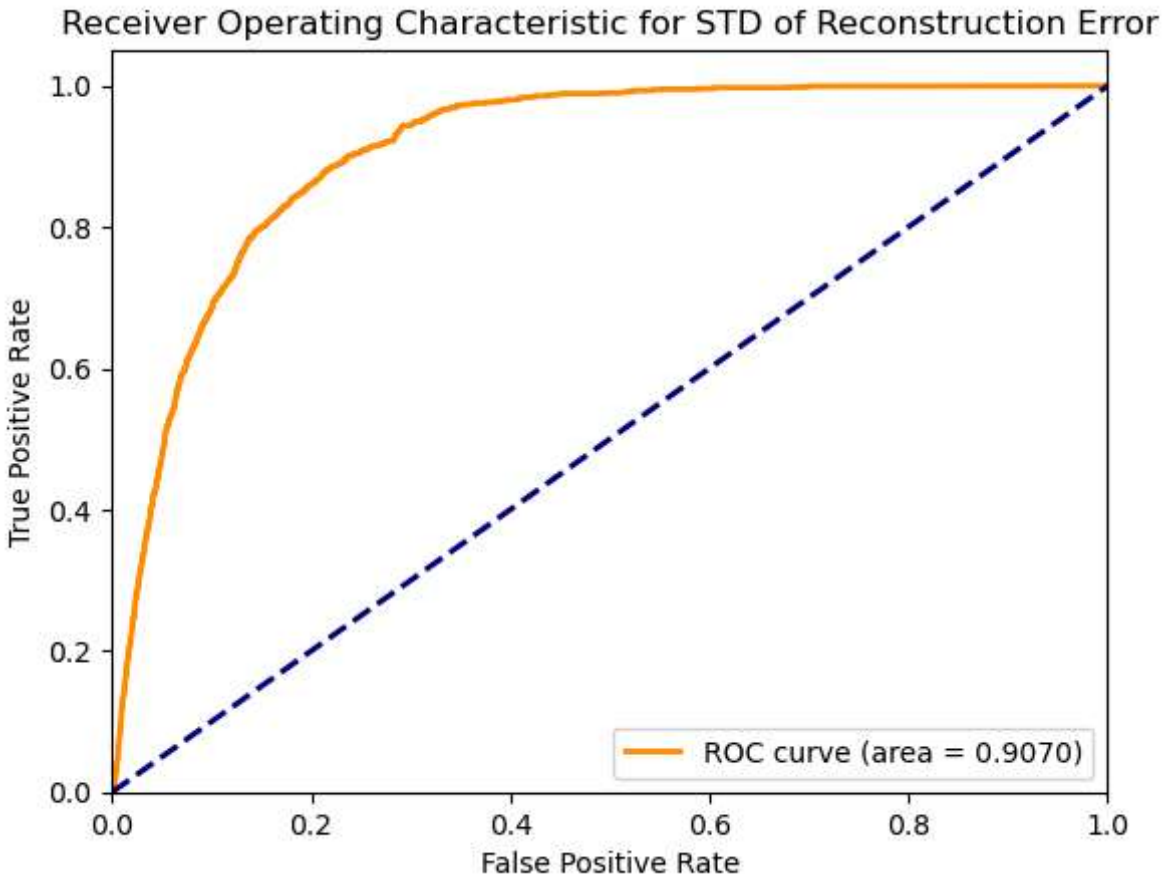
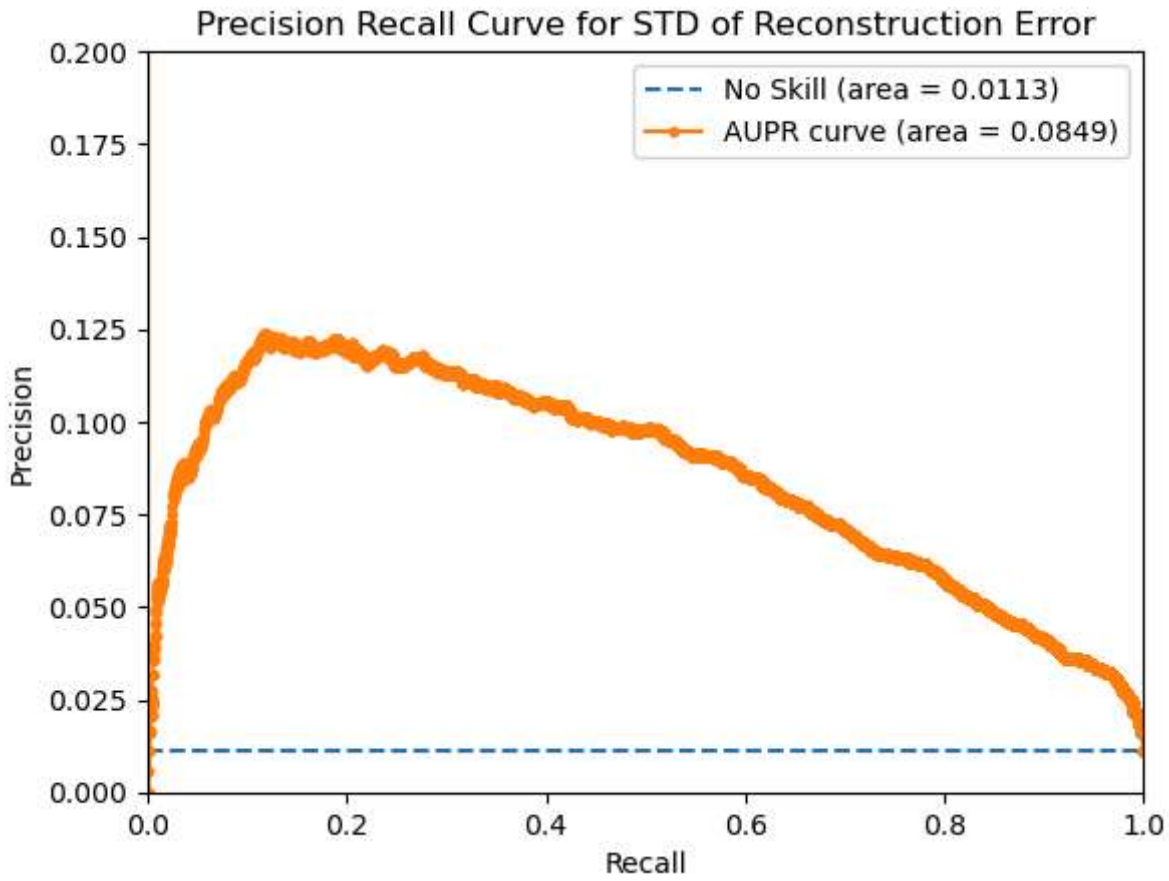
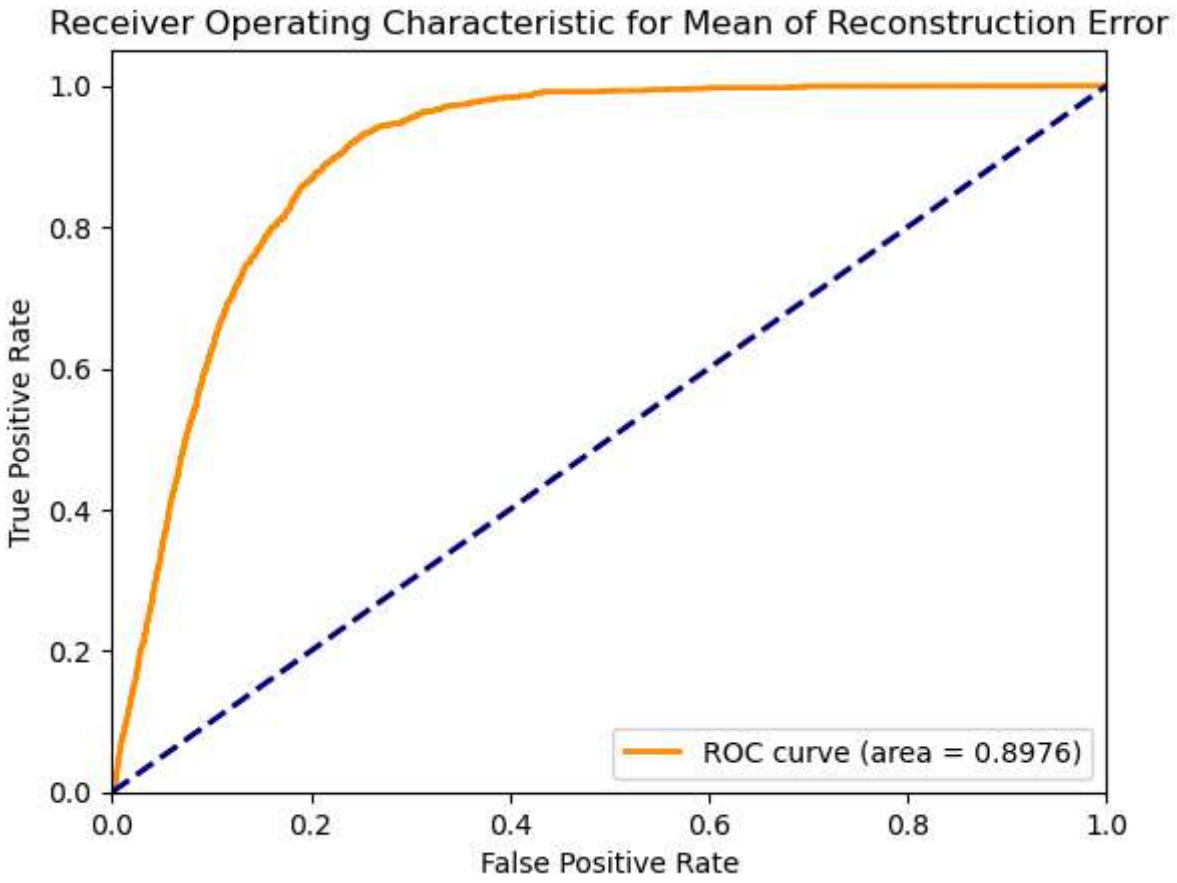
```
Modality 1 - Thermal
Non Falls - 48, Falls - 173

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

Train Dataloader - 48
Test Dataloader - 173

Device Used - cuda

Model Used - EarlyAddition_3DCAE
Key Frame Extraction - False
Feature Extraction - True
Background Subtraction - True
Background Subtraction Algorithm - GMG
Data Augmentation - False
Spatial Temporal Loss - False

Frame rate adjusted dataset - True
Synchronise Video - True
Video length adjustment method - Not Applicable

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:0.0028
epoch [2/20], loss:0.0019
epoch [3/20], loss:0.0015
epoch [4/20], loss:0.0012
epoch [5/20], loss:0.0009
epoch [6/20], loss:0.0006
epoch [7/20], loss:0.0005
epoch [8/20], loss:0.0004
epoch [9/20], loss:0.0003
epoch [10/20], loss:0.0002
epoch [11/20], loss:0.0001
epoch [12/20], loss:0.0001
epoch [13/20], loss:0.0000
epoch [14/20], loss:0.0000
epoch [15/20], loss:0.0000
epoch [16/20], loss:0.0000
epoch [17/20], loss:0.0000
epoch [18/20], loss:0.0000
epoch [19/20], loss:0.0000
epoch [20/20], loss:0.0000
Training has Completed
```

