C:\Python27\python.exe "C:/Users/Osas/Documents/UH Course Documents/7COM1071-0105-2018 - Investigative Methods for Computer Science/The Project - Assignment 2 (60 marks)/EmotionDetection-master/welcome.py"

Loading input values into WordMap...

100%|██████████| 1047/1047 [00:05<00:00, 175.76it/s]

Total number of entries in Vocabulary: 2030

Running text evaluation...

0it [00:00, ?it/s]found priors

1049it [00:48, 19.22it/s]

C:\Users\Osas\AppData\Roaming\Python\Python27\site-packages\pandas_ml\confusion_matrix\abstract.py:66: FutureWarning:

Passing list-likes to .loc or [] with any missing label will raise

KeyError in the future, you can use .reindex() as an alternative.

See the documentation here:

http://pandas.pydata.org/pandas-docs/stable/indexing.html#deprecate-loc-reindex-listlike

df = df.loc[idx, idx.copy()].fillna(0) # if some columns or rows are missing

Predicted	Anger	Boredom	Empty	Enthusiasm	Fun	Happiness	Hate	Love
Actual								
Anger	79	0	0	0	0	0	0	1
Boredom	0	75	1	0	2	0	1	1
Empty	1	2	54	1	2	1	1	3
Enthusiasm	1	1	0	71	0	3	0	0
Fun	0	1	0	0	78	1	0	0
Happiness	0	0	0	0	0	81	0	0

Hate	0	0	0	0	0	0	81	0
Love	0	2	0	0	1	0	0	77
Neutral	1	0	0	4	3	3	0	3
No Words Found	0	0	0	0	2	0	0	0
Relief	0	0	0	1	0	0	0	1
Sadness	0	0	0	0	0	0	0	0
Surprise	0	1	0	3	1	3	1	1
Worry	1	0	0	1	2	0	1	0
__all__	83	82	55	81	91	92	85	87

Predicted	Neutral	No Words Found	Relief	Sadness	Surprise	Worry	\
Actual							
Anger	0	0	0	0	0	0	
Boredom	0	0	1	0	0	0	
Empty	3	0	2	2	3	0	
Enthusiasm	1	0	1	1	0	0	
Fun	0	0	0	0	0	0	
Happiness	0	0	0	0	0	0	
Hate	0	0	0	0	0	0	
Love	0	0	0	0	0	0	
Neutral	61	0	1	0	2	0	
No Words Found	0	0	0	0	0	0	
Relief	1	0	77	0	1	0	
Sadness	0	0	0	80	0	1	
Surprise	2	0	0	1	64	0	
Worry	0	0	1	2	1	71	
__all__	68	0	83	86	71	72	

Predicted	__all__

Actual

Anger 80

Boredom 81

Empty 75

Enthusiasm 79

Fun 80

Happiness 81

Hate 81

Love 80

Neutral 78

No Words Found 2

Relief 81

Sadness 81

Surprise 77

Worry 80

__all__ 1036

C:\Users\Osas\AppData\Roaming\Python\Python27\site-packages\pandas_ml\confusion_matrix\bcm.py:346: RuntimeWarning: divide by zero encountered in double_scalars

return(np.float64(self.LRP) / self.LRN)

C:\Users\Osas\AppData\Roaming\Python\Python27\site-packages\pandas_ml\confusion_matrix\bcm.py:236: RuntimeWarning: invalid value encountered in double_scalars

return(np.float64(self.TP) / self.PositiveTest)

C:\Users\Osas\AppData\Roaming\Python\Python27\site-packages\pandas_ml\confusion_matrix\bcm.py:267: RuntimeWarning: invalid value encountered in double_scalars

return(np.float64(self.FP) / self.PositiveTest)

C:\Users\Osas\AppData\Roaming\Python\Python27\site-packages\pandas_ml\confusion_matrix\bcm.py:304: RuntimeWarning: invalid value encountered in true_divide

(self.TN + self.FP) * (self.TN + self.FN)))

C:\Users\Osas\AppData\Roaming\Python\Python27\site-packages\pandas_ml\confusion_matrix\bcm.py:332: RuntimeWarning: invalid value encountered in double_scalars

return(np.float64(self.TPR) / self.FPR)

Confusion Matrix:

