11 45 28 21 11 9 9 62 40 13 2 3 5 32 0 12 13 0 914 10 0 11 0 49 578 11 27 - 84 19 35 24 32 6 23 42 0 7 22 5 0 18 6 10 0 7 11 0 781 3 0 10 0 0 5 554 Predicted label								1																		-					
18 - 162						_		2						1													1				
19 - 6 2 1 18 20 21 4 3 0 9 10 5 1 5 8 4 0 1 0 11 253 4 0 2 0 0 14 4 20 -838 439 333 466 699 287 276 415 73 201 619 112 27 136 80 222 3 187 261 6 115 243 11 248 3 27 172 185 21 -100 21 5 15 75 60 18 12 25 9 23 1 0 7 1 41 0 20 18 0 974 766 0 9 1 1 7 8 22 - 61 2 7 3 7 4 0 1 1 7 6 0 0 3 1 12 0 9 1 0 210 5 9 4 0 0 1 0 23 - 63 36 18 65 88 17 29 17 2 17 80 4 5 4 6 22 0 16 17 0 1397 23 0 406 2 8 16 40 24 - 28 3 4 5 22 15 1 1 0 5 3 0 0 3 0 33 0 19 3 0 209 7 0 2 13 0 3 1 25 - 6 6 5 8 19 17 7 4 4 14 12 1 5 0 1 45 0 1 5 0 324 4 0 13 0 211 54 2 26 - 13 18 11 45 28 21 11 9 9 62 40 13 2 3 5 32 0 12 13 0 914 10 0 11 0 49 578 11 27 - 84 19 35 24 32 6 23 42 0 7 22 5 0 18 6 10 0 7 11 0 781 3 0 10 0 0 5 554 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 Predicted label								1		1	1		0	0		0								0	4	0	0				
21 - 100	19	- 6	2	1	18	20	21	4	3	0	9	10	5	1	5	8	4	0	1	0	11	253	4	0	2	0	0	14	4		- 7500
22 - 61	20	-838	439	333	466	699	287	276	415	73	201	619	112	27	136	80	222	3	187	261	6	115	243	11	248	3	27	172	185		
23 - 63 36 18 65 88 17 29 17 2 17 80 4 5 4 6 22 0 16 17 0 1397 23 0 406 2 8 16 40 24 - 28 3 4 5 22 15 1 1 0 5 3 0 0 3 0 3 0 19 3 0 209 7 0 2 13 0 3 1 25 - 6 6 5 8 19 17 7 4 4 14 12 1 5 0 1 45 0 1 5 0 324 4 0 13 0 211 54 2 26 - 13 18 11 45 28 21 11 9 9 62 40 13 2 3 5 32 0 12 13 0 914 10 0 11 0 49 578 11 27 - 84 19 35 24 32 6 23 42 0 7 22 5 0 18 6 10 0 7 11 0 781 3 0 10 0 0 5 554 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 Predicted label	21	- 100	21	5	15	75	60	18	12	25	9	23	1	0	7	1	41	0	20	18	0	974	766	0	9	1	1	7	8		
23 - 63 36 18 65 88 17 29 17 2 17 80 4 5 4 6 22 0 16 17 0 139 23 0 406 2 8 16 40 24 - 28 3 4 5 22 15 1 1 0 5 3 0 0 3 0 33 0 19 3 0 209 7 0 2 13 0 3 1 25 - 6 6 5 8 19 17 7 4 4 14 12 1 5 0 1 45 0 1 5 0 324 4 0 13 0 211 54 2 26 - 13 18 11 45 28 21 11 9 9 62 40 13 2 3 5 32 0 12 13 0 914 10 0 11 0 49 578 11 27 - 84 19 35 24 32 6 23 42 0 7 22 5 0 18 6 10 0 7 11 0 781 3 0 10 0 0 5 554 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 Predicted label	22	- 61	2	7	3	7	4	0	1	1	7	6	0	0	3	1	12	0	9	1	0	210	5	9	4	0	0	1	0		
25 - 6 6 5 8 19 17 7 4 4 14 12 1 5 0 1 45 0 1 5 0 324 4 0 13 0 211 54 2 26 - 13 18 11 45 28 21 11 9 9 62 40 13 2 3 5 32 0 12 13 0 914 10 0 11 0 49 578 11 27 - 84 19 35 24 32 6 23 42 0 7 22 5 0 18 6 10 0 7 11 0 781 3 0 10 0 0 5 554 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 Predicted label	23	- 63	36	18	65	88	17	29	17	2	17	80	4	5	4	6	22	0	16	17	0	1397	23	0	406	2	8	16	40		- 5000
26 - 13 18 11 45 28 21 11 9 9 62 40 13 2 3 5 32 0 12 13 0 914 10 0 11 0 49 578 11 27 - 84 19 35 24 32 6 23 42 0 7 22 5 0 18 6 10 0 7 11 0 781 3 0 10 0 0 5 554 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 Predicted label	24	- 28	3	4	5	22	15	1	1	0	5	3	0	0	3	0	33	0	19	3	0	209	7	0	2	13	0	3	1		
27 - 84 19 35 24 32 6 23 42 0 7 22 5 0 18 6 10 0 7 11 0 781 3 0 10 0 0 5 554 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 Predicted label	25				Ŭ			7	4	4			_	5	0	1		0	-					0							
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 Predicted label											62			-																	2500
Predicted label	27		_	_	-	_			Ţ		-	-	-	-	-	-	-	-		_	-	_	-	-	_	-	-	-	_		2300
		0		2		4	5	6	7	8	9	10	11					16	17	18	19	20	21	22	23	24	25	26	27		
																															- 0