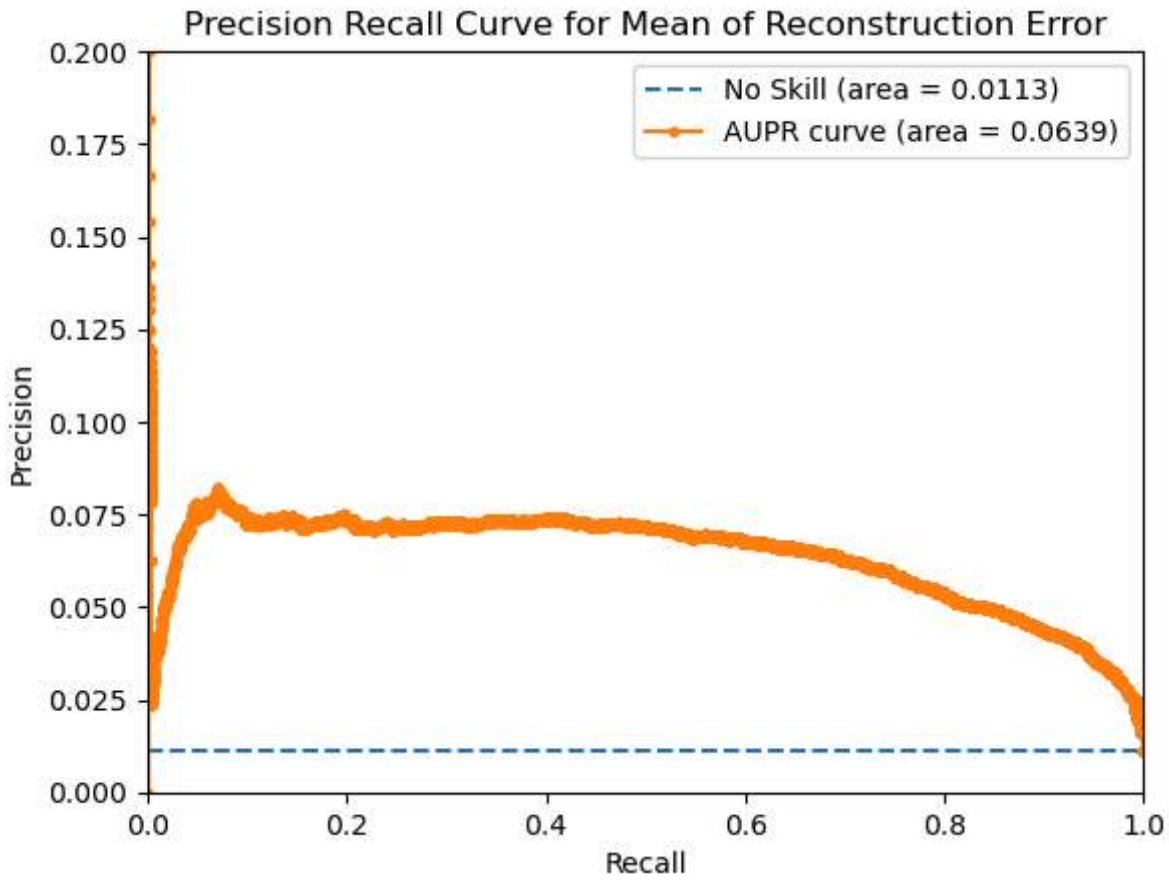
```
Forward pass occuring
Forward pass completed

MultiModal_Thermal_T3_IP_T_2024-04-19-10-03-20

---------------------------------
STD Global Classification Results
TPR 0.885, FPR 0.220, Precision 0.044, Recall 0.885
tn 99514, fp 28013, fn 167, tp 1291
std_AUROC  0.907
---------------------------------
---------------------------------
Mean Global Classification Results
TPR 0.930, FPR 0.251, Precision 0.041, Recall 0.930
tn 95520, fp 32007, fn 102, tp 1356
mean_AUROC 0.898
---------------------------------

d:\FYP-Human-Fall-Detection\Code\functions.py:250: RuntimeWarning: Mean of em
pty slice
  final_performance_mean = np.nanmean(video_metrics, axis=0)  # get the mean
performance across all videos
c:\Users\sindh\anaconda3\envs\fyp_base_paper_2\lib\site-packages\numpy\lib\na
nfunctions.py:1670: RuntimeWarning: Degrees of freedom <= 0 for slice.
  var = nanvar(a, axis=axis, dtype=dtype, out=out, ddof=ddof,

---------------------------------
STD Global Classification Results
TPR 0.865, FPR 0.185, Precision 0.050, Recall 0.865
tn 103957, fp 23580, fn 195, tp 1253
std_AUROC  0.906
---------------------------------
---------------------------------
Mean Global Classification Results
TPR 0.898, FPR 0.248, Precision 0.039, Recall 0.898
tn 95859, fp 31678, fn 147, tp 1301
mean_AUROC 0.883
---------------------------------
```