Predicted	Anger	Boredom	Empty	Enthusiasm	Fun	Happiness	Hate	Love
Actual								
Anger	79	0	0	0	0	0	0	1
Boredom	0	75	1	0	2	0	1	1
Empty	1	2	54	1	2	1	1	3
Enthusiasm	1	1	0	71	0	3	0	0
Fun	0	1	0	0	78	1	0	0
Happiness	0	0	0	0	0	81	0	0
Hate	0	0	0	0	0	0	81	0
Love	0	2	0	0	1	0	0	77
Neutral	1	0	0	4	3	3	0	3
No Words Found	0	0	0	0	2	0	0	0
Relief	0	0	0	1	0	0	0	1
Sadness	0	0	0	0	0	0	0	0
Surprise	0	1	0	3	1	3	1	1
Worry	1	0	0	1	2	0	1	0
__all__	83	82	55	81	91	92	85	87

Predicted	Neutral	No Words Found	Relief	Sadness	Surprise	Worry
Actual						
Anger	0	0	0	0	0	0
Boredom	0	0	1	0	0	0
Empty	3	0	2	2	3	0

Enthusiasm	1	0	1	1	0	0
Fun	0	0	0	0	0	0
Happiness	0	0	0	0	0	0
Hate	0	0	0	0	0	0
Love	0	0	0	0	0	0
Neutral	61	0	1	0	2	0
No Words Found	0	0	0	0	0	0
Relief	1	0	77	0	1	0
Sadness	0	0	0	80	0	1
Surprise	2	0	0	1	64	0
Worry	0	0	1	2	1	71
__all__	68	0	83	86	71	72

Predicted	__all__
Actual	
Anger	80
Boredom	81
Empty	75
Enthusiasm	79
Fun	80
Happiness	81
Hate	81
Love	80
Neutral	78
No Words Found	2
Relief	81
Sadness	81
Surprise	77
Worry	80

__all__ 1036

Overall Statistics:

Accuracy: 0.916023166023166

95% CI: (0.8974451009845511, 0.9321934600163511)

No Information Rate: ToDo

P-Value [Acc > NIR]: 0.0

Kappa: 0.9090212608749633

Mcnemar's Test P-Value: ToDo

Class Statistics:

Classes	Anger	Boredom	Empty \
Population	1036	1036	1036
P: Condition positive	80	81	75
N: Condition negative	956	955	961
Test outcome positive	83	82	55
Test outcome negative	953	954	981
TP: True Positive	79	75	54
TN: True Negative	952	948	960
FP: False Positive	4	7	1
FN: False Negative	1	6	21
TPR: (Sensitivity, hit rate, recall)	0.9875	0.925926	0.72
TNR=SPC: (Specificity)	0.995816	0.99267	0.998959
PPV: Pos Pred Value (Precision)	0.951807	0.914634	0.981818
NPV: Neg Pred Value	0.998951	0.993711	0.978593

FPR: False-out	0.0041841	0.00732984	0.00104058
FDR: False Discovery Rate	0.0481928	0.0853659	0.0181818
FNR: Miss Rate	0.0125	0.0740741	0.28
ACC: Accuracy	0.995174	0.987452	0.978764
F1 score	0.969325	0.920245	0.830769
MCC: Matthews correlation coefficient	0.9669	0.913456	0.830961
Informedness	0.983316	0.918596	0.718959
Markedness	0.950758	0.908345	0.960411
Prevalence	0.0772201	0.0781853	0.0723938
LR+: Positive likelihood ratio	236.013	126.323	691.92
LR-: Negative likelihood ratio	0.0125525	0.074621	0.280292
DOR: Diagnostic odds ratio	18802	1692.86	2468.57
FOR: False omission rate	0.00104932	0.00628931	0.0214067

Classes	Enthusiasm	Fun	Happiness \
Population	1036	1036	1036
P: Condition positive	79	80	81
N: Condition negative	957	956	955
Test outcome positive	81	91	92
Test outcome negative	955	945	944
TP: True Positive	71	78	81
TN: True Negative	947	943	944
FP: False Positive	10	13	11
FN: False Negative	8	2	0
TPR: (Sensitivity, hit rate, recall)	0.898734	0.975	1
TNR=SPC: (Specificity)	0.989551	0.986402	0.988482
PPV: Pos Pred Value (Precision)	0.876543	0.857143	0.880435
NPV: Neg Pred Value	0.991623	0.997884	1
FPR: False-out	0.0104493	0.0135983	0.0115183

FDR: False Discovery Rate	0.123457	0.142857	0.119565
FNR: Miss Rate	0.101266	0.025	0
ACC: Accuracy	0.982625	0.985521	0.989382
F1 score	0.8875	0.912281	0.936416
MCC: Matthews correlation coefficient	0.878168	0.906655	0.932895
Informedness	0.888285	0.961402	0.988482
Markedness	0.868166	0.855026	0.880435
Prevalence	0.0762548	0.0772201	0.0781853
LR+: Positive likelihood ratio	86.0089	71.7	86.8182
LR-: Negative likelihood ratio	0.102335	0.0253446	0
DOR: Diagnostic odds ratio	840.463	2829	inf
FOR: False omission rate	0.00837696	0.0021164	0

