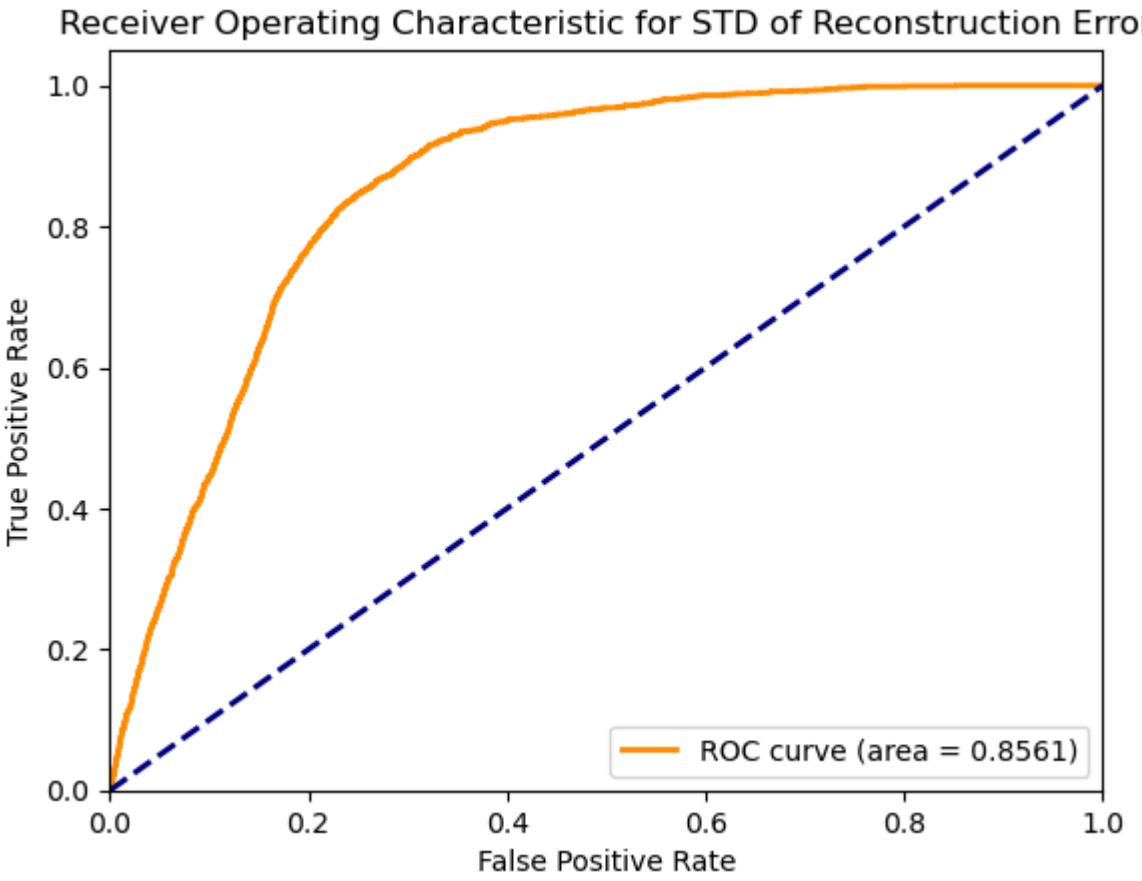
```
Modality 1 - Thermal
Non Falls - 48, Falls - 173

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

Train Dataloader - 48
Test Dataloader - 173

Device Used - cuda

Model Used - MultiModal_3DCAE
Key Frame Extraction - False
Feature Extraction - False
Data Augmentation - False
Spatial Temporal Loss - True
w1 - 1, w2 - 1e-05

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:0.0148
epoch [2/20], loss:0.0083
epoch [3/20], loss:0.0069
epoch [4/20], loss:0.0052
epoch [5/20], loss:0.0053
epoch [6/20], loss:0.0034
epoch [7/20], loss:0.0040
epoch [8/20], loss:0.0047
epoch [9/20], loss:0.0048
epoch [10/20], loss:0.0042
epoch [11/20], loss:0.0035
epoch [12/20], loss:0.0031
epoch [13/20], loss:0.0034
epoch [14/20], loss:0.0038