Sentiment

alpha_sentiment=1

```
Best estimator (Sentiment): MultinomialNB(alpha=1),
Best Score: 0.543696292227927
Accuracy for Emotion: 0.6173320917238971
Precision (Weighted) for Emotion: 0.6122283592212618
F1 Score (Weighted) for Emotion: 0.6113570497954467
F1 Score (Macro) for Emotion: 0.5795603043690769
             precision recall f1-score support
                            0.35
          0
                  0.55
                                      0.42
                                               9499
                          0.61
                                     0.61
                  0.62
                                              19487
```

2 3	0.58	0.57	0.57	27720
	0.66	0.75	0.71	29204
accuracy macro_avg weighted_avg	0.60 0.61	0.57 0.62	0.62 0.58 0.61	85910 85910 85910



DT (Grid Search CV)

Hyper-parameters:

"criterion":("gini", "entropy"), "max depth":(100,3), "min samples split":(12,5,30)

Emotion

Best estimator (Emotion):

DecisionTreeClassifier(max depth=100, min samples split=30),

Best Score: 0.3984285880572692

Accuracy for Emotion: 0.4020486555697823

Precision (Weighted) for Emotion: 0.35505674855784475 F1 Score (Weighted) for Emotion: 0.3474123156775421 F1 Score (Macro) for Emotion: 0.23204273599853362

	precision	recall	fl-score	support
0	0.45	0.42	0.43	5237
1	0.48	0.49	0.48	3015

	2	0.31	0.19	0.23	2615
	3	0.14	0.07	0.10	4202
	4	0.18	0.08	0.11	5652
	5	0.20	0.08	0.11	1781
	6	0.27	0.13	0.18	2490
	7	0.31	0.14	0.20	2907
	8	0.30	0.18	0.22	1049
	9	0.15	0.06	0.08	2369
	10	0.17	0.08	0.11	3918
	11	0.31	0.15	0.20	1484
	12	0.22	0.05	0.09	725
	13	0.25	0.13	0.17	1458
	14	0.45	0.24	0.31	902
	15	0.78	0.73	0.76	3520
	16	0.04	0.01	0.01	178
	17	0.33	0.20	0.25	2113
	18	0.57	0.56	0.57	2428
	19	0.29	0.04	0.07	406
	20	0.41	0.78	0.54	27720
	21	0.43	0.23	0.30	2217
	22	0.20	0.03	0.05	354
	23	0.17	0.03	0.05	2398
	24	0.18	0.04	0.07	380
	25	0.40	0.33	0.36	768
	26	0.36	0.15	0.22	1920
	27	0.37	0.18	0.25	1704
accu	racy			0.40	85910
macro	avg	0.31	0.21	0.23	85910
weighted	avg	0.36	0.40	0.35	85910

