MNB

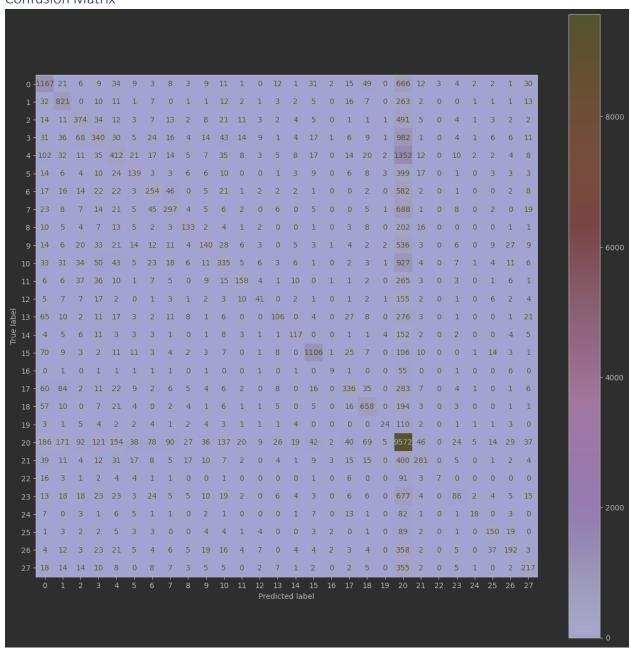
Hyper-parameters:

default

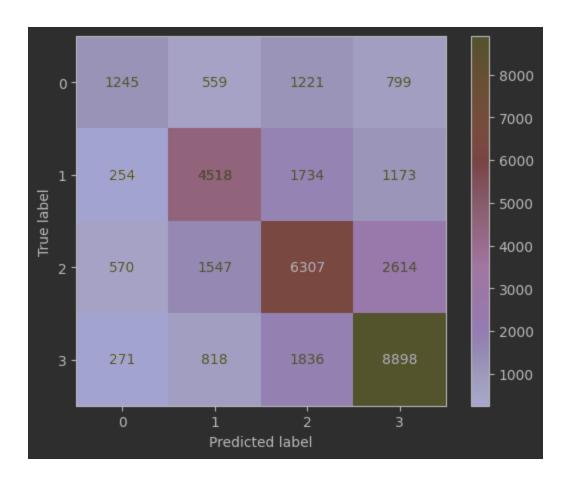
Emotion

Score for Emotion	0.437550925				
Accuracy for Emotion	0.437550925				
Precision (Weighted) for Emotion	0.485135331				
F1 Score (Weighted) for Emotion	0.370297213				
F1 Score (Macro) for Emotion	0.223413218				
		precision	recall	f1-score	support
	0	0.54	0.53	0.54	2102
	1	0.63	0.37	0.46	1233
	2	0.49	0.19	0.27	1011
	3	0.42	0.14	0.21	1710
	4	0.44	0.17	0.24	2290
	5	0.54	0.12	0.2	721
	6	0.52	0.09	0.16	944
	7	0.56	0.16	0.24	1174
	8	0.55	0.05	0.1	387
	9	0.52	0.08	0.14	928
	10	0.48	0.15	0.23	1550
	11	0.56	0.1	0.17	590
	12	0.5	0.02	0.04	265
	13	0.45	0.05	0.08	589
	14	0.74	0.08	0.14	344
	15	0.79	0.72	0.75	1423
	16	0	0	0	68
	17	0.53	0.18	0.26	866
	18	0.71	0.41	0.52	1001
	19	0	0	0	185
	20	0.39	0.89	0.54	11042
	21	0.58	0.18	0.28	955
	22	0	0	0	120
	23	0.54	0.07	0.12	986
	24	0	0	0	157

25	0.53	0.08	0.13	302
26	0.56	0.13	0.22	758
27	0.49	0.12	0.19	663
accuracy			0.44	34364
macro avg	0.47	0.18	0.22	34364
weighted	0.49	0.44	0.37	34364
avg				



Score for Sentiment	0.606070306				
Accuracy for Emotion	0.606070306				
Precision (Weighted) for Emotion	0.600581792				
F1 Score (Weighted) for Emotion	0.599332604				
F1 Score (Macro) for Emotion	0.563918432				
		precision	recall	f1- score	support
	0	0.53	0.32	0.4	3767
	1	0.6	0.59	0.59	7711
	2	0.56	0.57	0.56	11042
	3	0.66	0.75	0.7	11844
				0.61	34364
	macro avg	0.59	0.55	0.56	34364
	weighted avg	0.6	0.61	0.6	34364



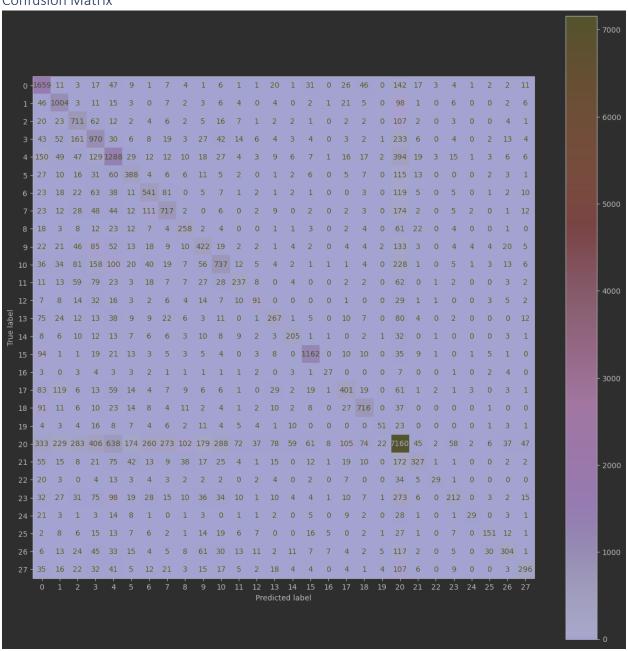
DT

Hyper-parameters: default

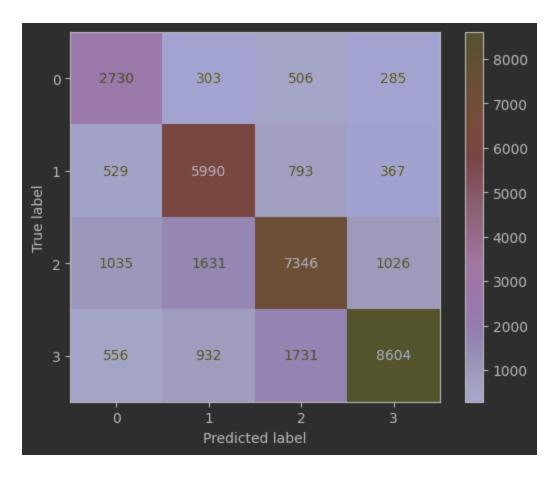
Emotion

Score for Emotion	0.596438133				
Accuracy for Emotion	0.596438133				
Precision (Weighted) for Emotion	0.613522205				
F1 Score (Weighted) for Emotion	0.592999113				
F1 Score (Macro) for Emotion	0.512459252				
		precision	recall	f1- score	support
	0	0.57	0.82	0.67	2102
	1	0.58	0.82	0.68	1233
	2	0.44	0.7	0.54	1011
	3	0.41	0.58	0.48	1710
	4	0.47	0.56	0.51	2290
	5	0.48	0.55	0.51	721
	6	0.48	0.58	0.52	944
	7	0.59	0.63	0.61	1174
	8	0.48	0.58	0.52	387
	9	0.46	0.48	0.47	928
	10	0.53	0.49	0.51	1550
	11	0.55	0.42	0.47	590
	12	0.46	0.38	0.42	265
	13	0.49	0.41	0.44	589
	14	0.61	0.56	0.58	344
	15	0.86	0.83	0.84	1423
	16	0.4	0.28	0.33	68
	17	0.6	0.45	0.51	866
	18	0.76	0.7	0.73	1001
	19	0.6	0.27	0.37	185
	20	0.71	0.65	0.68	11042
	21	0.71	0.4	0.51	955
	22	0.62	0.17	0.27	120
	23	0.63	0.25	0.35	986
	24	0.6	0.16	0.25	157
	25	0.65	0.48	0.56	302