epoch [15/20], loss:0.0035
epoch [16/20], loss:0.0040
epoch [17/20], loss:0.0034
epoch [18/20], loss:0.0037
epoch [19/20], loss:0.0036
epoch [20/20], loss:0.0037
Training has Completed

Forward pass occuring
Forward pass completed

MultiModal_Thermal_T3_IP_T_2024-04-25-00-23-10
```

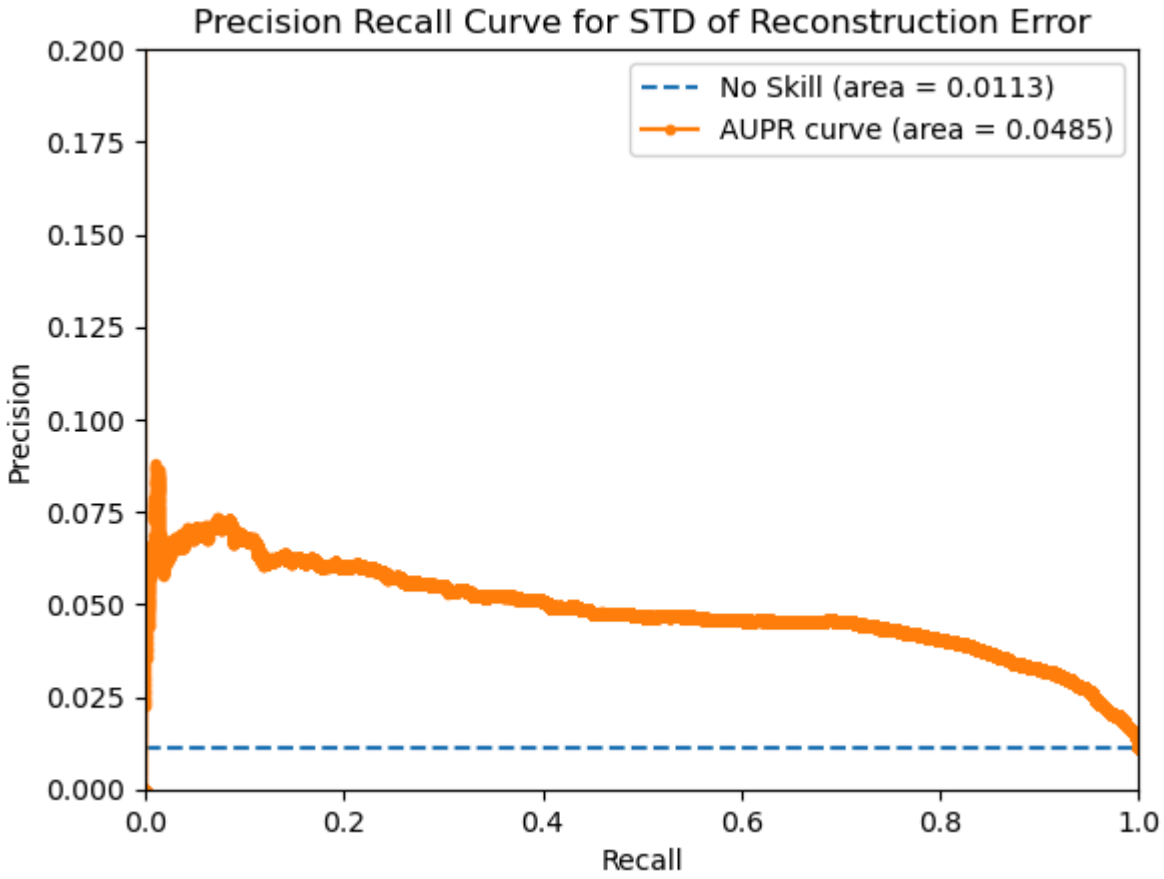
```
---------------------------------
STD Global Classification Results
TPR 0.848, FPR 0.251, Precision 0.037, Recall 0.848
tn 95516, fp 32011, fn 222, tp 1236
std_AUROC  0.856
---------------------------------
---------------------------------
Mean Global Classification Results
TPR 0.907, FPR 0.258, Precision 0.039, Recall 0.907
tn 94581, fp 32946, fn 136, tp 1322
mean_AUROC 0.879
---------------------------------
