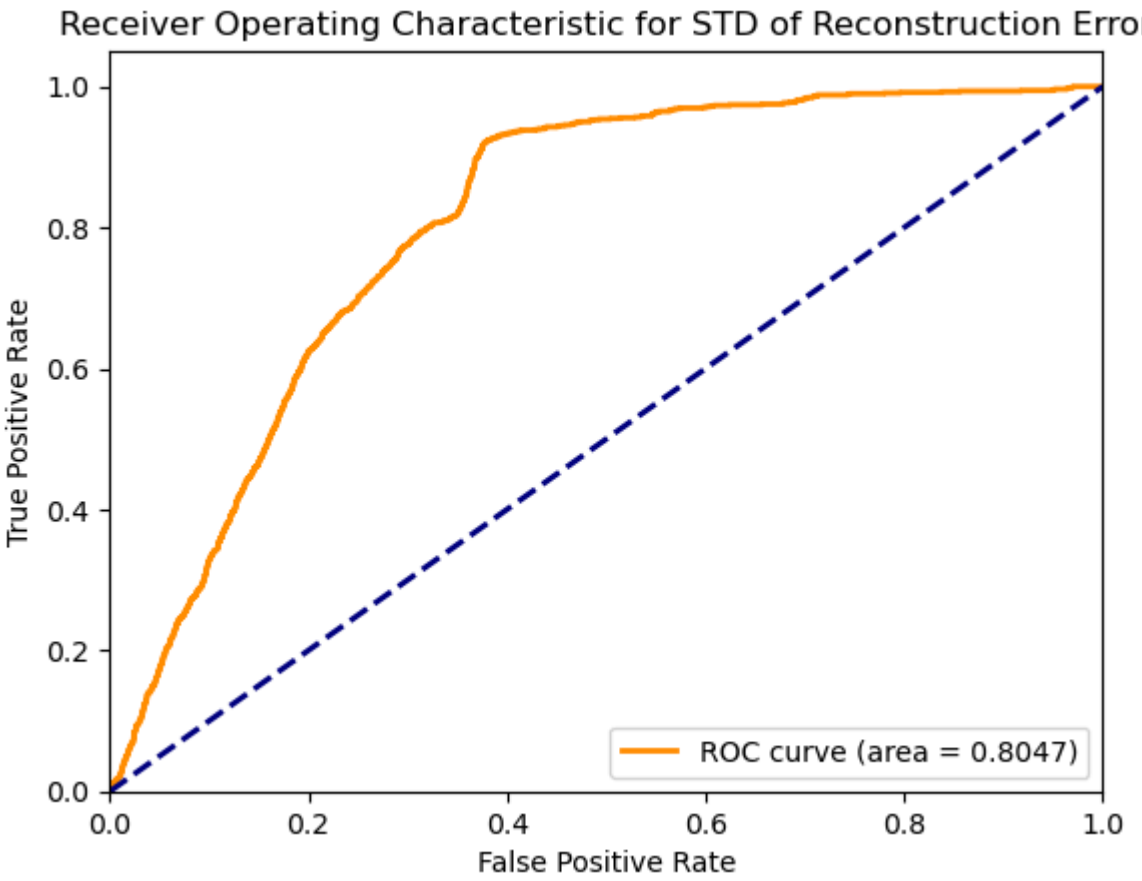
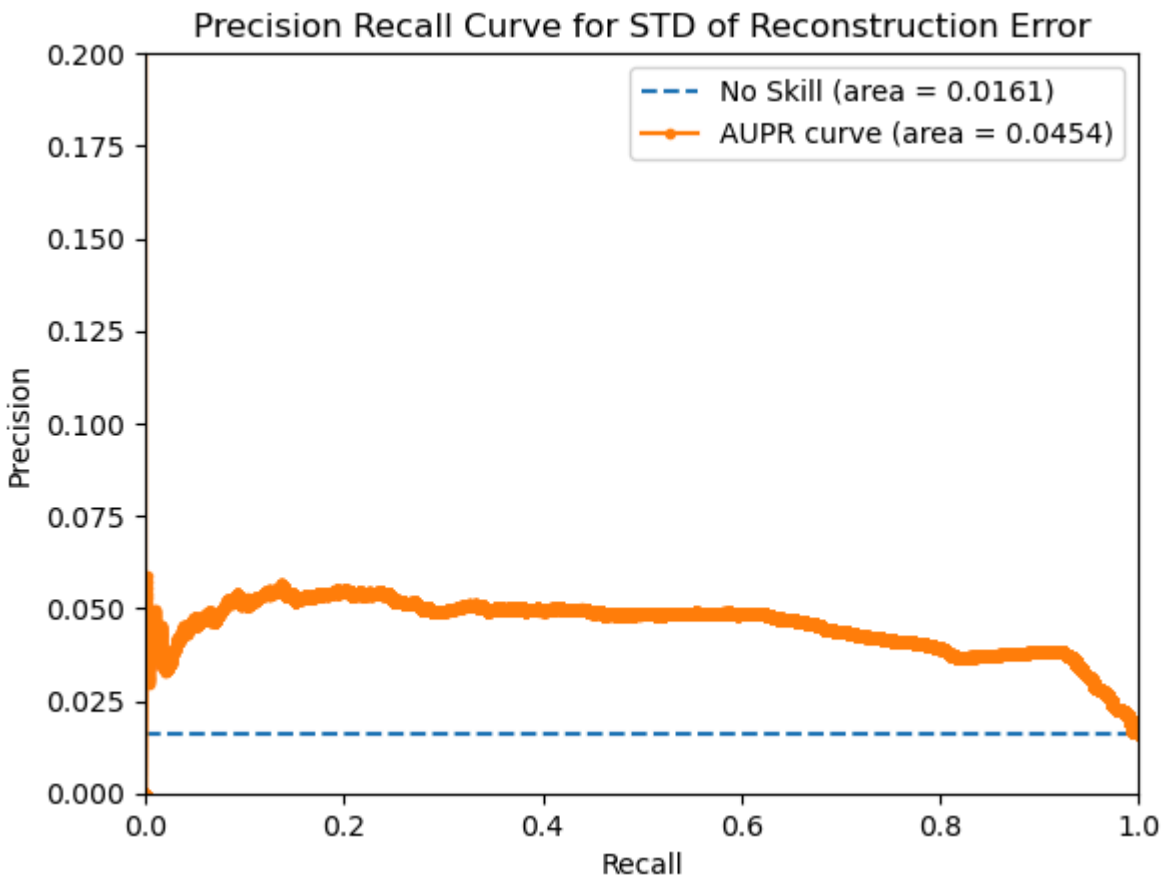
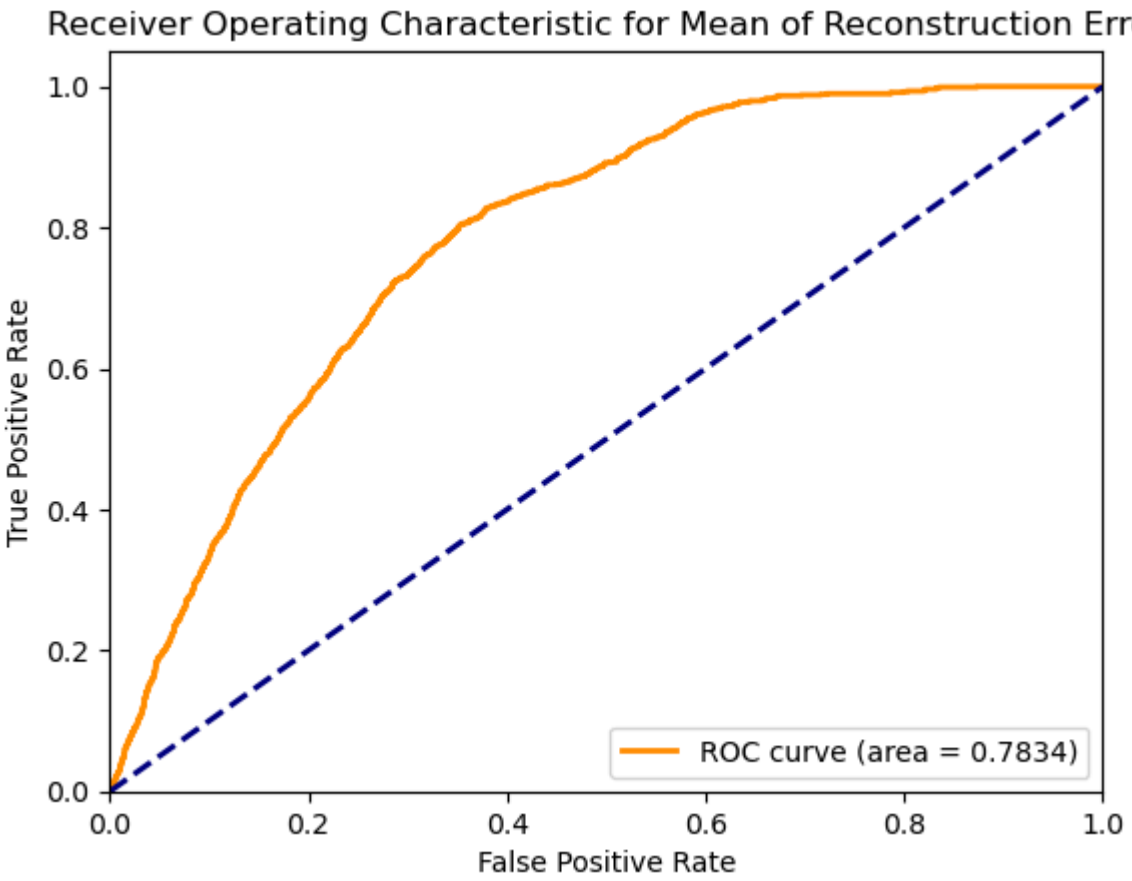
```
Modality 1 - Thermal
Non Falls - 48, Falls - 173

Modality 2 - ONI_IR
Non Falls - 48, Falls - 173

Train Dataloader - 48
Test Dataloader - 173

Device Used - cuda

Model Used - MultiModal_3DCAE
Key Frame Extraction - False
Feature Extraction - False
Data Augmentation - False
Spatial Temporal Loss - False

Frame rate adjusted dataset - False
Synchronise Video - False
Video length adjustment method - Trim Maximum

Window Length = 8
Stride = 1
Fair Comparison = True
Dropout = 0.25
Learning Rate = 0.0002
Num Epochs = 20
Chunk Size = 64