26	0.71	0.4	0.51	758
27	0.63	0.39	0.48	663
accuracy			0.6	34364
macro avg	0.57	0.5	0.51	34364
weighted	0.61	0.6	0.59	34364
avg				



	1	T	1	ı	1
Score for Sentiment	0.720230474				
Accuracy for Emotion	0.720230474				
Precision (Weighted) for Emotion	0.730819334				
F1 Score (Weighted) for Emotion	0.722443408				
F1 Score (Macro) for Emotion	0.706697716				
		precision	recall	f1- score	support
	0	0.57	0.72	0.63	3767
	1	0.68	0.78	0.72	7711
	2	0.71	0.67	0.69	11042
	3	0.84	0.73	0.78	11844
	accuracy			0.72	34364
	macro avg	0.7	0.72	0.71	34364
	weighted avg	0.73	0.72	0.72	34364



MLP

Hyper-parameters:

default

Emotion

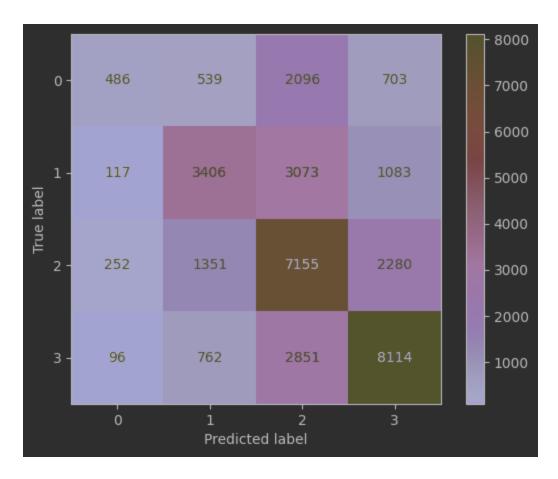
Score fo r Emotio n	0.577 581		
Accuracy for Emot ion	0.577 581		
Precisio n (Weigh ted) for Emotion	0.570 543		
F1 Score (Weighte d) for E motion	0.571 757		

F1 Score	0.507				
(Macro)	736				
for Emot					
ion					
		preci	reca	f1-s	suppo
		sion	11	core	rt
		0.00	0 65	0 65	0.1.0.1
	0	0.62	0.67	0.65	2101
	1	0.66	0.67	0.67	1255
	2	0.52	0.51	0.52	1022
	3	0.45	0.37	0.41	1682
	4	0.5	0.41	0.45	2208
	5	0.49	0.46	0.47	691
	6	0.49	0.45	0.47	986
	7	0.57	0.48	0.52	1172
	8	0.48	0.61	0.54	420
	9	0.44	0.36	0.4	990
	10	0.47	0.47	0.47	1512
	11	0.5	0.42	0.46	597
	12	0.38	0.39	0.39	289
	13	0.46	0.42	0.44	594
	14	0.59	0.58	0.58	332
	15	0.85	0.82	0.84	1386
	16	0.44	0.41	0.42	76
	17	0.52	0.47	0.49	857
	18	0.66	0.82	0.73	1047
	19	0.48	0.4	0.44	170
	20	0.63	0.7	0.67	11029
	21	0.49	0.53	0.51	921
	22	0.39	0.29	0.33	129
	23	0.45	0.32	0.38	958
	24	0.42	0.38	0.39	165
	25	0.54	0.59	0.56	312
	26	0.51	0.5	0.51	763
	27	0.56	0.5	0.53	700
	accur			0.58	34364
	acy	0.50	0 5	0 51	24261
	macro avg	0.52	0.5	0.51	34364
	avy				

weigh	0.57	0.58	0.57	34364
ted a				
vg				

					IX																									
	1395	27	7	18	61	12	5	10	8	9	11	3	3	37	3	43	0	38	79	0	227	34	9	6	4	1	6	17		- 70
	31	826	12	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		
	15	11	511	82	16	4	9	9	3	19	42	19	5	6	7	3	0	3	4	1	197	6	1	8	0	3	5	8		
	27	33	96	699	48	16	12	28	14	49	71	30	18	11	5	9	3	9	9	7	387	18	1	14	2	7	23	14		
	101	35	17	54	881	36	28	17	34	33	73	15	8	26	9	18	2	35	46	7	668	58	4	28	10	11	15	14		- 60
	17	5	7	14	28	319	4	7	10	12	12	2	6	2	3	6	1	14	9	2	191	30	1	2	1	4	10	2		
	12	9	8	23	21	4	446		2	15	21	2	3	0	3	5	2	1	2	2	241	13	0	11	2	4	5	16		
	13	5	12	28	24	9		580		10	16	5	2	13	0	3	1	8	8	1	335	9	1	7	1	4	6	28		
8 -	10	3	4	6	10	7	1		254	6	7	1	0	5	1	5	0	3	11	0	74	28	0	5	0	1	4	1		- 50
9 -	7	7	17	40	21	9	7	7		359	49	13	5	4	5	3	2	5	8	8	233	13	2	8	1	11	49	9		
10 -	25 3	15 7	38	71 46	42 7	14	28	9	3 5		777 34		10	6	8	5	3	9	6 5	0	365	7	1	28	1	7	20	13		
11 - 12 -	3	2	6	17	7	1	2	3	1	14	4	6	102	0	6	0	0	1	2	2	51	5	1	6	2	6	6	3		
12 -	50	11	7	14	15	8	2	17	9	5	6	1		240		7	0	22	22	0	127	15	2	2	1	0	1	26		4
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	0	1	1	0	0	1	0	1	1	2	1	1	1	26	0	0	0	16	0	0	1	0	6	6	2		
17 -	52	78	3	7	14	7	2	5	4	4	9	1	2	32	1	17	1	432	45	1	114	16	5	3	7	0	4	4		
	37	5	2	5	11	7	1	2	6	1	4	1	1	6	2	5	0	16	820	1	42	4	0	0	3	3	2	1		- 3
	1	2	2	3	6	6	2	3	1	5	2	6	1	1	7	0	1	1	0	64	42	3	0	1	0	2	4	2		
	220	147	161	227	391	134	149	175	111	137	301	63	56	71	41	46	13	116	126	22	7773	175	12	143	21	30	104	73		
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		- 2
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		- 1
27 -	23	10	9	15	16	4	9	18	2	9	7	4	5	10	4	7	0	4	1	1	_	11	0	14	3	2	-	364		
												11	12 Pre	13 edict	14 ed la	15 bel	16	17	18			21	22	23	24	25	26	27		

Sentiment					
Score for Sentiment	0.565155				
Accuracy for Emotion	0.565155				
Precision (Weighted) for Emotion	0.571357				
F1 Score (Weighted) for Emotion	0.549716				
F1 Score (Macro) for Emotion	0.490242				
		precision	recall	f1- score	support
	0	0.53	0.14	0.22	3816
	1	0.57	0.46	0.51	7745
	2	0.48	0.65	0.55	11029
	3	0.67	0.69	0.68	11774
	accuracy			0.57	34364
	macro avg	0.56	0.49	0.49	34364
	weighted avg	0.57	0.57	0.55	34364



MNB (Grid Search CV)

Hyper-parameters:

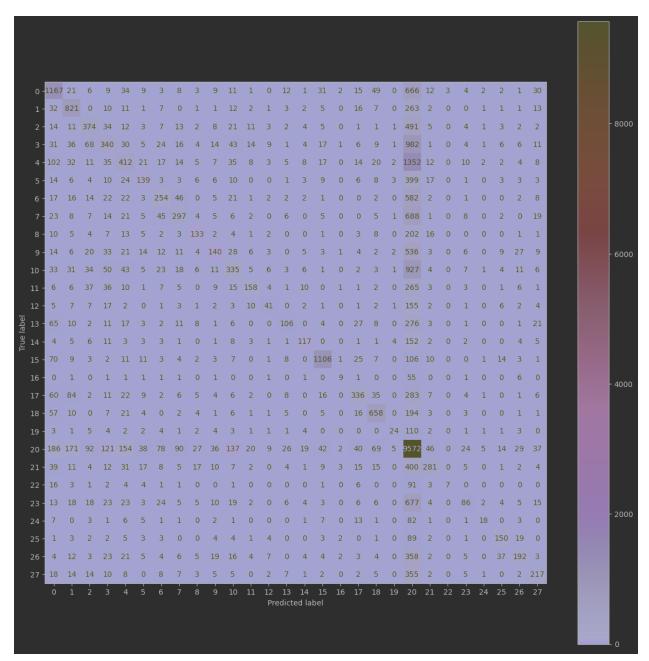
alpha

Emotion

alpha_emotion = 0.36

Best estimator (Emotion): MultinomialNB(alpha=0.36),

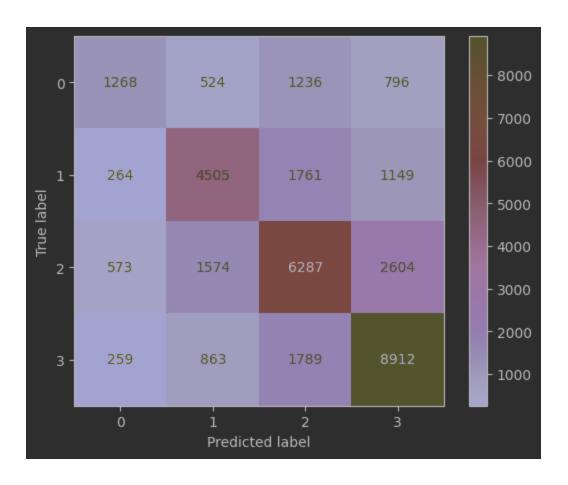
1		1	1	ı	ı		
F1 Score (Macro) for Emotion	0.36344663						
	precision	recall	f1- score	support			
	0	0.54	0.62	0.58	2111		
	1	0.59	0.62	0.61	1213		
	2	0.48	0.37	0.42	1035		
	3	0.41	0.27	0.32	1684		
	4	0.39	0.24	0.3	2158		
	5	0.37	0.3	0.33	681		
	6	0.46	0.28	0.35	1025		
	7	0.46	0.31	0.37	1172		
	8	0.52	0.26	0.35	423		
	9	0.48	0.22	0.3	919		
	10	0.43	0.3	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	0.3	0.39	338		
	15	0.73	0.8	0.76	1408		
	16	0.2	0.01	0.02	81		
	17	0.5	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	0.4	0.45	903		
	22	0.56	0.06	0.11	141		
	23	0.38	0.18	0.25	981		
	24	0.41	0.07	0.12	154		
	25	0.59	0.32	0.41	299		
	26	0.44	0.31	0.36	743		
	27	0.48	0.34	0.4	693		
	accuracy			0.49	34364		
	macro	0.48	0.32	0.36	34364		
	weighted_avg	0.48	0.49	0.46	34364		



alpha sentiment=1

Best estimator (Sentiment): MultinomialNB(alpha=1),

Best Score	0.53839044				
Accuracy for Emotion	0.61247235				
Precision (Weighted) for Emotion	0.60704895				
F1 Score (Weighted) for Emotion	0.60548715				
F1 Score (Macro) for Emotion	0.57227864				
		precision	recall	f1- score	support
	0	0.55	0.33	0.41	3871
	1	0.61	0.6	0.6	7719
	2	0.57	0.56	0.57	11089
	3	0.66	0.76	0.71	11685
	accuracy			0.61	34364
	macro avg	0.6	0.56	0.57	34364
	weighted	0.61	0.61	0.61	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)

Score for Emotion	0.59469212				
Accuracy for Emotion	0.59469212				
Precision (Weighted) for Emotion	0.61184786				
F1 Score (Weighted) for Emotion	0.59152071				
F1 Score (Macro) for Emotion	0.51684704				
	precision	recall	f1- score	support	
	0	0.56	0.82	0.66	2101
	1	0.6	0.84	0.7	1255
	2	0.44	0.72	0.55	1022
	3	0.4	0.57	0.47	1682
	4	0.45	0.57	0.5	2208
	5	0.46	0.55	0.5	691
	6	0.48	0.56	0.52	986
	7	0.55	0.58	0.57	1172
	8	0.5	0.56	0.53	420
	9	0.46	0.45	0.46	990
	10	0.53	0.47	0.5	1512
	11	0.55	0.38	0.45	597
	12	0.53	0.41	0.46	289
	13	0.52	0.42	0.47	594
	14	0.66	0.61	0.63	332
	15	0.86	0.83	0.84	1386
	16	0.48	0.36	0.41	76
	17	0.61	0.47	0.53	857
	18	0.77	0.7	0.73	1047
	19	0.49	0.26	0.34	170
	20	0.71	0.65	0.68	11029
	21	0.67	0.39	0.49	921
	22	0.53	0.18	0.27	129
	23	0.58	0.23	0.33	958
	24	0.72	0.21	0.32	165

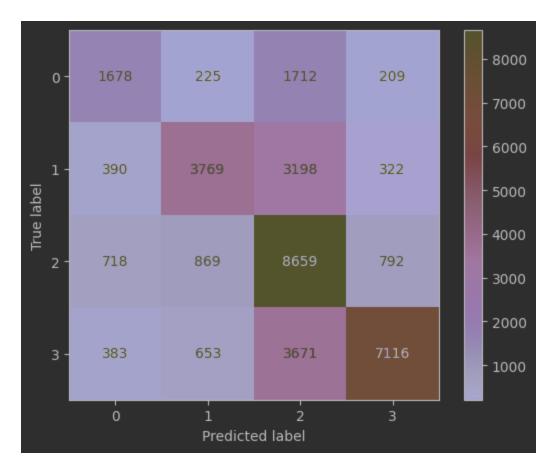
25	0.67	0.46	0.55	312
26	0.68	0.41	0.51	763
27	0.67	0.4	0.5	700
accuracy			0.59	34364
macro	0.58	0.5	0.52	34364
weighted_avg	0.61	0.59	0.59	34364

COII	lusi	OH	IVI	atri	1/																										
	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_			
0	-1176		5	10	31	9	3	17	3	4	5	6	1	12	0	27	0	38	40		618		2	1	0	2	2	24			
1		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		- 8	3000
2			322		10	7	8	7	3	9	14	7	3	0	2	1	0	2	2	1	511	2	0	4	0	1	3	2			
3		38	19	351	39 449		14	14	5 10	14 15	38 35	15 7	5 3	4 5	8	8 12	0	2 16	9	1	963 1413	15	0	8	7	3	5	9			
5		7	7	9		142		8	6	9	7	1	0	1	3	8	0	8	10	0	428		0	1	2	6	4	1			
6		17	4	24	16	0	246		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	39	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	5	141	2	4	1	0	0	1	2	0	2	7	0	224	18	0	2	0	0	1	0			
9	- 19	7	18	30	21	8	5	9	6	132	25	7	5	1	4	4	0	1	4	0	546	5	0	6	1	13	25	9		- 6	5000
10	- 30	29	32	57	38	7	21	10	7	16	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	10	144	5	1	3	1	0	3	2	0	301	2	0	3	0	0	1	3			
_ 12	- 3	4	7	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			
True label	- 59	10	8	8	9	3	1	13	4	3	8	1	0	114	0	6	0	20	14	1	297	6	0	1	0	0	2	23			
	- 4	3	5	9	5	2	3	3	1	2	4	3	0	0	133		0	2	1	3	162	0	0	0	0	0	1	4			
15	- 75	9	2	4	11	14	4	3	2	3	3	0	1	8		1110	0	18	10		110		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		- 4	1000
17 18	- 60 - 50	112	2	10	13	11	1	5	6	2	7	2	0	11 7	2	20 5	0	266	677	0	299 167	4	0	6	0	0	1	5			
19		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			183				40		141		13	15	24	42	1	47	71	2	9391		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		- 2	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			
												11		13 edicte			16	17				21	22	23	24	25		27			
)