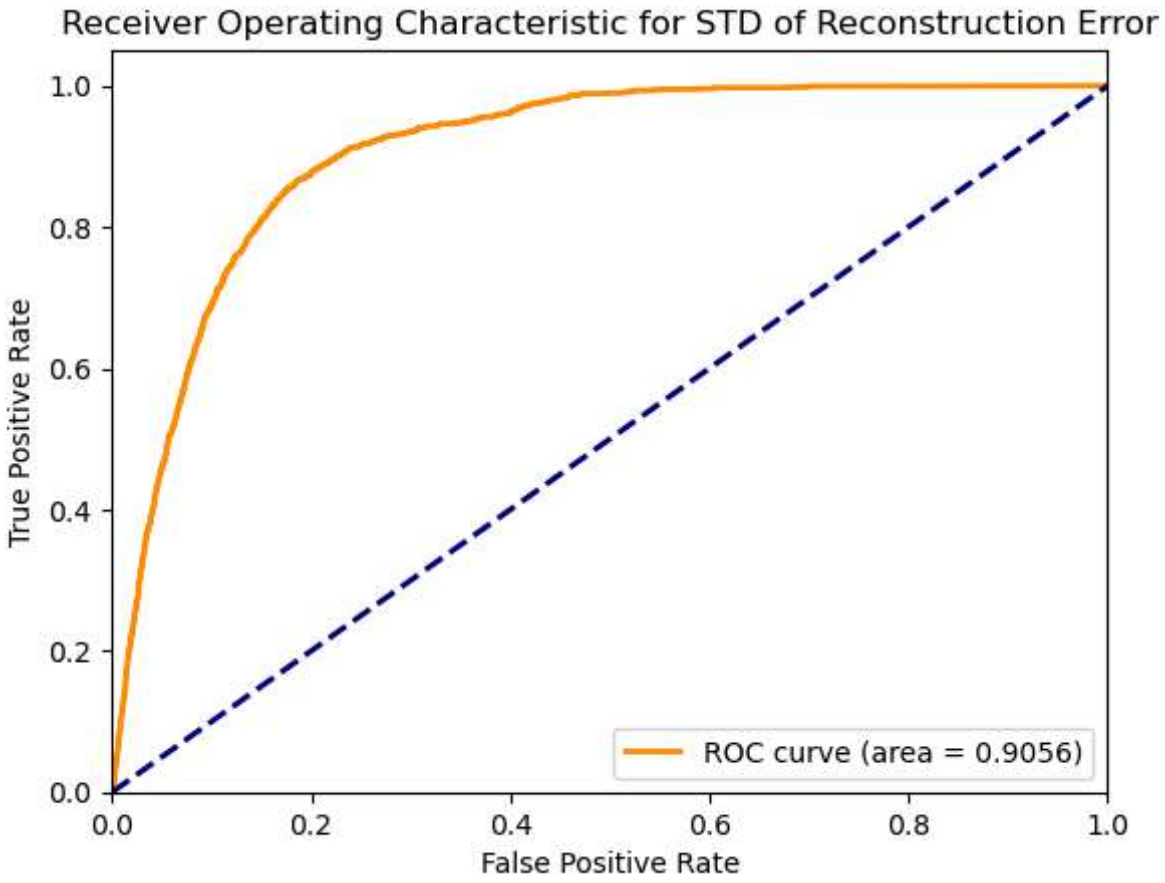
```
c:\Users\sindh\anaconda3\envs\fyp_base_paper_2\lib\site-packages\sklearn\metr
ics\_ranking.py:1132: UndefinedMetricWarning: No positive samples in y_true,
true positive value should be meaningless
  warnings.warn(
c:\Users\sindh\anaconda3\envs\fyp_base_paper_2\lib\site-packages\sklearn\metr
ics\_ranking.py:979: UserWarning: No positive class found in y_true, recall i
s set to one for all thresholds.
  warnings.warn(
c:\Users\sindh\anaconda3\envs\fyp_base_paper_2\lib\site-packages\sklearn\metr
ics\_ranking.py:1132: UndefinedMetricWarning: No positive samples in y_true,
true positive value should be meaningless
  warnings.warn(
c:\Users\sindh\anaconda3\envs\fyp_base_paper_2\lib\site-packages\sklearn\metr
ics\_ranking.py:979: UserWarning: No positive class found in y_true, recall i
s set to one for all thresholds.
  warnings.warn(
d:\FYP-Human-Fall-Detection\Code\functions.py:250: RuntimeWarning: Mean of em
pty slice
  final_performance_mean = np.nanmean(video_metrics, axis=0)  # get the mean
performance across all videos
c:\Users\sindh\anaconda3\envs\fyp_base_paper_2\lib\site-packages\numpy\lib\na
nfunctions.py:1670: RuntimeWarning: Degrees of freedom <= 0 for slice.
  var = nanvar(a, axis=axis, dtype=dtype, out=out, ddof=ddof,

---------------------------------
STD Global Classification Results
TPR 0.866, FPR 0.168, Precision 0.056, Recall 0.866
tn 106118, fp 21409, fn 196, tp 1262
std_AUROC  0.921
---------------------------------
---------------------------------
Mean Global Classification Results
TPR 0.925, FPR 0.258, Precision 0.039, Recall 0.925
tn 94597, fp 32930, fn 110, tp 1348
mean_AUROC 0.893
---------------------------------

d:\FYP-Human-Fall-Detection\Code\functions.py:250: RuntimeWarning: Mean of em
pty slice
  final_performance_mean = np.nanmean(video_metrics, axis=0)  # get the mean
performance across all videos
c:\Users\sindh\anaconda3\envs\fyp_base_paper_2\lib\site-packages\numpy\lib\na
nfunctions.py:1670: RuntimeWarning: Degrees of freedom <= 0 for slice.
  var = nanvar(a, axis=axis, dtype=dtype, out=out, ddof=ddof,

()
```