Forward Chunk Size = 8
Loss Fn = MSELoss()

Training has Begun
epoch [1/20], loss:0.0049
epoch [2/20], loss:0.0039
epoch [3/20], loss:0.0032
epoch [4/20], loss:0.0028
epoch [5/20], loss:0.0025
epoch [6/20], loss:0.0023
epoch [7/20], loss:0.0021
epoch [8/20], loss:0.0019
epoch [9/20], loss:0.0018
epoch [10/20], loss:0.0017
epoch [11/20], loss:0.0016
epoch [12/20], loss:0.0016
epoch [13/20], loss:0.0015
epoch [14/20], loss:0.0015
epoch [15/20], loss:0.0014
epoch [16/20], loss:0.0014
epoch [17/20], loss:0.0014
epoch [18/20], loss:0.0014
epoch [19/20], loss:0.0013
epoch [20/20], loss:0.0013
Training has Completed

Forward pass occuring
Forward pass completed

MultiModal_Thermal_T3_ONI_IR_T_2024-04-17-18-16-20
```

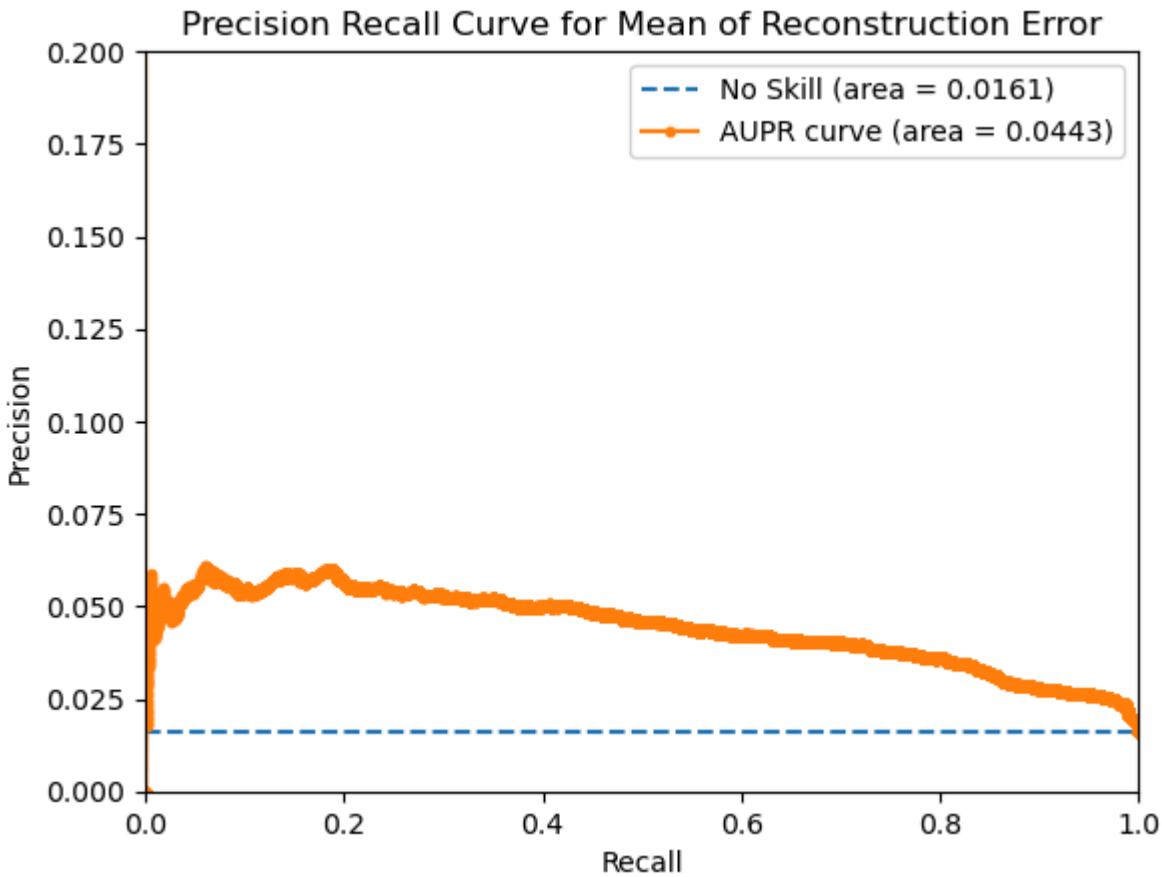
```
---------------------------------
STD Global Classification Results
TPR 0.924, FPR 0.380, Precision 0.038, Recall 0.924
tn 41047, fp 25194, fn 82, tp 1000
std_AUROC  0.805
---------------------------------
---------------------------------
Mean Global Classification Results
TPR 0.804, FPR 0.353, Precision 0.036, Recall 0.804
tn 42850, fp 23391, fn 212, tp 870
mean_AUROC 0.783
---------------------------------
d:\Abdul Rasheed NITT\Academics\Eigth Semester\FYP\Implementation\FallDetection\Code\funct
ions.py:250: RuntimeWarning: Mean of empty slice
  final_performance_mean = np.nanmean(video_metrics, axis=0)  # get the mean performance a
cross all videos
c:\Users\abdul\anaconda3\envs\fyp_base_paper_2\lib\site-packages\numpy\lib\nanfunctions.p
y:1670: RuntimeWarning: Degrees of freedom <= 0 for slice.
  var = nanvar(a, axis=axis, dtype=dtype, out=out, ddof=ddof,
c:\Users\abdul\anaconda3\envs\fyp_base_paper_2\lib\site-packages\sklearn\metrics\_ranking.
py:1132: UndefinedMetricWarning: No positive samples in y_true, true positive value should
be meaningless
  warnings.warn(
c:\Users\abdul\anaconda3\envs\fyp_base_paper_2\lib\site-packages\sklearn\metrics\_ranking.
py:979: UserWarning: No positive class found in y_true, recall is set to one for all thres
holds.