Sentiment

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

Best Score	0.72081248				
Accuracy for Emotion	0.72081248				
Precision (Weighted) for Emotion	0.73241701				
F1 Score (Weighted) for Emotion	0.72335867				
F1 Score (Macro) for Emotion	0.70629159				
		precision	recall	f1- score	support
	0	0.56	0.72	0.63	3816
	1	0.67	0.77	0.72	7745
	2	0.71	0.66	0.69	11029
	3	0.84	0.74	0.79	11774
	accuracy			0.72	34364
	macro avg	0.7	0.72	0.71	34364
	weighted avg	0.73	0.72	0.72	34364



MLP (Grid Search CV)

Hyper-parameters:

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

Emotion

Best estimator (Emotion): MLPClassifier(activation='identity', early_stopping=True, hidden_layer_sizes=(5, 10), max_iter=5, verbose=True)

Best Score	0.421342		
Accuracy for Emotion	0.421342		
Precision (Weighted) for Emotion	0.367309		
F1 Score (Weighted) for Emotion	0.340128		

F1 Score (Macro)	0.201855				
for Emotion					_
		precision	recall	f1-score	support
	0	0.48	0.5	0.49	2120
	1	0.49	0.59	0.54	1226
	2	0.36	0.2	0.26	1075
	3	0.14	0.04	0.06	1586
	4	0.27	0.07	0.11	2277
	5	0.25	0	0	735
	6	0.33	0.07	0.11	953
	7	0.32	0.12	0.17	1162
	8	0.44	0.06	0.11	428
	9	0	0	0	949
	10	0.17	0.06	0.09	1576
	11	0.51	0.03	0.06	620
	12	1	0	0.01	292
	13	0.52	0.05	0.09	590
	14	0.44	0.29	0.35	358
	15	0.73	0.8	0.76	1435
	16	0	0	0	76
	17	0.31	0.18	0.23	844
	18	0.57	0.6	0.58	1027
	19	0	0	0	138
	20	0.41	0.84	0.55	11027
	21	0.48	0.22	0.3	924
	22	0	0	0	132
	23	0	0	0	946
	24	0	0	0	161
	25	0.33	0.36	0.35	280
	26	0.27	0.23	0.25	753
	27	0.36	0.12	0.18	674
	accuracy			0.42	34364
	Macro avg	0.33	0.19	0.2	34364
	weighted_avg	0.37	0.42	0.34	34364

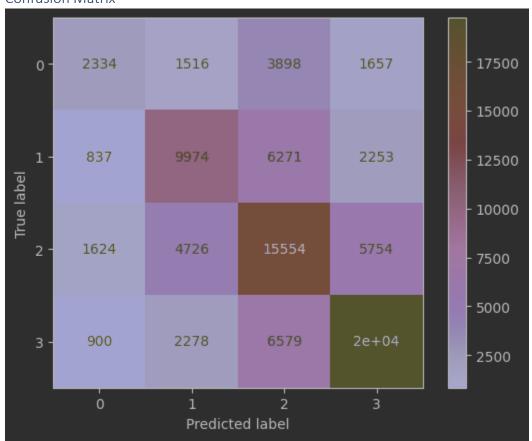
0 -	1068	20	7	0	26	0	1	3	1	0	2	0	0	0	2	75	0	32	87	0	764	10	0	0	0	2	14	6		
	45	723	5	3	3	0	4	4	2	0	2	0	0	0	2	11	0	17	15	0	367	5	0	0	0	3	11	4		- 80
	10	32	217	46	6	0	2	11	0	1	26	1	0	0	3	5	0	3	7	0	679	1	0	0	0	2	18	5		
3 -	20	56	87	58	15	0	5	15	2	2	44	2	0	1	8	17	0	11	14	0	1193	4	0	0	0	5	19	8		
4 -	138	44	6	17	160	0	9	11	1	0	41	0	0	0	9	17	0	23	33	0	1710	19	0	0	0	10	26	3		
	49	11	6	2	5	1	2	3	2	0	13	0	0	1	4	10	0	11	13	0	559	18	0	0	0	13	11	1		
6 -	15	17	12	5	23	0	66	38	0	0	18	0	0	0	6	4	0	3	4	0	731	1	0	0	0	4	2	4		
	18	18	8	10	15	0	14	134	1	0	6	2	0	2	6	6	0	6	5	0	896	4	0	0	0	1	3	7		
8 -	20	12	1	1	5	0	1	14	27	0	1	0	0	1	0	4	0	28	15	0	265		0	0	0	0	1	2		- 60
9 -	21		21	30	12 38	0	12	5	2	0	19 96	3	0	0	9	13	0	2	9	0	698	3	0	0	0	15 11	67 28	3		
10 -	7	32	38	55	30	0	3	3	0	0	96	1	0	0	11	16 2	0	0	4	0	1223 394	1	0	0	0	1	23	6		
12 -	5	11	6	13	4	0	2	2	0	0	10	1	1	0	6	4	0	1	6	0	182	2	0	0	0	10	14	12		
13 -	64	16	5	0	10	0	0	14	1	0	1	0	0	30	0	17	0	49	14	0	353	6	0	0	0	0	4	6		
14 -	3	8	5	8	34	0	0	3	0	0	14	0	0	0	104	1	0	0	2	0	149	0	0	0	0	0	25	2		
15 -	100	13	0	1	4	0	1	2	1	0	7	0	0	2	0	1142	0	31	4	0	78	22	0	0	0	21	4	2		
16 -	1	3	0	1	2	0	0	0	0	0	1	0	0	0	1	2	0	1	1	0	53	0	0	0	0	3	7	0		- 40
17 -	89	116	4	0	7	0	1	1	0	0	0	0	0	11	2	48	0	156	56	0	340	9	0	0	0	2	1	1		
18 -	66	11	3	0	1	0	1	1	2	0	0	0	0	0	1	4	0	21	617	0	288	3	0	0	0	0	8	0		
19 -	1	4	2	4	5	0	0	0	0	0	4	0	0	0	3	2	0	0	0	0	97	0	0	0	0	0	11	5		
20 -	286	210	118	86	142	2	44	109	8	0	152	5	0	7	37	85	0	58	139	0	9299	61	0	0	0	28	114	37		
21 -	85	13	4	4	9	0	3	11	11	0	10	0	0	0	3	12	0	16	7	0	525	203	0	0	0	0	6	2		
22 -	28	2	0	1	3	0	1	1	0	0	2	0	0	0	0	5	0	6	2	0	78	2	0	0	0	0	1	0		
23 -	16	20	7	12	33	0	12	5	0	1	32	2	0	0	3	6	0	4	7	0	748	2	0	0	0	9	13	14		- 20
24 -	10	2	0	0	5	0	0	0	0	0	10	0	0	0	2	15 6	0	0	2	0	103	2	0	0	0	0	5	0		
25 - 26 -	16	15	3	12	5	0	1	2	0	2	15	1	0	0	7	3	0	2	9	0	417	4	0	0	0		35 175			
26 -	24	6	19	8	24	0	9	29	0	0	10	0	0	2	3	28	0	13	4	0	403	0	0	0	0	0	11			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	_	21	22	23	24	25	26	27		