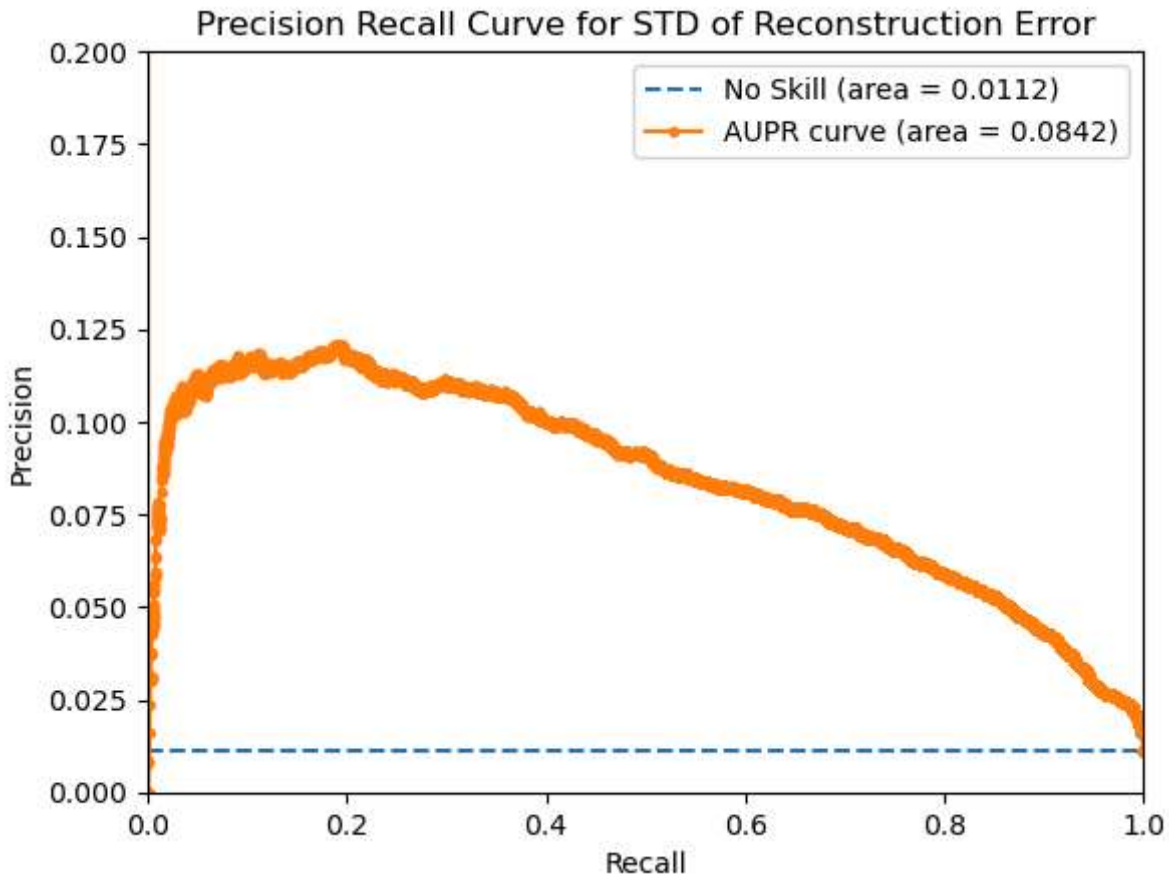

Receiver Operating Characteristic for STD of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.9070)
0.0
0.2
0.4
0.6
0.8
1.0

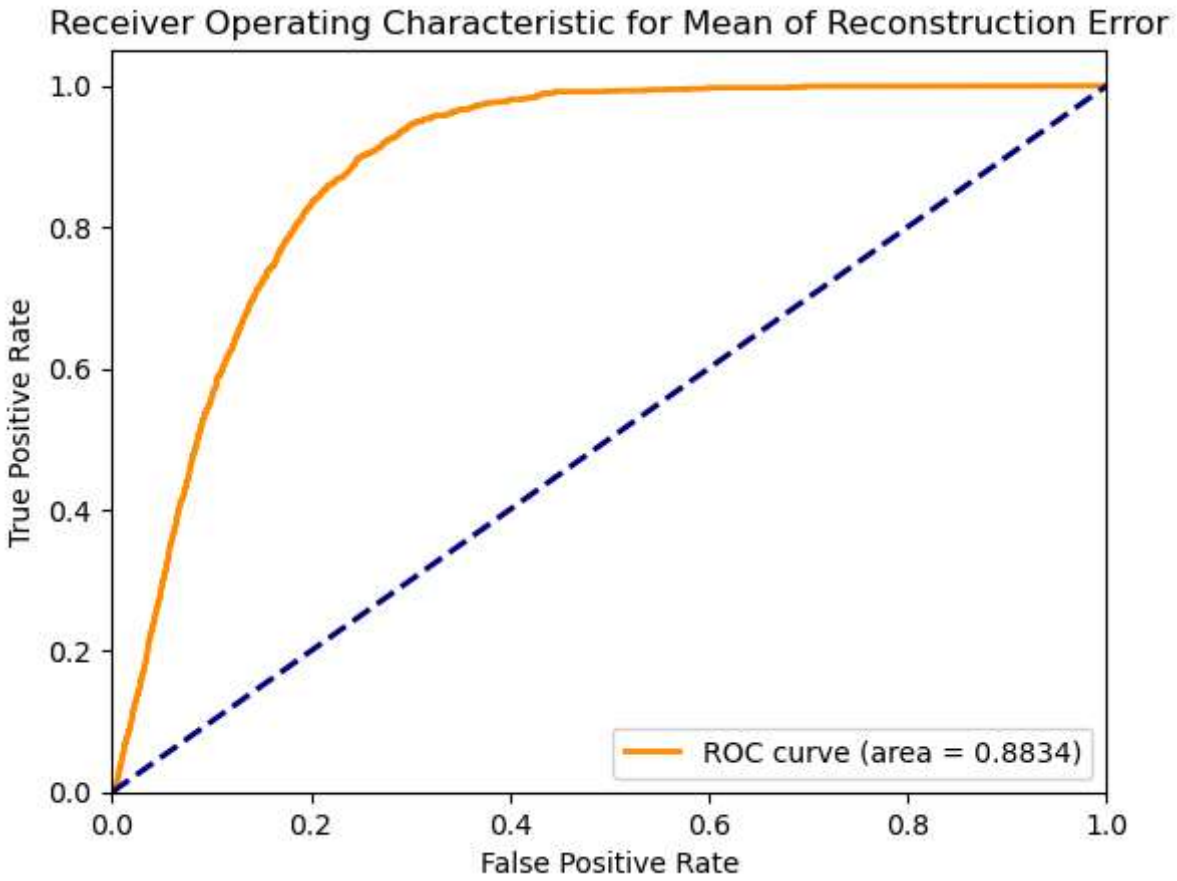

Precision Recall Curve for STD of Reconstruction Error
Precision
Recall
No Skill (area = 0.0113)
AUPR curve (area = 0.0849)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