  warnings.warn(
```

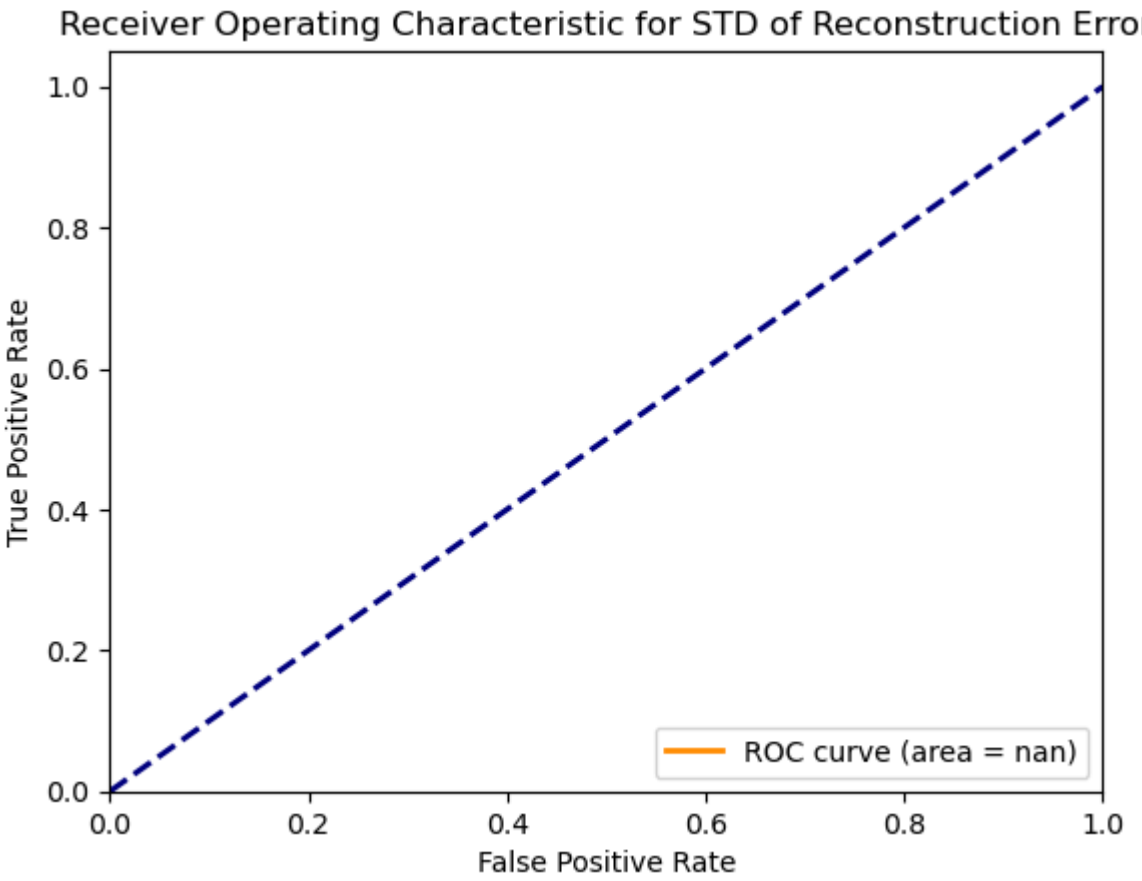
```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
Cell In[2], line 280
    278 names = list_of_datasets
    279 paths = [f"{project_directory}\Dataset\H5PY\{dataset_category}_Data_set-{name}-img
dim64x64.h5" for name in names]
--> 280 full_pipeline(names, dsets, paths, modelpath)

Cell In[2], line 257, in full_pipeline(names, dsets, paths, modelpath)
    255 get_total_performance_metrics(modality, frame_stats1, window_stats1, window_len)
    256 # Metrics for Output 2
--> 257 get_total_performance_metrics(modality, frame_stats2, window_stats2, window_len)
    258 # Metrics for Combined Output
    259 get_total_performance_metrics(modality, frame_stats, window_stats, window_len)

File d:\Abdul Rasheed NITT\Academics\Eigth Semester\FYP\Implementation\FallDetection\Code
\functions.py:213, in get_total_performance_metrics(name, frame_stats, window_stats, windo
w_len)
    212 def get_total_performance_metrics(name, frame_stats, window_stats, window_len):
--> 213     get_curves_and_thresholds(name, frame_stats, window_stats, window_len)
    215     video_metrics = np.zeros((len(frame_stats), 5, window_len))
    217     # here i need to get the error and everything and store it in video metrics

File d:\Abdul Rasheed NITT\Academics\Eigth Semester\FYP\Implementation\FallDetection\Code