Sentiment

Best estimator (Sentiment): MLPClassifier(activation='tanh', early_stopping=True, hidden_layer_sizes=(5, 5), max_iter=5, verbose=True)

Best Score	0.554266				
Accuracy for Emotion	0.554266				
Precision (Weighted) for Emotion	0.551942				
F1 Score (Weighted) for Emotion	0.549862				
F1 Score (Macro) for Emotion	0.506429				
		precision	recall	f1-score	support

0	0.41	0.25	0.31	9405
1	0.54	0.52	0.53	19335
2	0.48	0.56	0.52	27658
3	0.67	0.67	0.67	29512
accuracy			0.55	85910
macro	0.53	0.5	0.51	85910
avg				
weighted	0.55	0.55	0.55	85910
avg				



New Training/Test Split

80/20 split becomes 50/50 training test split

MNB

Hyper-parameters:

default

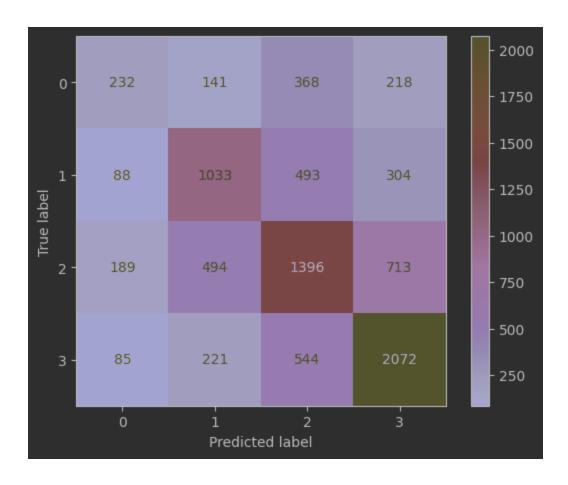
Emotion

Score for Emotion	0.449225934				
Accuracy for Emotion	0.449225934				
Precision (Weighted) for Emotion	0.490750903				
F1 Score (Weighted) for Emotion	0.3901304				
F1 Score (Macro) for Emotion	0.249161233				
		precision	recall	f1-score	support
	0	0.53	0.53	0.53	5242
	1	0.61	0.42	0.49	3057
	2	0.55	0.23	0.32	2661
	3	0.43	0.17	0.25	4173
	4	0.45	0.18	0.26	5731
	5	0.45	0.13	0.21	1762
	6	0.56	0.13	0.22	2493
	7	0.55	0.18	0.27	2985
	8	0.55	0.07	0.13	1065
	9	0.51	0.1	0.16	2366
	10	0.46	0.18	0.25	3717
	11	0.55	0.14	0.22	1437
	12	0.61	0.03	0.05	699
	13	0.52	0.08	0.14	1512
	14	0.71	0.09	0.17	896
	15	0.77	0.74	0.76	3551
	16	0	0	0	183
	17	0.5	0.19	0.28	2152
	18	0.69	0.47	0.56	2501
	19	0.5	0	0.01	392
	20	0.4	0.87	0.55	27584
	21	0.58	0.22	0.32	2294
	22	0	0	0	323

23	0.46	0.09	0.15	2320
24	0.17	0	0.01	383
25	0.63	0.1	0.18	773
26	0.55	0.16	0.25	1911
27	0.55	0.16	0.25	1747
accuracy			0.45	85910
macro avg	0.49	0.2	0.25	85910
weighted avg	0.49	0.45	0.39	85910

	rasi																													
	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		
0	_		0	8	11	3	1	2	0	1	3	1	0	0	0	18	0	4	10		210		0	2	0	0	0	1		2000
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		
3		3 5	42 8	15 26	5 10	2	2	2	0	0	6	3	0	0	0	4 6	0	0	0	0	172 333	2	0	3	0	0	0	0		
4		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		
5		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		
6		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		
7	'- 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		
8	- 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		- 1500
9	- 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		
10	- 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		
_ 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		
True label	- 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		
		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		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		- 1000
16		0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	30	0 13	0	8	0	0	0	0	0	0	0		
17 18		3	0	1	6	0	0	1	0	1	1	0	0	0	0	3	0	2	89	0	122 106	0	0	0	0	0	0	0		
19		0	1	1	2	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	39	0	0	0	0	0	0	0		
20		37	25	44	75	13	20	35	2	10	38	4	0	6	2	23	0	9	11	0	2297	21	1	19	0	1	12	6		
21		1	1	1	7	1	1	2	2	2	2	1	0	0	0	4	0	1	1	0	160	32	0	0	0	0	1	0		
22	- 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		- 500
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		
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	_	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		
												11	12 Pre	13 edicte	14 ed la	15 bel	16	17				21	22	23	24	25		27		
																														- 0

Score for Sentiment	0.614759632				
Accuracy for Emotion	0.614759632				
Precision (Weighted) for Emotion	0.609513349				
F1 Score (Weighted) for Emotion	0.608632921				
F1 Score (Macro) for Emotion	0.575957613				
		precision	recall	f1- score	support
	0	0.54	0.34	0.42	9545
	1	0.61	0.61	0.61	19208
	2	0.57	0.57	0.57	27584
	3	0.66	0.75	0.7	29573
	accuracy			0.61	85910
	macro avg	0.6	0.57	0.58	85910
	weighted avg	0.61	0.61	0.61	85910



DT

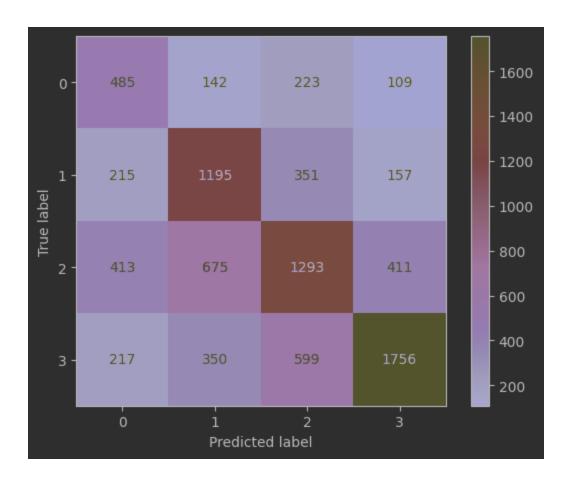
Hyper-parameters: default Emotion

Coore for Emotice	0 601504164				
Score for Emotion	0.621534164				
Agguragy for	0.621534164				
Accuracy for Emotion	0.621334164				
Precision	0.632473884				
(Weighted) for					
Emotion					
F1 Score	0.616308677				
(Weighted) for					
Emotion					
F1 Score (Macro)	0.539113605				
for Emotion					
		precision	recall	f1-	support
				score	
	0	0.58	0.82	0.68	5242
	1	0.50	0.83	0.69	3057
	2		0.83		
		0.48		0.57	2661
	3	0.43	0.58	0.5	4173
	4	0.49	0.54	0.52	5731
	5	0.49	0.58	0.53	1762
	6	0.52	0.56	0.54	2493
	7	0.61	0.61	0.61	2985
	8	0.54	0.55	0.54	1065
	9	0.49	0.45	0.47	2366
	10	0.56	0.49	0.53	3717
	11	0.6	0.43	0.5	1437
	12	0.58	0.4	0.47	699
	13	0.57	0.41	0.48	1512
	14	0.67	0.58	0.62	896
	15	0.88	0.83	0.85	3551
	16	0.48	0.36	0.41	183
	17	0.65	0.45	0.53	2152
	18	0.76	0.74	0.75	2501
	19	0.64	0.3	0.41	392
	20	0.71	0.72	0.71	27584
	21	0.72	0.42	0.53	2294
	22	0.63	0.18	0.28	323
	23	0.64	0.25	0.36	2320
	24	0.66	0.25	0.36	383
	25	0.7	0.55	0.62	773