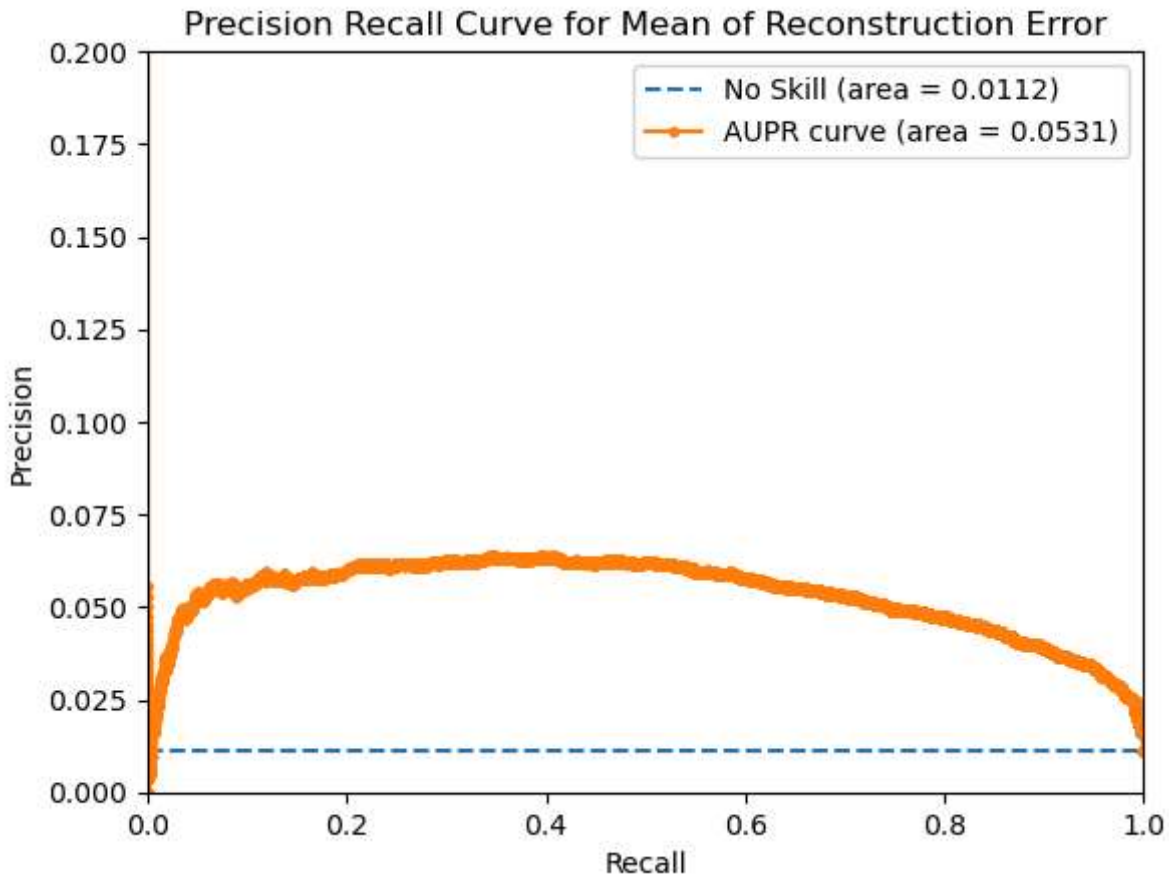

Receiver Operating Characteristic for Mean of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.8976)
0.0
0.2
0.4
0.6
0.8
1.0