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,
---------------------------------
STD Global Classification Results
TPR 0.821, FPR 0.264, Precision 0.034, Recall 0.821
tn 93840, fp 33697, fn 259, tp 1189
std_AUROC  0.856
---------------------------------
---------------------------------
Mean Global Classification Results
TPR 0.892, FPR 0.249, Precision 0.039, Recall 0.892
tn 95743, fp 31794, fn 156, tp 1292
mean_AUROC 0.880
---------------------------------
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(
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(
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,
```

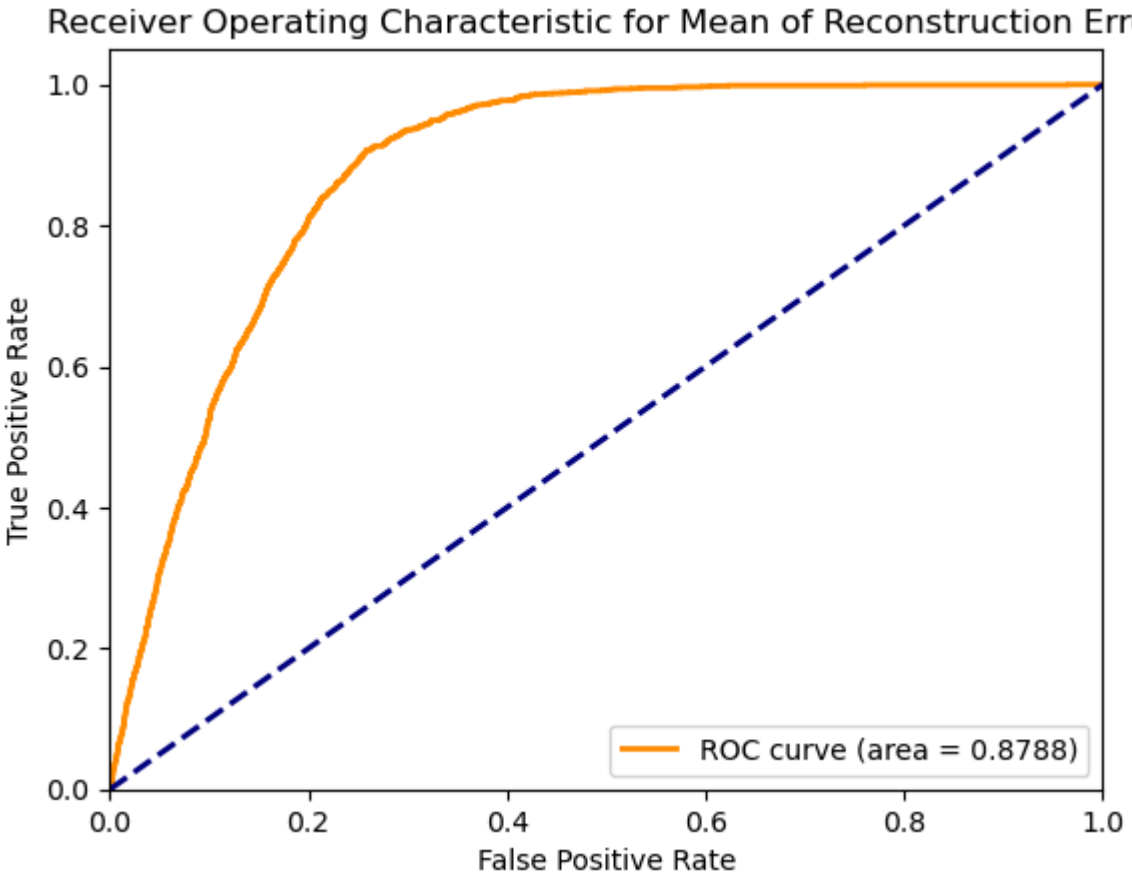
```
----------------------------------
STD Global Classification Results
TPR 0.886, FPR 0.237, Precision 0.041, Recall 0.886