26	0.7	0.4	0.51	1911
27	0.69	0.44	0.54	1747
accuracy			0.62	85910
macro avg	0.61	0.52	0.54	85910
weighted	0.63	0.62	0.62	85910
avg				

				atri																										
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	_																_												П	
	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		- 100
	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		
	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		112		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		157	10	10	7	5	12	19	4	2	5	2	3	0	11	8		166		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		101	7	1	1	1	1	1	0	2	0	92	0	0	6	0	2	2	2	п	
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	п	
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	4	2	3	2	4	3	1	0	13	0	5	0	42	19	0	28	3	1	0	1	0	0	0		
18 -	41	6	2	4	10	3	3	0	3	2	4	1	1	3	2	4	0	7	116	0	11	0	0	2	0	0	0	0		- 40
	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		
20 -		89			281		137		38		137		15	41	13	18	7	23	23		1136		1	23	3	9	25	14		
21 -	14	3	3	9	18	11	4	5	13	7	3	0	1	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	1	2	0	1	1	0	0	0	0	0	0	4	0	4	0	0	5	2	0	0	1	0	0	0		- 20
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		
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	4	8	11	0	8	5	0	4	5	2	2	4	1	0	1	5	2	1	33	2	0	6	0	0	0	40		
					4						10	11	12 Pre	13 edicte	14 ed la	15 bel	16	17				21	22	23	24	25		27		
																														0

	T	T	1	1	ı
Score for Sentiment	0.73947154				
Accuracy for Emotion	0.73947154				
Precision (Weighted) for Emotion	0.746933632				
F1 Score (Weighted) for Emotion	0.741232869				
F1 Score (Macro) for Emotion	0.725295616				
		precision	recall	f1- score	support
	0	0.6	0.71	0.65	9545
	1	0.7	0.79	0.74	19208
	2	0.73	0.7	0.71	27584
	3	0.84	0.76	0.8	29573
	accuracy			0.74	85910
	macro avg	0.72	0.74	0.73	85910
	weighted avg	0.75	0.74	0.74	85910



MLP

Hyper-parameters: default

Emotion

Score for Emotion	0.469293			
Score for Emocron	0.409293			
Accuracy for Emotion	0.469293			
Accuracy for Emotion	0.400200			
Precision (Weighted) for	0.459024			
Emotion				
F1 Score (Weighted) for Emotion	0.423664			
F1 Score (Macro) for Emotion	0.318377			
ri Score (macro) for Emocron	0.3183//			
	precision	recall	f1-	support
			score	
0	0.55	0.52	0.53	5228
1	0.57	0.58	0.57	3080
2	0.44	0.26	0.33	2565
3	0.28	0.15	0.2	4157
4	0.34	0.15	0.21	5589
5	0.34	0.15	0.21	1702
6	0.41	0.2	0.27	2483
7	0.44	0.22	0.3	2893
8	0.47	0.26	0.34	1077
9	0.36	0.14	0.2	2358
10	0.33	0.15	0.21	3771
11	0.43	0.21	0.28	1485
12	0.49	0.12	0.2	729
13	0.37	0.19	0.25	1499
14	0.52	0.28	0.36	899
15	0.83	0.76	0.79	3559
16	0.31	0.05	0.08	174
17	0.48	0.3	0.37	2172
18	0.66	0.62	0.64	2442

19	0.54	0.07	0.13	420
20	0.45	0.83	0.58	27769
21	0.56	0.3	0.39	2297
22	0.42	0.06	0.11	358
23	0.39	0.07	0.12	2366
24	0.4	0.09	0.15	419
25	0.52	0.4	0.45	752
26	0.51	0.21	0.3	1921
27	0.52	0.26	0.35	1746
accuracy			0.47	85910
macro_avg	0.46	0.27	0.32	85910
weighted_avg	0.46	0.47	0.42	85910

																															- 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-	81	2123	12	45	26	5	11	13	10	14	22	21	18	42	3	22	5	127	27	2	317	11	0	23	6	0	10	19		
	2 -	20	26	1266	247	40	15	21	34	8	31	93	77	18	8	14	14	3	14	5	4	573	11	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		
True label	13 -	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		
True	14 -	7	15	10	23	13	11	4	9	6	7	7	26	7	1	533	0	2	1	1	11	153	6	0	13	1	3	23	9		10000
	15 -	142	10	3	9	26	14	4	8	6	6	8	3	4	15	0	2983	1	44	21	2	103	39	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 -	124	155	3	13	37	14	5	11	19	17	10	3	8	62	5	45	0	1087	110	4	288	29	10	11	26	1	3	13		
	18 -	121	14	3	12	26	14	4	8	16	4	4	1	3	12	0	13	0	51	1951	2	143	11	1	6	3	1	2	2		- 7500
	19 -	5	4	2	13	15	21	6	3	2	19	11	3	5	5	17	1	1	1	0	165	77	3	0	2	3	1	15	6		
	20 -	643	388	249	483	676	236	286	464	212	254	555	157	142	179	104	140	22	207	263	57	070	350	40	341	73	51	232	211		
	21 -	68	20	3	29	106	51	5	22	74	17	29	9	9	23	5	23	0	23	29	4	449	1159	3	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		- 5000
	23 -	55	41	22	54	112	15	38	31	25	42	98	20	23	14	14	10	5	24	23	8	796	36	2	793	9	13	26	49		
	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		20	58	25	27	7	19		110		29	18	7	11	12	17	17	11	7	350		0	22	7		977			- 2500
	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	-	872		2300
													11	12 Pre	13 edicte	14 ed la	15 bel	16	17				21	22	23	24	25	26	27		
																															l _o

Sentiment

Sentiment					
Score for Sentiment	0.725410313				
Accuracy for Emotion	0.725410313				
Precision (Weighted) for Emotion	0.724313449				
F1 Score (Weighted) for Emotion	0.724585208				
F1 Score (Macro) for Emotion	0.704508824				
		precision	recall	f1- score	support
	0	0.65	0.58	0.61	9488
	1	0.71	0.73	0.72	19231
	2	0.7	0.7	0.7	27769
	3	0.79	0.8	0.79	29422
	accuracy			0.73	85910
	macro avg	0.71	0.7	0.7	85910
	weighted avg	0.72	0.73	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	0.390598				
Desc Scole	0.390390				
Accuracy for Emotion	0.484751				
liceatacy for Emected	0.101/01				
Precision (Weighted) for	0.48579				
Emotion					
F1 Score (Weighted) for	0.453676				
Emotion					
F1 Score (Macro) for Emotion	0.34276				
Ellocion					
		precisio	recal	f1-	gunnor
		precisio n	lecar	score	suppor t
	0	0.54	0.61	0.57	5237
	1	0.58	0.59	0.59	3015
	2	0.5	0.34	0.4	2615
	3	0.41	0.25	0.31	4202
	4	0.43	0.23	0.3	5652
	5	0.41	0.29	0.34	1781
	6	0.47	0.24	0.32	2490
	7	0.49	0.3	0.37	2907
	8	0.55	0.21	0.3	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	0.8	0.77	3520
	16	0.2	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	0.5	0.35	0.41	2217
	22	0.39	0.03	0.05	354
	23	0.43	0.17	0.24	2398
	24	0.52	0.03	0.06	380

25	0.58	0.27	0.37	768
26	0.49	0.3	0.37	1920
27	0.51	0.33	0.4	1704
accuracy			0.48	85910
macro_avg	0.49	0.3	0.34	85910
weighted_av	0.49	0.48	0.45	85910
g				