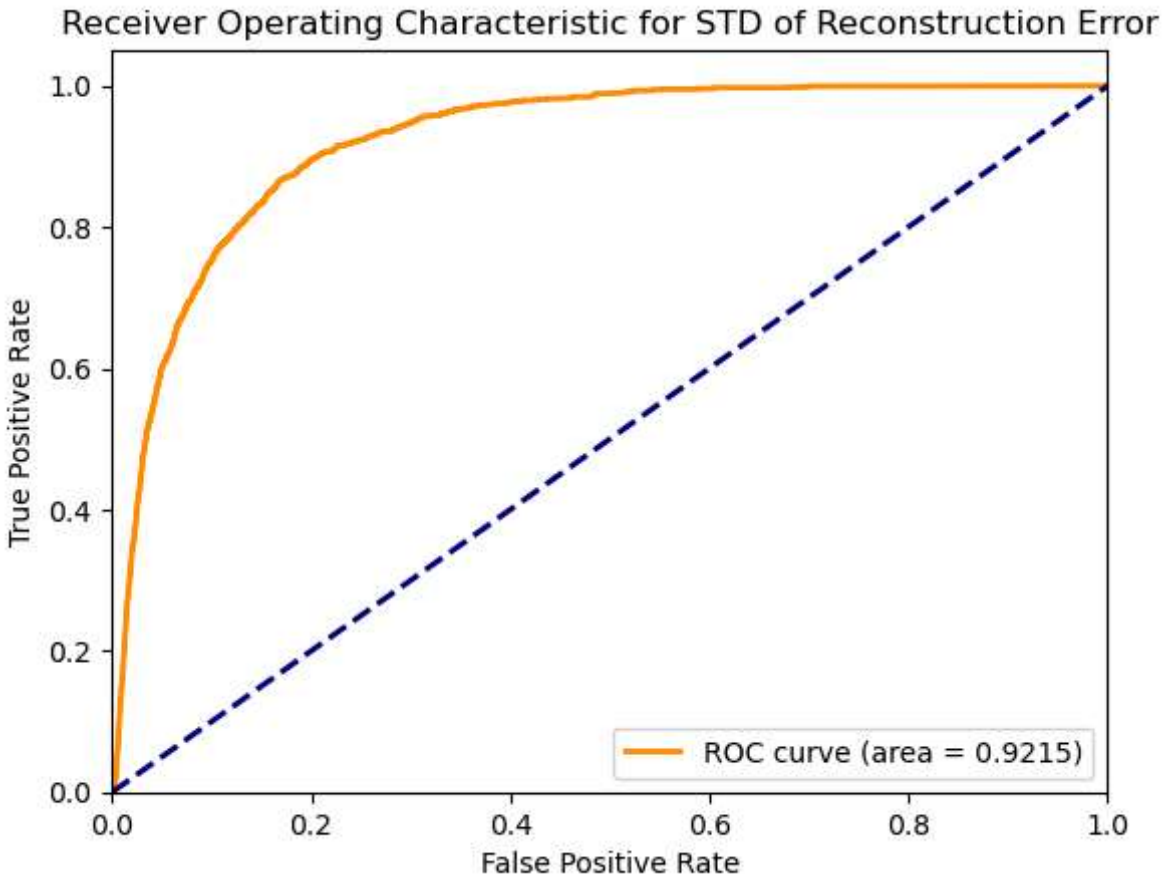

Precision Recall Curve for Mean of Reconstruction Error
Precision
Recall
No Skill (area = 0.0113)
AUPR curve (area = 0.0639)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

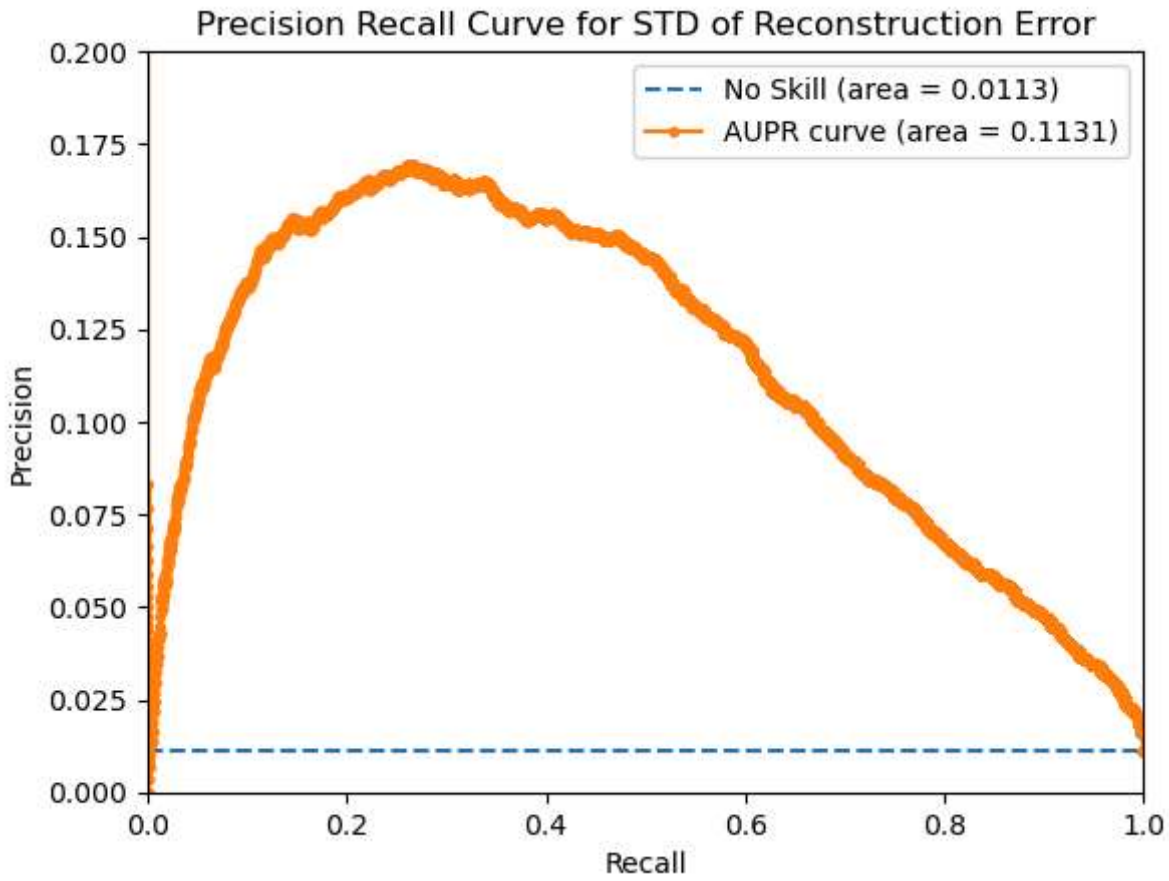

Receiver Operating Characteristic for STD of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.9056)
0.0
0.2
0.4
0.6
0.8
1.0