tn 97284, fp 30243, fn 166, tp 1292
std_AUROC  0.888
----------------------------------
----------------------------------
Mean Global Classification Results
TPR 0.914, FPR 0.250, Precision 0.040, Recall 0.914
tn 95594, fp 31933, fn 125, tp 1333
mean_AUROC 0.892
----------------------------------
```

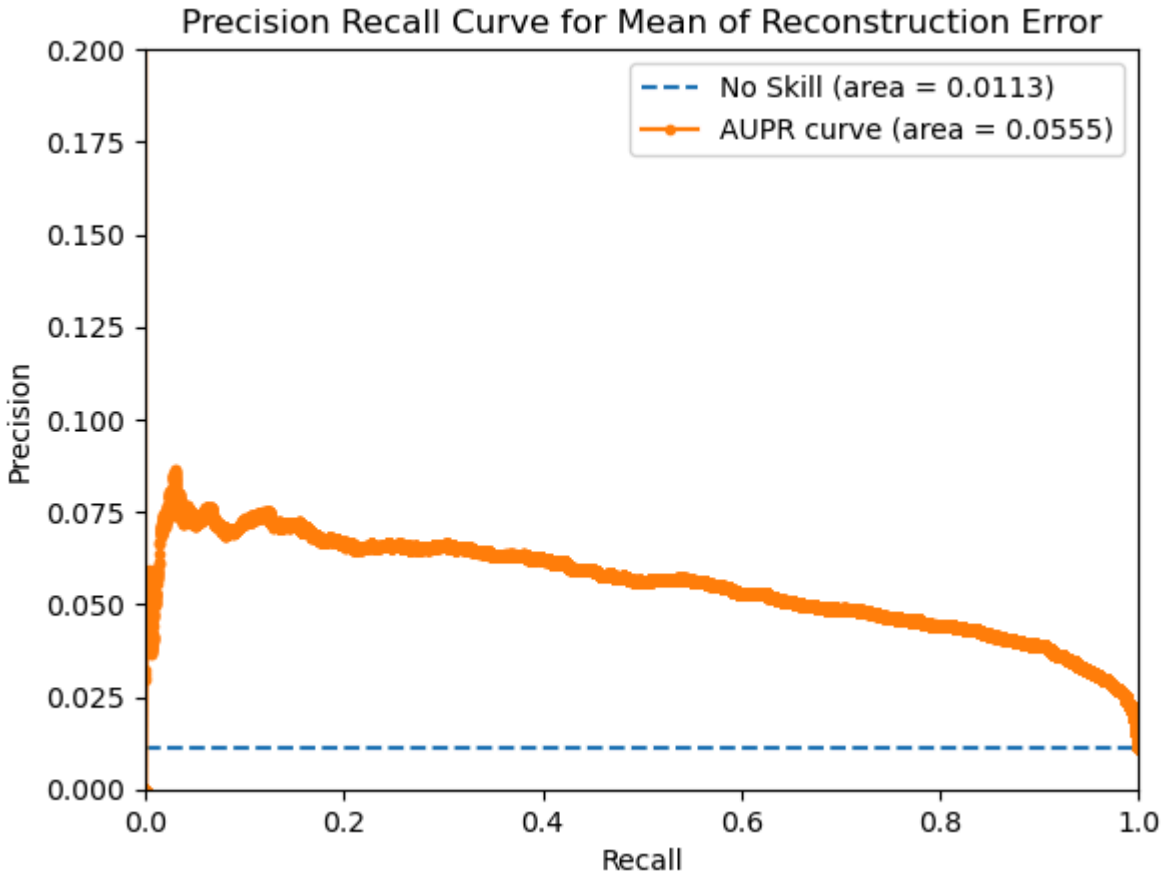
```
d:\Abdul Rasheed NITT\Academics\Eigth Semester\FYP\Implementation\FallDetection\Code\funct
ions.py:250: RuntimeWarning: Mean of empty slice
  final_performance_mean = np.nanmean(video_metrics, axis=0)  # get the mean performance a
cross all videos
c:\Users\abdul\anaconda3\envs\fyp_base_paper_2\lib\site-packages\numpy\lib\nanfunctions.p
y:1670: RuntimeWarning: Degrees of freedom <= 0 for slice.