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																														20000
0	3211	55	16	34	85	27	6	31	5	9	20	6	1	18	1	152	0	70	161	0	1221	53	1	9	0	0	8	37		
	- 108			46	27	2	7	13	3	3	19	5	0	17	1	20	0	50	31	0	814	9	0	13	0	1	6	20		
	- 33	31	889	174	39	16	8	19	1	20	60	31	1	3	2	14	0	9	7	0	1206	9	0	11	1	2	16	13		- 17500
	- 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		
	320	85	31	76	1323	78	37	40	13	34	111	9	1	21	13	69	0	44	57	0	3113	71	1	42	1	5	34	23		
	- 40	8	7	25	44	524	7	9	6	6	18	5	0	2	2	46	0	17	14	1	906	56	0	3	1	9	24	1		
	- 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		- 1500
	- 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		
	- 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		
	- 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		
	- 60	57		137			61	21	3		1055		3	5	9	29	0	9	12		2104		0	29	1	3	27	15		- 1250
11	- 29	15	75	97	26	4	10	7	3	14		405	7	3	9	8	1	2	10	0	673		0	5	0	2	18	4		
12	- 16		11	48	14	5	14	5	0	10	18	8	84	1	3	6	0	5	6		420	5	0	11	0	8	11	6		
	166		16	14	36	4	7	27	5	3	6	2	0	270	3	23	0	104		0	626		0	9	0	0	4	50		
	- 19 - 183	19	11	20	19 28	5 17	4 5	8 5	2	5	12	17	0	1 5	249	2811	0	1 53	1	0	474 267	5	0	11	0	3 16	12	3		1000
15 16	- 5	30	0	4	20	4	1	0	1	1	3	1	0	1	1	4	1	0	2	0	117	1	0	0	0	3	22	1		
17	187		3	11	31	17	2	10	3	4	9	0	1	16	2	77	0		116	0		27	1	6	0	1	4	12		
18	- 162		1	8	20	8	1	6	1	1	2	0	0	4	0	17	0		1522		604	8	0	4	0	0	5	3		
19	- 6	2	1	18		21	4	3	0	9	10	5	1	5	8	4	0	1			253	4	0	2	0	0	14	4		- 7500
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		- 5000
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		- 2500
	ó	i	2	3	4	5	6	7	8	9	10	11	12 Pr	13 edicte	14	15 hel	16	17	18	19	20	21	22	23	24	25	26	27		
														cuict	u id	bei														
																														0

Sentiment

alpha_sentiment=1

Best estimator (Sentiment): MultinomialNB(alpha=1),

Best estimator (Sentiment)	0.543696				
Accuracy for Emotion	0.617332				
Precision (Weighted) for Emotion	0.612228				
F1 Score (Weighted) for Emotion	0.611357				
F1 Score (Macro) for Emotion	0.57956				
		precisio n	recal l	f1- score	suppor t
	0	0.55	0.35	0.42	9499
	1	0.62	0.61	0.61	19487
	2	0.58	0.57	0.57	27720
	3	0.66	0.75	0.71	29204
	accuracy			0.62	85910
	macro_avg	0.6	0.57	0.58	85910
	weighted_av g	0.61	0.62	0.61	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	0.404464		
Accuracy for Emotion	0.505529		
Precision (Weighted) for	0.510401		
Emotion			
F1 Score (Weighted) for	0.464475		
Emotion			

F1 Score (Macro) for	0.371004				
Emotion					
		precisio	recal	f1-	suppor
		n	1	score	t
	0	0.58	0.55	0.57	2101
	1	0.63	0.66	0.65	1255
	2	0.48	0.33	0.39	1022
	3	0.35	0.19	0.24	1682
	4	0.42	0.2	0.27	2208
	5	0.4	0.2	0.26	691
	6	0.45	0.23	0.31	986
	7	0.5	0.24	0.32	1172
	8	0.49	0.28	0.36	420
	9	0.44	0.16	0.23	990
	10	0.43	0.22	0.29	1512
	11	0.54	0.23	0.33	597
	12	0.56	0.21	0.3	289
	13	0.55	0.2	0.3	594
	14	0.64	0.38	0.48	332
	15	0.85	0.8	0.82	1386
	16	0.38	0.11	0.16	76
	17	0.55	0.34	0.42	857
	18	0.73	0.67	0.7	1047
	19	0.65	0.15	0.25	170
	20	0.47	0.86	0.61	11029
	21	0.61	0.3	0.4	921
	22	0.67	0.06	0.11	129
	23	0.47	0.1	0.16	958
	24	0.48	0.1	0.16	165
	25	0.59	0.48	0.53	312
	26	0.6	0.26	0.37	763
	27	0.52	0.32	0.4	700
	accuracy			0.51	34364
	macro_avg	0.54	0.32	0.37	34364
	weighted_av	0.51	0.51	0.46	34364
	g –				

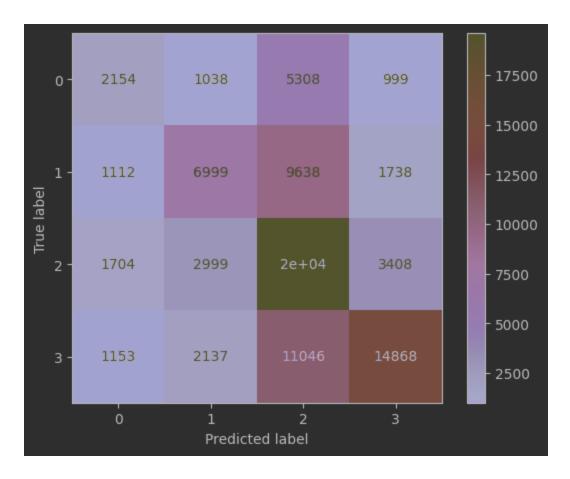
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	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_							_	_		_		_	_		- 20000
	-2215	91	24	44	173	27	13	22	11	21	36	15	4	80	7	113	2	103	174	2	1911	53	14	9	4	4	3	62		
	- 107	1469	24	82	42	10	18	27	9	13	31	5	10	24	9	18	3	107	38	1	899	8	0	10	3	13	9	26		
				213		9	32	11	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		- 1/500
		93	50		429		44	44	23		109		5	26	18	36	2	53	67	2	3959		4	23	6	15	18	21		
	- 50	21	14	44			14		14	17	39	2	1	7	6	27	0	30	25		1114		0	1	1	23	19	1		
	- 45	49	33	59	57		328			17	55	7	2	6	7	6	0	9	20	2	1585		1	23	0	3	4	18		- 15000
7	- 61	56	32	57	53	13		421	9	23	31	8	4	38	7	16	0	11	18	2	1897	7	0	18	2	6	8	38		
8 9	44 49	16 36	8 48	18 98	47 55	12 15	2 32	14 29	185	8 132	15	39	3	13 7	0	11	2	8 14	23 14	0	561 1504		0	20	0	0 19	89	2 25		
10	- 65	75		143			69	39	16		297		11	4	23	21	0	12	21		2703		0	22	2	16	32	18		
11	22	21		100		4	12	10	6	30		219	9	2	20	5	0	4	11	0	805		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		
	- 139		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		
13	- 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	194	10	36	67	18	9	12	11	12	14	8	2	58	2	72	0	423	111	0	787	31	1	2	23	2	10	17		
	- 152	32	11	12	67	17	4	5	17	1	17	2	3	22	2	18	0	53	1351	0	616	15	1	2	0	1	6	1		
	- 3	1	5	14	9	6	7	4	2	14	12	4	1	1	10	3	0	0	3	15	280	2	0	1	0	0	6	3		- 7500
	- 759	530	321	537	599	165	373	360	130	202	491	108	42	124	86	170	4	176	284	9	1627	184	9	124	8	44	129	125		
21	- 105	37	19	49	91	49	20	19	76	26	23	4	3	13	1	23	0	30	29	0	1065	505	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	1	1707	8	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	-	313		- 2500
												11	12 Pro	13 edict	14 ed la	15 bel	16	17				21	22	23	24	25		27		