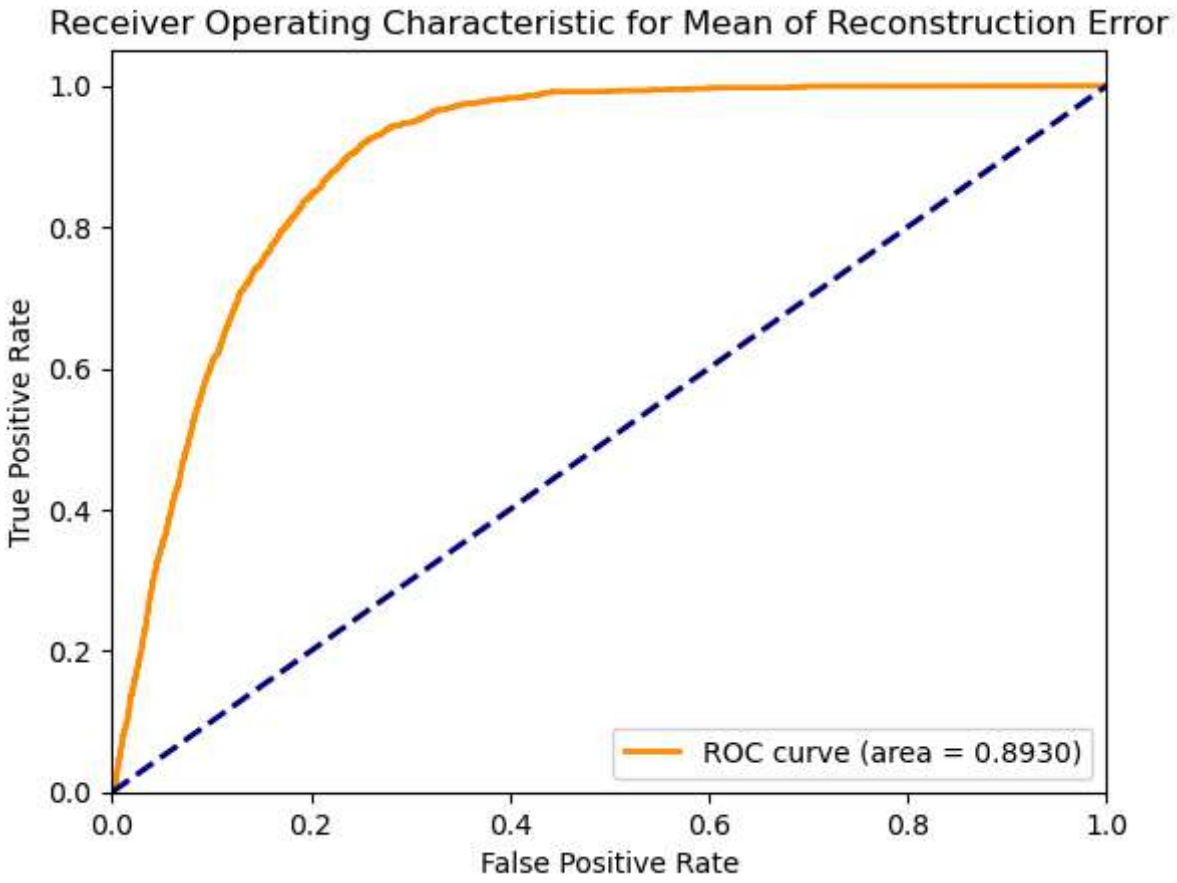

Precision Recall Curve for STD of Reconstruction Error
Precision
Recall
No Skill (area = 0.0112)
AUPR curve (area = 0.0842)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

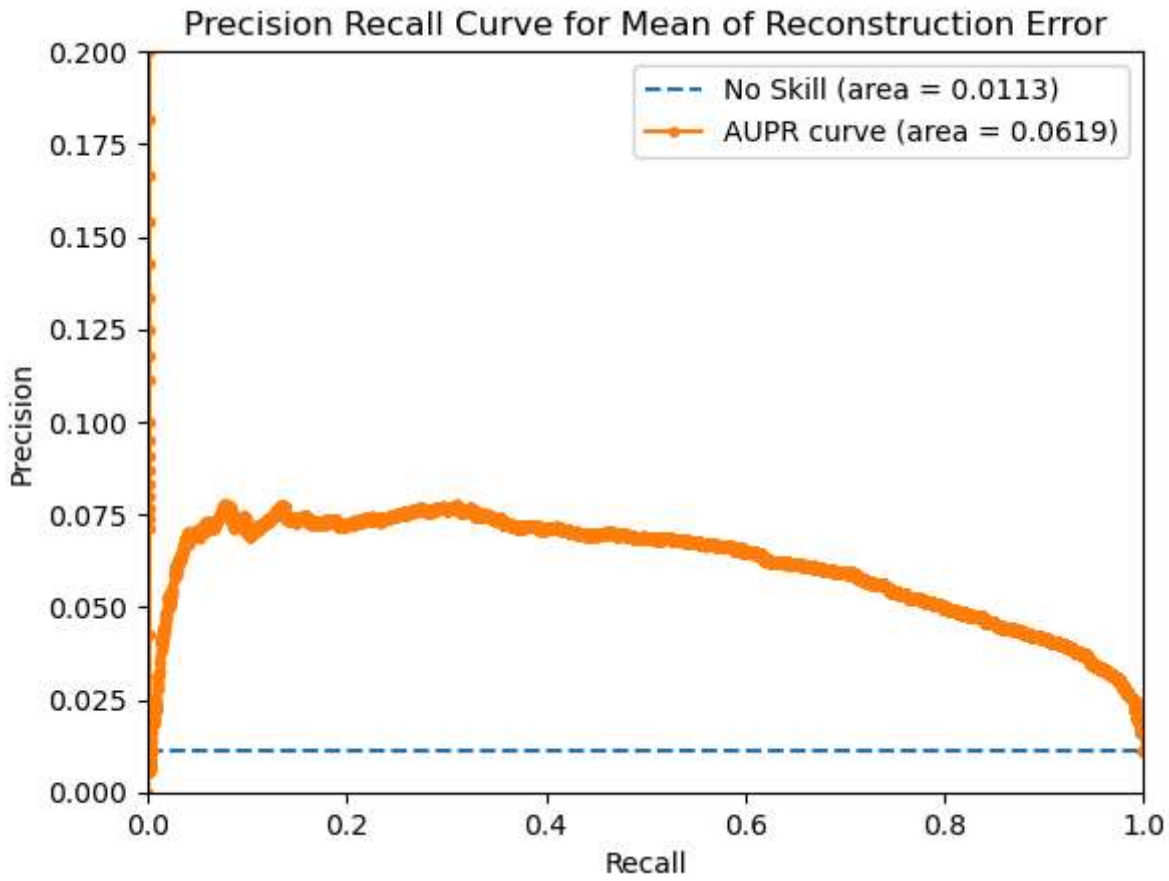

Receiver Operating Characteristic for Mean of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.8834)
0.0
0.2
0.4
0.6
0.8
1.0


Precision Recall Curve for Mean of Reconstruction Error
Precision
Recall
No Skill (area = 0.0112)
AUPR curve (area = 0.0531)
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 = 0.9215)
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 = 0.0113)
AUPR curve (area = 0.1131)
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 = 0.8930)
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 = 0.0113)
AUPR curve (area = 0.0619)
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