  var = nanvar(a, axis=axis, dtype=dtype, out=out, ddof=ddof,
```

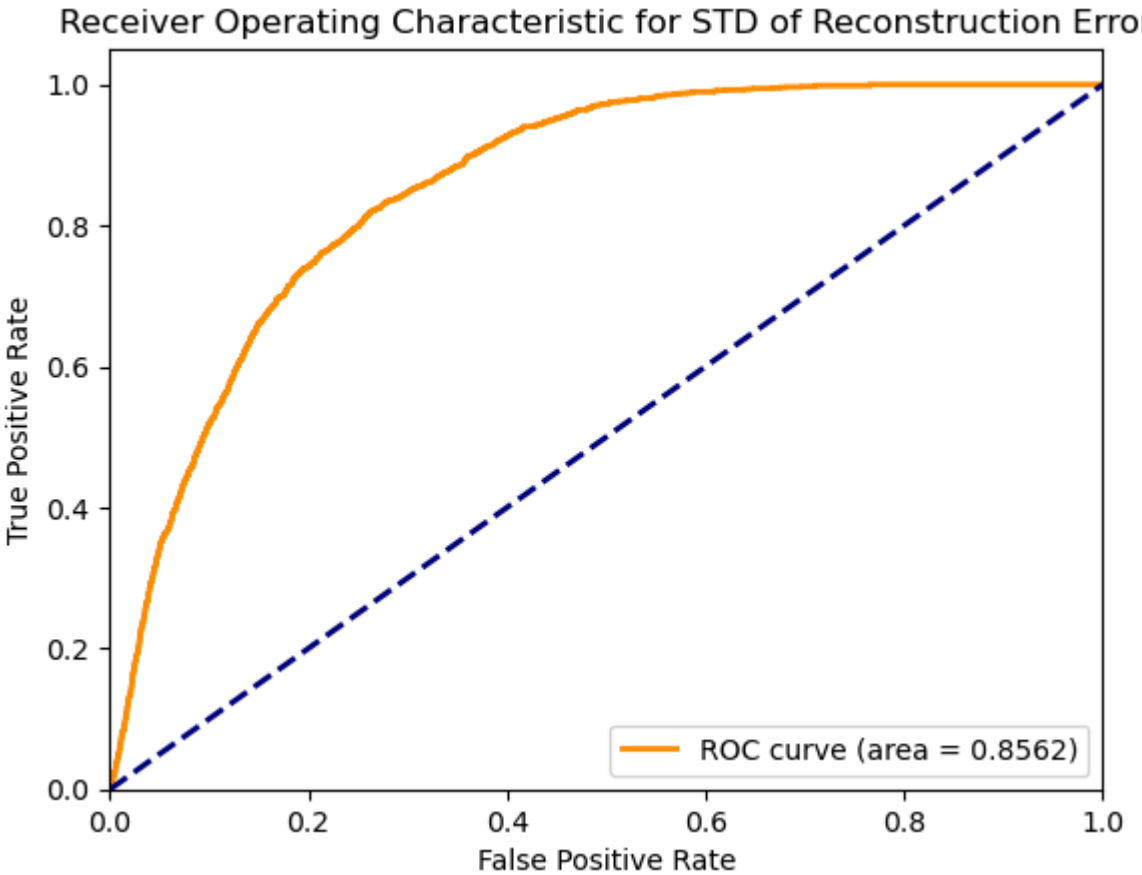
()

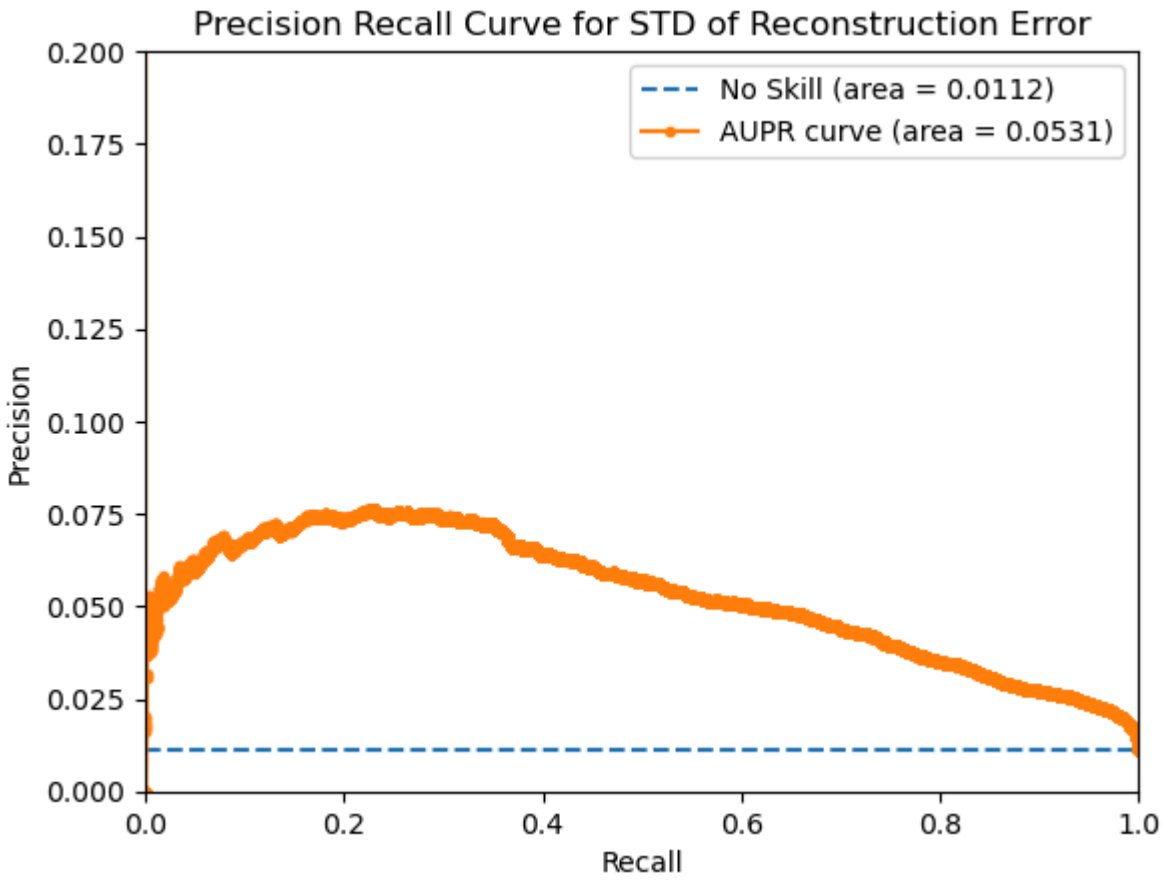


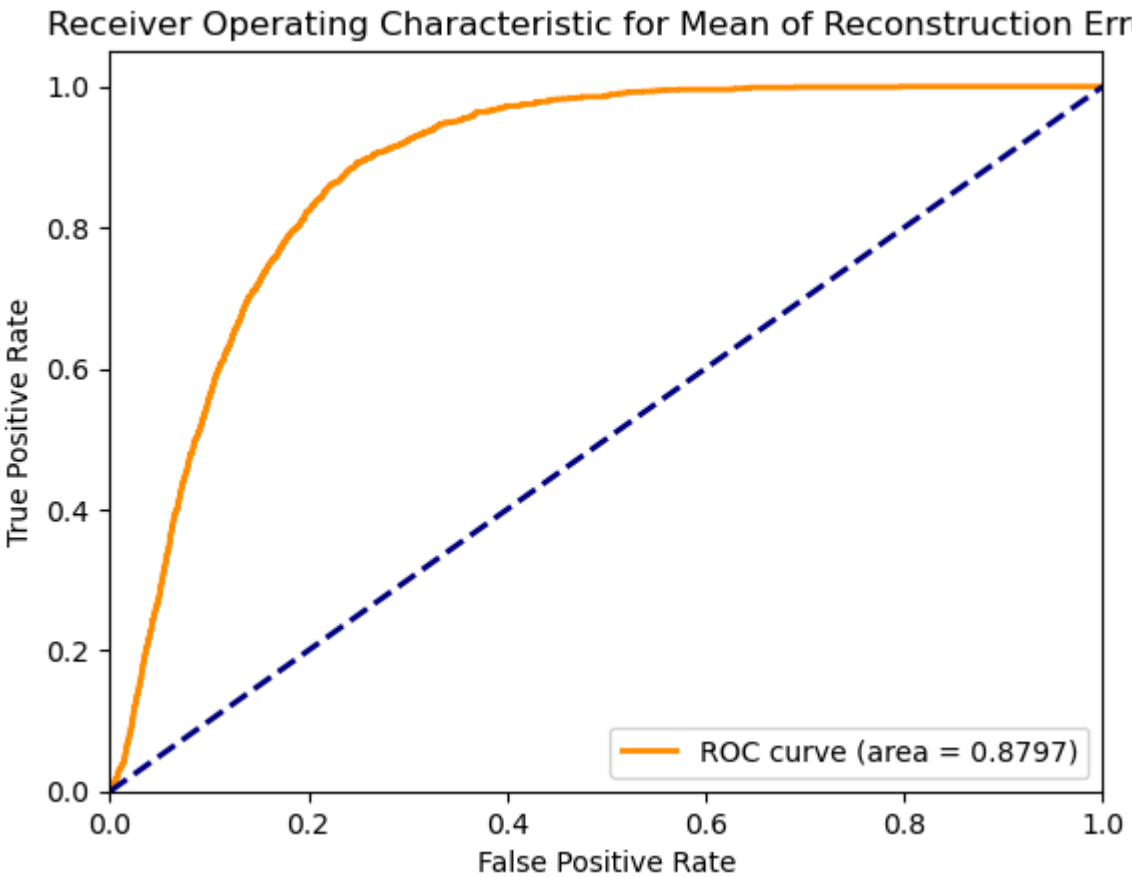

