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In [1]: from pyAudioAnalysis import audioTrainTest as aT
aT.featureAndTrain(["train/angry","train/calm","train/disgust","train/fearful"
,"train/happy","train/sad","train/surprised","train/neutral"], 1.0, 1.0, aT.sh
ortTermWindow, aT.shortTermStep, "knn", "svmSMtemp", False)
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In [2]: import os
import numpy as np
angry = []
for root, dirs, files in os.walk(r'test/angry/'):
    for file in files:
        if file.endswith('.wav'):
            angry.append(file)
calm = []
for root, dirs, files in os.walk(r'test/calm/'):
    for file in files:
        if file.endswith('.wav'):
            calm.append(file)
disgust = []
for root, dirs, files in os.walk(r'test/disgust/'):
    for file in files:
        if file.endswith('.wav'):
            disgust.append(file)
fearful = []
for root, dirs, files in os.walk(r'test/fearful/'):
    for file in files:
        if file.endswith('.wav'):
            fearful.append(file)
happy = []
for root, dirs, files in os.walk(r'test/happy/'):
    for file in files:
        if file.endswith('.wav'):
            happy.append(file)
sad = []
for root, dirs, files in os.walk(r'test/sad/'):
    for file in files:
        if file.endswith('.wav'):
            sad.append(file)
surprised = []
for root, dirs, files in os.walk(r'test/surprised/'):
    for file in files:
        if file.endswith('.wav'):
            surprised.append(file)
neutral = []
for root, dirs, files in os.walk(r'test/neutral/'):
    for file in files:
        if file.endswith('.wav'):
            neutral.append(file)
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In [3]: c = []
        for i in angry:
            c = np.append(c,aT.fileClassification("test/angry/"+i, "svmSMtemp","knn"))
        for i in calm:
            c = np.append(c,aT.fileClassification("test/calm/"+i, "svmSMtemp","knn"))
        for i in disgust:
            c = np.append(c,aT.fileClassification("test/disgust/"+i,"svmSMtemp","knn"
            ))
        for i in fearful:
            c = np.append(c,aT.fileClassification("test/fearful/"+i,"svmSMtemp","knn"
            ))
        for i in happy:
            c = np.append(c,aT.fileClassification("test/happy/"+i,"svmSMtemp","knn"))
        for i in sad:
            c = np.append(c,aT.fileClassification("test/sad/"+i,"svmSMtemp","knn"))
        for i in surprised:
            c = np.append(c,aT.fileClassification("test/surprised/"+i,"svmSMtemp","kn
            n"))
        for i in neutral:
            c = np.append(c,aT.fileClassification("test/neutral/"+i,"svmSMtemp","knn"
            ))
        c = np.reshape(c,(-1,8))

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In [4]: c

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Out[4]: array([[0., 0., 0., ..., 0., 0., 0.],
               [1., 0., 0., ..., 0., 0., 0.],
               [1., 0., 0., ..., 0., 0., 0.],
               ...,
               [0., 0., 0., ..., 0., 0., 1.],
               [0., 0., 0., ..., 0., 0., 1.],
               [0., 0., 0., ..., 0., 0., 1.]])

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In [5]: y_pred = np.argmax(c,axis = 1)
        y_pred

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Out[5]: array([4, 0, 0, 2, 4, 0, 2, 0, 2, 4, 6, 0, 0, 0, 0, 4, 0, 0, 0, 0, 6, 2,
               0, 4, 0, 6, 5, 6, 2, 0, 6, 0, 2, 0, 0, 0, 0, 6, 3, 0, 0, 0, 0, 2,
               0, 0, 0, 0, 1, 7, 1, 1, 1, 1, 1, 1, 1, 1, 5, 7, 7, 5, 5, 7, 1, 1,
               1, 1, 1, 6, 6, 3, 1, 5, 5, 2, 7, 1, 1, 1, 7, 2, 4, 5, 7, 1, 2, 1,
               4, 7, 7, 1, 1, 1, 1, 2, 0, 6, 2, 0, 2, 0, 2, 2, 2, 2, 7, 4, 2, 2,
               2, 2, 2, 6, 4, 6, 0, 2, 2, 2, 7, 0, 2, 4, 2, 3, 2, 2, 6, 6, 0, 2,
               2, 2, 6, 2, 0, 2, 2, 0, 2, 2, 5, 0, 2, 4, 5, 3, 3, 3, 3, 7, 4, 3,
               6, 3, 4, 0, 3, 5, 3, 3, 3, 7, 3, 0, 5, 3, 3, 3, 1, 0, 3, 3, 5, 6,
               4, 4, 3, 3, 3, 3, 4, 5, 3, 3, 2, 3, 3, 7, 3, 6, 6, 4, 4, 4, 5, 3,
               4, 4, 7, 4, 4, 5, 7, 2, 2, 5, 4, 0, 6, 3, 4, 2, 5, 4, 7, 4, 6, 4,
               4, 6, 4, 7, 4, 4, 5, 2, 6, 1, 1, 5, 6, 2, 4, 2, 4, 4, 0, 6, 5, 1,
               3, 2, 3, 1, 5, 5, 5, 3, 5, 7, 4, 2, 1, 0, 1, 5, 1, 3, 1, 7, 5, 2,
               7, 6, 0, 5, 5, 6, 5, 1, 5, 5, 5, 5, 7, 6, 5, 5, 5, 2, 5, 5, 5, 5,
               5, 5, 6, 6, 6, 6, 6, 6, 2, 6, 2, 6, 6, 6, 0, 6, 6, 3, 6, 6, 6, 6,
               5, 4, 6, 6, 6, 6, 6, 6, 6, 3, 6, 2, 2, 6, 6, 4, 6, 6, 3, 6, 2,
               3, 2, 7, 4, 6, 6, 7, 5, 1, 1, 1, 7, 7, 7, 7, 5, 7, 7, 1, 1, 7, 7,
               7, 6, 2, 7, 7, 7, 7, 7])

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In [6]: y_test = []
        for i in range(len(y_pred)):
            if i < (len(angry)):
                y_test.append(0)
            elif i < (len(angry)+len(calm)):
                y_test.append(1)
            elif i < (len(angry)+len(calm)+len(disgust)):
                y_test.append(2)
            elif i < (len(angry)+len(calm)+len(disgust)+len(fearful)):
                y_test.append(3)
            elif i < (len(angry)+len(calm)+len(disgust)+len(fearful)+len(happy)):
                y_test.append(4)
            elif i < (len(angry)+len(calm)+len(disgust)+len(fearful)+len(happy)+len(sad)
)):
                y_test.append(5)
            elif i < (len(angry)+len(calm)+len(disgust)+len(fearful)+len(happy)+len(sad)
+len(surprised)):
                y_test.append(6)
            else:
                y_test.append(7)
y_test
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Out[6]: [0,
```

[illegible]

knn

[illegible]

[illegible]

[illegible]


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In [9]: from sklearn.metrics import accuracy_score, f1_score, precision_score, recall_score
        Accuracy_Score = accuracy_score(y_test,y_pred)
        Precision_Score = precision_score(y_test, y_pred, average="macro")
        Recall_Score = recall_score(y_test, y_pred, average="macro")
        F1_Score = f1_score(y_test, y_pred, average="macro")
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In [10]: Accuracy_Score
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Out[10]: 0.5333333333333333
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In [11]: Precision_Score
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Out[11]: 0.5357685078079815
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In [12]: Recall_Score
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Out[12]: 0.5390625
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In [13]: F1_Score
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Out[13]: 0.5303923562308202
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