\functions.py:423, in get_curves_and_thresholds(name, frame_stats, window_stats, window_le
n)
    420     else:
    421         frame_std_flat[i] = 0
--> 423 std_tn, std_fp, std_fn, std_tp = confusion_matrix(frame_labels_flat, frame_std_fla
t).ravel()  # , labels=[0,1]
    424 std_TPR = std_tp / (std_tp + std_fn)
    425 std_FPR = std_fp / (std_fp + std_tn)

ValueError: not enough values to unpack (expected 4, got 1)
```

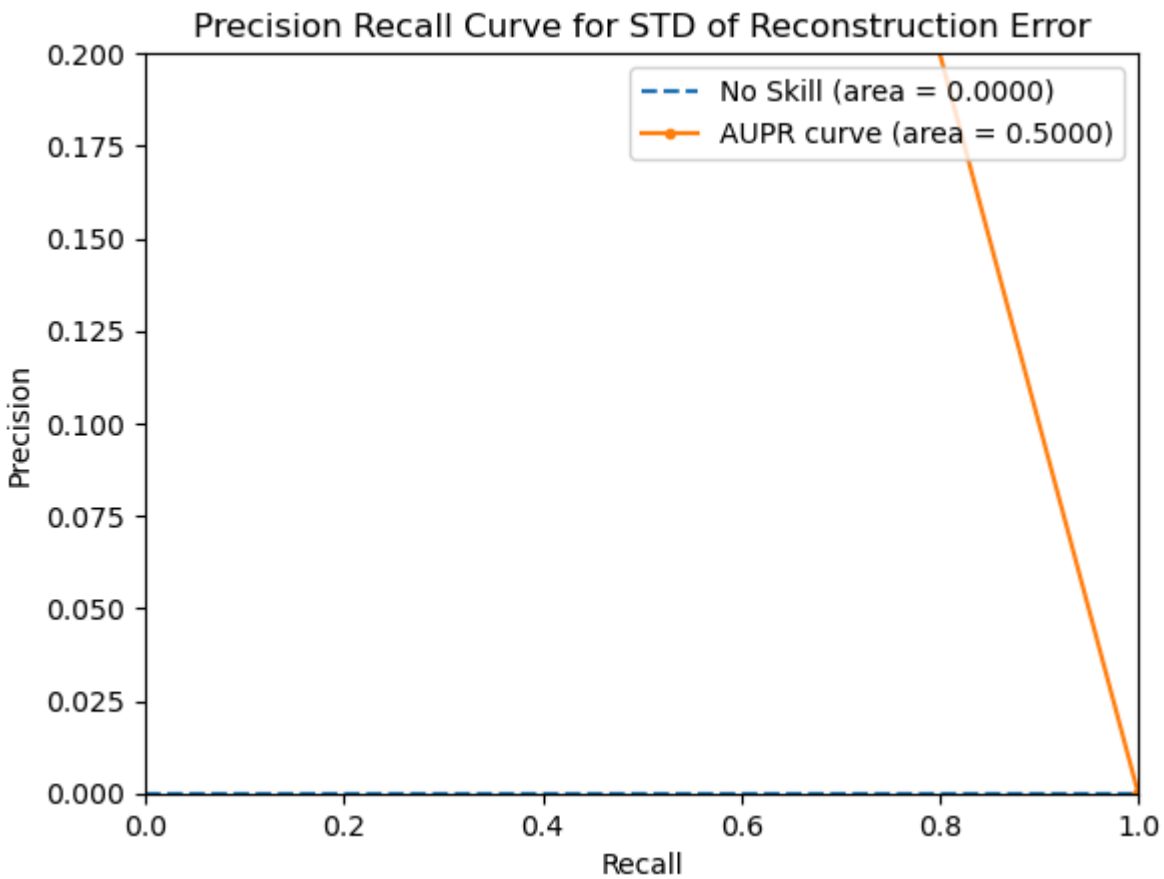

Receiver Operating Characteristic for STD of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.8047)
0.0
0.2
0.4
0.6
0.8
1.0


Precision Recall Curve for STD of Reconstruction Error
Precision
Recall
No Skill (area = 0.0161)
AUPR curve (area = 0.0454)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0


Receiver Operating Characteristic for Mean of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.7834)
0.0
0.2
0.4
0.6
0.8
1.0


Precision Recall Curve for Mean of Reconstruction Error
Precision
Recall
No Skill (area = 0.0161)
AUPR curve (area = 0.0443)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0


Receiver Operating Characteristic for STD of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = nan)
0.0
0.2
0.4
0.6
0.8
1.0


Precision Recall Curve for STD of Reconstruction Error
Precision
Recall
No Skill (area = 0.0000)
AUPR curve (area = 0.5000)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0