Precision Recall Curve for STD of Reconstruction Error
No Skill (area = 0.0113)
AUPR curve (area = 0.0485)
Precision
Recall
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
0.0
0.2
0.4
0.6
0.8
1.0

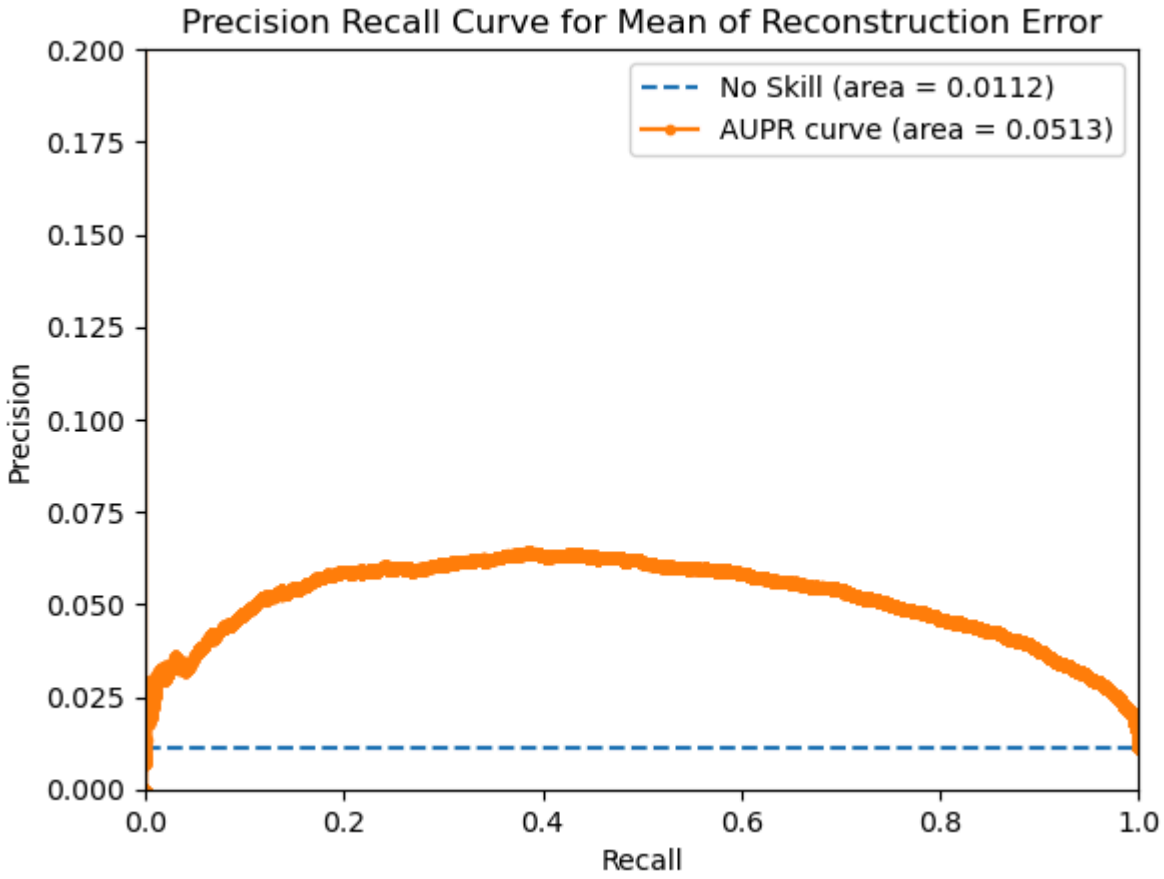