Classes	Hate	Love	Neutral \
Population	1036	1036	1036
P: Condition positive	81	80	78
N: Condition negative	955	956	958
Test outcome positive	85	87	68
Test outcome negative	951	949	968
TP: True Positive	81	77	61
TN: True Negative	951	946	951
FP: False Positive	4	10	7
FN: False Negative	0	3	17
TPR: (Sensitivity, hit rate, recall)	1	0.9625	0.782051
TNR=SPC: (Specificity)	0.995812	0.98954	0.992693
PPV: Pos Pred Value (Precision)	0.952941	0.885057	0.897059
NPV: Neg Pred Value	1	0.996839	0.982438
FPR: False-out	0.00418848	0.0104603	0.00730689
FDR: False Discovery Rate	0.0470588	0.114943	0.102941

FNR: Miss Rate	0	0.0375	0.217949
ACC: Accuracy	0.996139	0.987452	0.976834
F1 score	0.975904	0.922156	0.835616
MCC: Matthews correlation coefficient	0.974141	0.916297	0.825461
Informedness	0.995812	0.95204	0.774744
Markedness	0.952941	0.881896	0.879497
Prevalence	0.0781853	0.0772201	0.0752896
LR+: Positive likelihood ratio	238.75	92.015	107.029
LR-: Negative likelihood ratio	0	0.0378964	0.219553
DOR: Diagnostic odds ratio	inf	2428.07	487.487
FOR: False omission rate	0	0.00316122	0.017562

Classes	No Words Found	Relief	Sadness \
Population	1036	1036	1036
P: Condition positive	2	81	81
N: Condition negative	1034	955	955
Test outcome positive	0	83	86
Test outcome negative	1036	953	950
TP: True Positive	0	77	80
TN: True Negative	1034	949	949
FP: False Positive	0	6	6
FN: False Negative	2	4	1
TPR: (Sensitivity, hit rate, recall)	0	0.950617	0.987654
TNR=SPC: (Specificity)	1	0.993717	0.993717
PPV: Pos Pred Value (Precision)	NaN	0.927711	0.930233
NPV: Neg Pred Value	0.998069	0.995803	0.998947
FPR: False-out	0	0.00628272	0.00628272
FDR: False Discovery Rate	NaN	0.0722892	0.0697674
FNR: Miss Rate	1	0.0493827	0.0123457

ACC: Accuracy	0.998069	0.990347	0.993243
F1 score	0	0.939024	0.958084
MCC: Matthews correlation coefficient	NaN	0.933866	0.954919
Informedness	0	0.944335	0.981372
Markedness	NaN	0.923514	0.92918
Prevalence	0.0019305	0.0781853	0.0781853
LR+: Positive likelihood ratio	NaN	151.307	157.202
LR-: Negative likelihood ratio	1	0.0496949	0.0124237
DOR: Diagnostic odds ratio	NaN	3044.71	12653.3
FOR: False omission rate	0.0019305	0.00419727	0.00105263

Classes	Surprise	Worry
Population	1036	1036
P: Condition positive	77	80
N: Condition negative	959	956
Test outcome positive	71	72
Test outcome negative	965	964
TP: True Positive	64	71
TN: True Negative	952	955
FP: False Positive	7	1
FN: False Negative	13	9
TPR: (Sensitivity, hit rate, recall)	0.831169	0.8875
TNR=SPC: (Specificity)	0.992701	0.998954
PPV: Pos Pred Value (Precision)	0.901408	0.986111
NPV: Neg Pred Value	0.986528	0.990664
FPR: False-out	0.00729927	0.00104603
FDR: False Discovery Rate	0.0985915	0.0138889
FNR: Miss Rate	0.168831	0.1125
ACC: Accuracy	0.980695	0.990347

F1 score	0.864865	0.934211
MCC: Matthews correlation coefficient	0.855304	0.930519
Informedness	0.82387	0.886454
Markedness	0.887937	0.976775
Prevalence	0.0743243	0.0772201
LR+: Positive likelihood ratio	113.87	848.45
LR-: Negative likelihood ratio	0.170073	0.112618
DOR: Diagnostic odds ratio	669.538	7533.89
FOR: False omission rate	0.0134715	0.0093361

Evaluation Complete.