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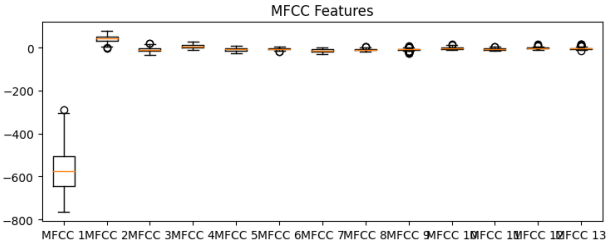
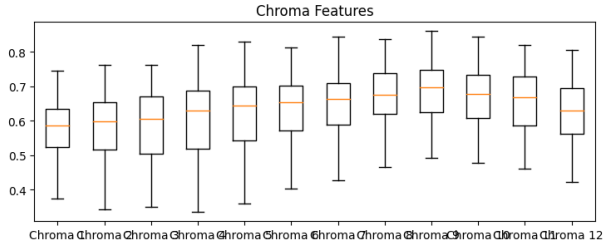
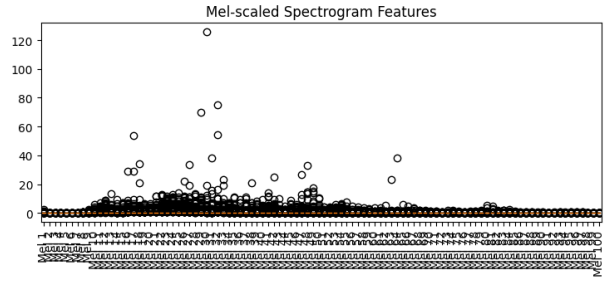
Screenshots of all the plots

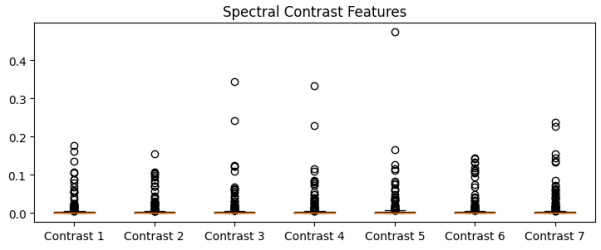
The below outputs are taken for only 5 Actors which have 300 files .

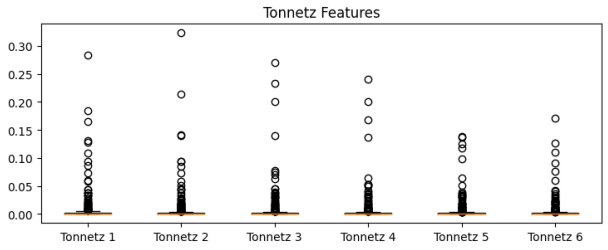
Plots for MFCC , Chroma , Mel-Scaled spectrogram , spectral contrast , Tonnetz











MLP classifiers

```
MLP Classifier Classification Report:
              precision    recall  f1-score   support

       angry       0.80      0.44      0.57         9
        calm       0.70      0.78      0.74         9
     disgust       0.67      0.80      0.73        10
     fearful       0.50      0.50      0.50         6
       happy       0.29      0.80      0.42         5
     neutral       1.00      0.25      0.40         4
         sad       1.00      0.50      0.67         4
   surprised       0.90      0.69      0.78        13

    accuracy                           0.63        60
   macro avg       0.73      0.60      0.60        60
weighted avg       0.74      0.63      0.64        60

MLP Confusion Matrix:
[[4 1 1 1 2 0 0 0]
 [0 7 1 0 1 0 0 0]
 [1 0 8 1 0 0 0 0]
 [0 0 0 3 3 0 0 0]
 [0 0 0 0 4 0 0 1]
 [0 2 0 0 1 1 0 0]
 [0 0 0 1 1 0 2 0]
 [0 0 2 0 2 0 0 9]]
```

```
Optimized MLP Classifier Classification Report:
              precision    recall  f1-score   support

       angry       0.67      0.44      0.53         9
        calm       0.78      0.78      0.78         9
     disgust       0.67      0.60      0.63        10
     fearful       0.50      0.50      0.50         6
       happy       0.28      1.00      0.43         5
     neutral       0.00      0.00      0.00         4
         sad       0.67      0.50      0.57         4
   surprised       1.00      0.62      0.76        13

    accuracy                           0.58        60
   macro avg       0.57      0.55      0.53        60
weighted avg       0.66      0.58      0.59        60

Optimized MLP Confusion Matrix:
[[4 0 1 1 3 0 0 0]
 [0 7 1 0 1 0 0 0]
 [2 0 6 1 0 1 0 0]
 [0 0 0 3 2 0 1 0]
 [0 0 0 0 5 0 0 0]
 [0 2 0 0 2 0 0 0]
 [0 0 0 1 1 0 2 0]
 [0 0 1 0 4 0 0 8]]
```

K-Fold Classification Report:-

```
K-Fold Classification Report:
              precision    recall  f1-score   support

       angry       0.80      0.44      0.57         9
        calm       0.70      0.78      0.74         9
     disgust       0.67      0.80      0.73        10
     fearful       0.50      0.50      0.50         6
       happy       0.31      0.80      0.44         5
     neutral       1.00      0.25      0.40         4
         sad       0.67      0.50      0.57         4
   surprised       1.00      0.77      0.87        13

    accuracy                           0.65        60
   macro avg       0.71      0.61      0.60        60
weighted avg       0.74      0.65      0.66        60
```

SVM Classification Report:-

```
Confusion Matrix:
[[6 0 1 1 0 0 0 1]
 [0 7 0 0 0 0 2 0]
 [1 1 6 0 0 0 2 0]
 [0 0 0 5 0 0 1 0]
 [0 0 0 2 2 1 0 0]
 [0 1 0 0 1 2 0 0]
 [0 0 0 1 1 1 1 0]
 [3 0 2 0 2 0 0 6]]

Classification Report:
              precision    recall  f1-score   support

       angry       0.60      0.67      0.63         9
        calm       0.78      0.78      0.78         9
     disgust       0.67      0.60      0.63        10
     fearful       0.56      0.83      0.67         6
       happy       0.33      0.40      0.36         5
     neutral       0.50      0.50      0.50         4
         sad       0.17      0.25      0.20         4
   surprised       0.86      0.46      0.60        13

    accuracy                           0.58        60
   macro avg       0.56      0.56      0.55        60
weighted avg       0.63      0.58      0.59        60
```

KNN Classification Report:-

```
KNN Classifier Classification Report:
              precision    recall  f1-score   support

       angry       0.60      0.67      0.63         9
        calm       0.75      0.33      0.46         9
     disgust       0.60      0.60      0.60        10
     fearful       0.50      0.67      0.57         6
       happy       0.44      0.80      0.57         5
     neutral       0.30      0.75      0.43         4
         sad       0.00      0.00      0.00         4
   surprised       1.00      0.31      0.47        13

    accuracy                           0.50        60
   macro avg       0.52      0.52      0.47        60
weighted avg       0.63      0.50      0.50        60

KNN Confusion Matrix:
[[6 0 0 1 1 1 0 0]
 [0 3 1 0 0 2 3 0]
 [2 0 6 1 0 1 0 0]
 [0 0 0 4 1 0 1 0]
 [0 0 0 0 4 0 1 0]
 [0 1 0 0 0 3 0 0]
 [0 0 1 1 1 1 0 0]
 [2 0 2 1 2 2 0 4]]
```