Sentiment

Best estimator (Sentiment):

DecisionTreeClassifier(max_depth=100, min_samples_split=5),

Best estimator (Sentiment)	0.515219				
Accuracy for Emotion	0.627197				
Precision (Weighted) for Emotion	0.673676				
F1 Score (Weighted) for Emotion	0.629506				
F1 Score (Macro) for Emotion	0.603656				
		precisio n	recal 1	f1- score	suppor t
	0	0.55	0.46	0.5	3816
	1	0.69	0.5	0.58	7745
	2	0.51	0.79	0.62	11029
	3	0.86	0.61	0.71	11774
	accuracy			0.63	34364
	Macro avg	0.65	0.59	0.6	34364
	weighted_av g	0.67	0.63	0.63	34364



MLP (Grid Search CV)

Hyper-parameters:

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

Emotion

Best estimator (Emotion): MLPClassifier(activation='identity', early_stopping=True, hidden_layer_sizes=(5, 10), max_iter=5, verbose=True)

Best Score	0.41029		
Accuracy for Emotion	0.41029		
Precision (Weighted) for Emotion	0.332184		
F1 Score (Weighted) for Emotion	0.316989		

F1 Score (Macro) for Emotion	0.177569				
		precision	recall	f1-score	support
		'			
	0	0.41	0.48	0.44	5187
	1	0.51	0.56	0.53	3083
	2	0.33	0.07	0.12	2664
	3	0.18	0.01	0.02	4114
	4	0.3	0.04	0.07	5673
	5	0.16	0.03	0.05	1744
	6	0.23	0.07	0.1	2430
	7	0.19	0.09	0.13	2941
	8	0.37	0.12	0.18	1028
	9	0	0	0	2312
	10	0.14	0.01	0.01	3863
	11	0.51	0.09	0.15	1443
	12	0	0	0	754
	13	0.27	0.01	0.03	1519
	14	0	0	0	885
	15	0.77	0.75	0.76	3546
	16	0	0	0	183
	17	0.27	0.16	0.2	2161
	18	0.57	0.6	0.58	2505
	19	0	0	0	407
	20	0.4	0.87	0.55	27658
	21	0.48	0.18	0.27	2316
	22	0	0	0	350
	23	0	0	0	2328
	24	0	0	0	400
	25	0.38	0.41	0.4	769
	26	0.25	0.15	0.19	1941
	27	0.26	0.16	0.2	1706
	accuracy			0.41	85910
	Macro_avg	0.25	0.17	0.18	85910
	weighted_avg	0.33	0.41	0.32	85910

	2501		-	-	40		,	2.4	-	0	-		0	-	0	106	0	110	202	0	2022	20	0	0	0		2.7	45		
	2501		7	7	42	8	1	14	5	0	2	4	0	5							2023		0	0	0	1	17	45		
		1734		12	64	0	7	37	3	0	2	3	0	8	0	14	0	80	34	0	946	4	0	0	0	1	6	36		200
2 -		31 108		47	6 20	2	14 31	56 69	6	0	12	15	0	2	0	18 39	0	10 26	8 35				0	0	0	5 11	47 55	13 49		200
4 -		104	4		218				12	0	3	3	0	0	0	37	0	43	92		4611		0	0	0		21	25		
	95	17	7	0		53	6	11	17	0	1	0	0	1	0	31	0	15	29		1358		0	0	0	27	14	1		
6 -	36	47	6	2	11			115		0	11	3	0	2	0	10	0	10	16		1945		0	0	0		18	18		
	30	48	6	3	11	2		274		0	9	2	0	1	0	15	0	18	21			5	0	0	0		23	66		
8 -	43	10	1	1	8	65	0		123	0	4	0	0	1	0	13	0	11	45		637		0	0	0	1	1	4		
		40	19	9	6	7	20	39	3	0	13	9	0	3	0	24	0	8	29		1875		0	0	0	30	77	21		150
10 -	63	71	22	8	22	7	38	56	5	0	27	12	0	0	0	21	0	11	35	0	3368	10	0	0	0	21	36	30		13(
11 -	66	20	43	21	6	1	7	16	0	0	2	125	0	0	0	6	0	8	3	0	1055	2	0	0	0	5	36	21		
12 -	19	22	5	3	1	0	6	26	2	0	3	7	0	0	0	3	0	16	12	0	527	2	0	0	0	29	14	57		
13 -	208	37	5	15	12	0	3	27	3	0	1	1	0	22	0	23	0	168	43	0	860	5	0	0	0	4	11	71		
14 -	17	21	11	6	0	2	3	17	2	0	1	5	0	1	0	9	0	0	6	0	594	3	0	0	0	25	141	21		
15 -	306	12	1	2	5	3	1	4	10	0	1	6	0	0	0	2657	0	38	13	0	380	44	0	0	0	47	14	2		
	12	1	4	0	0	1	3	1	1	0	0	0	0	0	0	0	0	0	1	0	131	2	0	0	0	6	17	3		100
17 -	396	281	4	4	38	1	1	7	5	0	2	5	0	5	0	40	0	341	121	0	859	16	0	0	0	1	8	26		100
	244	34	1	1	32	1	2	2	13	0	19	0	0	1	0	18	0	27	1497	0	585	14	0	0	0	1	6	7		
	10	4	2	3	0	4	6	13	0	0	0	0	0	1	0	4	0	1	5	0	310	6	0	0	0	9	15	14		
	846	565	92	52	161	71	173	345	65	0	66	24	0	5	0	184	0	188	284	0	3967	36	0	0	0	90	167	177		
21 -	175	27	1	1	23	38	6	7	42	0	2	0	0	0	0	27	0	19	40	0	1468 4	128	0	0	0	2	3	7		
22 -	85	6	1	0	2	1	2	4	0	0	0	0	0	0	0	5	0	9	1	0	230	1	0	0	0	1	2	0		
23 -	57	40	9	6	16	5	22	47	4	0	4	2	0	2	0	12	0	20	25	0	1964	5	0	0	0	18	20	50		-
24 -	49	3	2	0	4	2	2	3	1	0	0	1	0	0	0	34	0	15	2	0	274	1	0	0	0	1	2	4		500
25 -	7	5	3	2	1	19	12	21	2	0	0	1	0	0	0	40	0	2	1	0	271	2	0	0	0	317	55	8		
26 -	52	26	73	6	5	17	18	24	5	0	6	6	0	1	0	35	0	9	14	0	1192	8	0	0	0	134	292	18		
27 -	79	40	12	15	1	2	13	148	1	0	0	2	0	19	0	8	0	65	13	0	980	3	0	0	0	4	28	273		
											10	11		13 edicte			16	17	18	19	20	21 :	22	23	24	25	26	27		

Sentiment

Best estimator (Sentiment): MLPClassifier(activation='tanh', early_stopping=True, hidden_layer_sizes=(5, 5), max_iter=5, verbose=True)

Best estimator (Sentiment)	0.554266		
Accuracy for Emotion	0.554266		
Precision (Weighted) for	0.551942		
Emotion			
F1 Score (Weighted) for	0.549862		
Emotion			

F1 Score (Macro) for Emotion	0.506429			
	precision	recall	f1-score	support
0	0.41	0.25	0.31	9405
1	0.54	0.52	0.53	19335
2	0.48	0.56	0.52	27658
3	0.67	0.67	0.67	29512
accuracy			0.55	85910
macro avg	0.53	0.5	0.51	85910
weighted avg	0.55	0.55	0.55	85910