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		2215							22	11	21	36	15	4	80	7				174		1911		14	9	4	4	3	62		
			1469		82	42	10	18	27	9	13	31	5	10	24	9	18	3	107		1	899	8	0	10	3	13	9	26		
					213		9	32	11	14	24	73	69	0	7	9	12	0	9	11		1473	9	0	5	1	7	17	9		- 17500
					313			48	52	19		116		15	14	18	34	0	17	25	2	2766		0	12	2	6	36	29		17500
		344 50	93	50 14	90	429 83		44 14	44 26	23	38 17	109 39	22	5	26	18	36 27	2	53 30	67 25	2	3959 1114	55	4	23	6	15 23	18 19	21		
		45	49	33	59	57		328			17	55	7	2	6	6 7	6	0	9	20	2	1585		1	23	0	3	4	18		
		61	56	32	57	53	13		421		23	31	8	4	38	7	16	1	11	18	2	1897	7	0	18	2	6	8	38		- 15000
	8 -	44	16	8	18	47	12	2		185		15	3	1	13	0	7	0	8	23	0	561	52	0	6	0	0	4	2		
		49	36	48	98	55	15	32	29	23	132	77	39	3	7	11	11	2	14	14	3	1504	14	0	20	0	19	89	25		
		65	75	64	143	122	17	69	39	16	58	297	36	11	4	23	21	0	12	21	0	2703	32	0	22	2	16	32	18		
	11 -	22	21	81	100	27	4	12	10	6	30	56	219	9	2	20	5	0	4	11	0	805	11	0	1	0	4	16	8		- 12500
	12 -	13	13	16	31	11	3	8	9	4	15	22	13	38	0	3	3	0	8	5	0	470	6	1	6	0	10	10	7		
Frue label	13 ·	139	30	15	19	47	6	9	21	6	7	14	0	0	183	3	24	0	60	44	0	758	10	3	10	0	0	2	48		
True	14 -	12	21	10	21	10	7	4	9	1	15	18	29	0	3	218	2	2	1	2	7	484	5	0	10	1	3	3	4		
	15 -	211	25	5	32	42	29	5	14	8	10	12	1	2	29	3	2587	0	68	15	0	305	39	0	4	11	48	8	7		- 10000
		7	4	0	8	3	1	3	3	0	1	3	1	0	0	4	1	1	1	2	1	120	1	0	1	0	8	4	0		
	17 -	181		10	36	67	18	9	12	11	12	14	8	2	58	2	72	0	423		0		31	1	2	23	2	10	17		
	18 -	152		11	12	67	17	4	5	17	1	17	2	3	22	2	18	0		1351		616		1	2	0	1	6	1		- 7500
	19 -	3	1	5	14	9	6	7	4	2	14	12	4	1	1	10	3 170	0	0 176	3	15	280	2	9	1	0	0 44	6 129	3		7300
	20 -	105		19	49	91	49	20	19	76	26	23	4	3	13	1	23	0	30	29		1065		1	11	3	0	8	7		
	22 -	49	5	7	5	17	2	3	0	2	2	4	1	0	3	1	6	1	14	1	0	211	6	10	1	2	0	0	1		
	23 -	54	54	28	50	73	17	36	23	7	33	72	9	3	15	9	10	0	17	29		1707		1	73	2	12	19	36		- 5000
	24 -	29	6	3	1	16	10	2	1	0	4	9	1	0	4	1	18	0	29	3	0	217	4	0	2	16	0	2	2		
	25 -	7	12	6	19	21	5	11	7	8	21	22	1	1	1	1	26	0	2	4	2	271	2	0	3	0	251	63	1		
	26 -	31	21	19	46	49	11	10	15	14	71	38	20	7	2	6	17	3	8	13	1	1071	10	2	6	0	126	297	6		
	27 -	77	29	27	36	23	5	23	42	2	15	30	11	2	43	4	10	2	6	7	0	970	8	2	12	0	1	4	313		- 2500
		Ó	i	2	3	4	5	6	7	8	9	10	11		13		15 bol	16	17	18	19	20	21	22	23	24	25	26	27		
														Pre	edicte	eu ia	bei														
																															L 0

Sentiment

```
Best estimator (Sentiment):
```

DecisionTreeClassifier(max_depth=100, min_samples_split=5),

Best Score: 0.49976719823070653

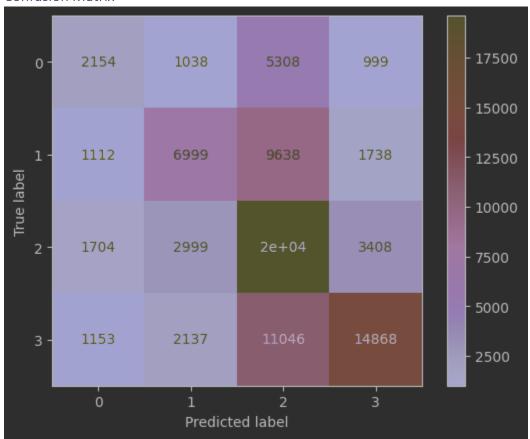
Accuracy for Emotion: 0.5078570597136538

Precision (Weighted) for Emotion: 0.5386909680913343
F1 Score (Weighted) for Emotion: 0.5015902957155978
F1 Score (Macro) for Emotion: 0.45784838872341016

precision recall f1-score support

0 0.35 0.23 0.28 9499

1	0.53	0.36	0.43	19487
2	0.43	0.71	0.53	27720
3	0.71	0.51	0.59	29204
accuracy macro avg weighted avg	0.51 0.54	0.45 0.51	0.51 0.46 0.50	85910 85910 85910



MLP (Grid Search CV)

Hyper-parameters:

 $"activation": ("identity", "logistic", "tanh", "relu"), "hidden_layer_sizes": ((5,5), (5,10)), \\$

Emotion

Unable to converge to a final model

Sentiment

Unable to converge to a final model

[&]quot;solver":("adam","sgd")