Receiver Operating Characteristic for Mean of Reconstruction Error
ROC curve (area = 0.8788)
True Positive Rate
False Positive Rate
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0

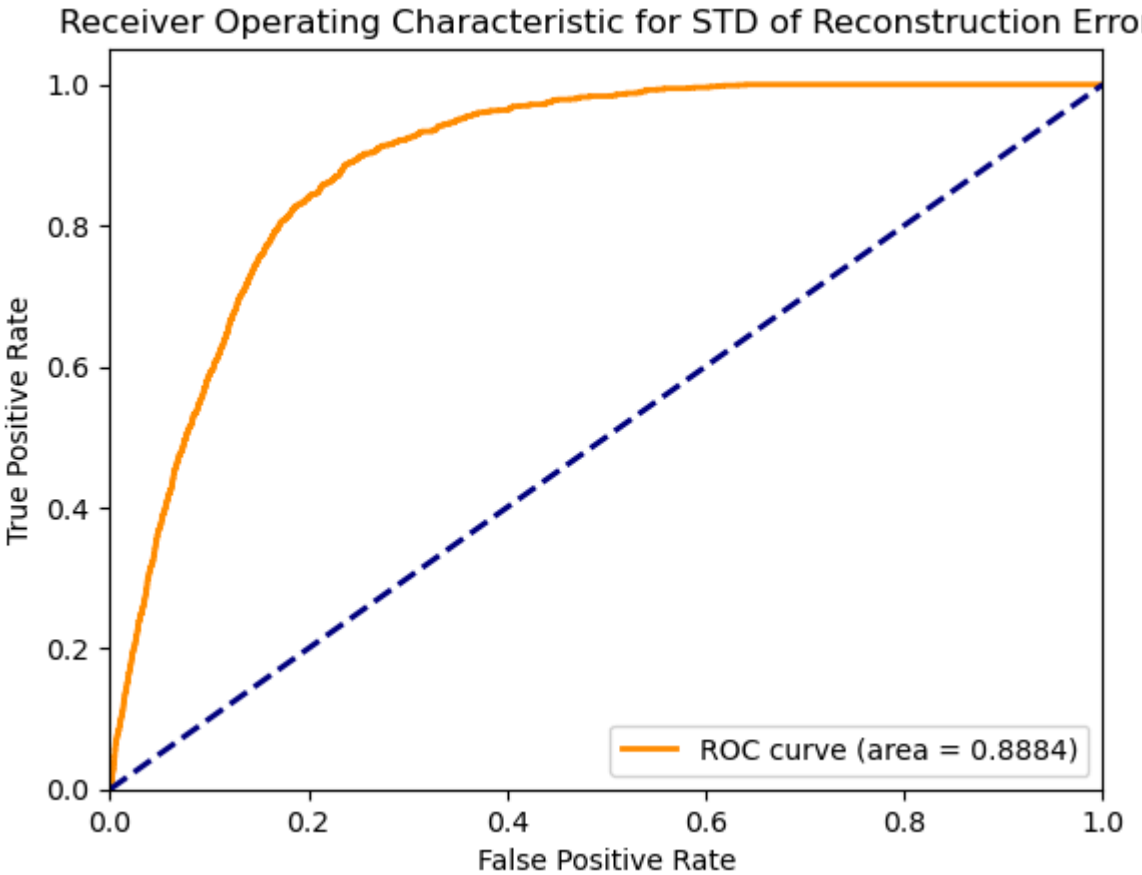

Precision Recall Curve for Mean of Reconstruction Error
No Skill (area = 0.0113)
AUPR curve (area = 0.0555)
Precision
Recall
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
0.0
0.2
0.4
0.6
0.8
1.0

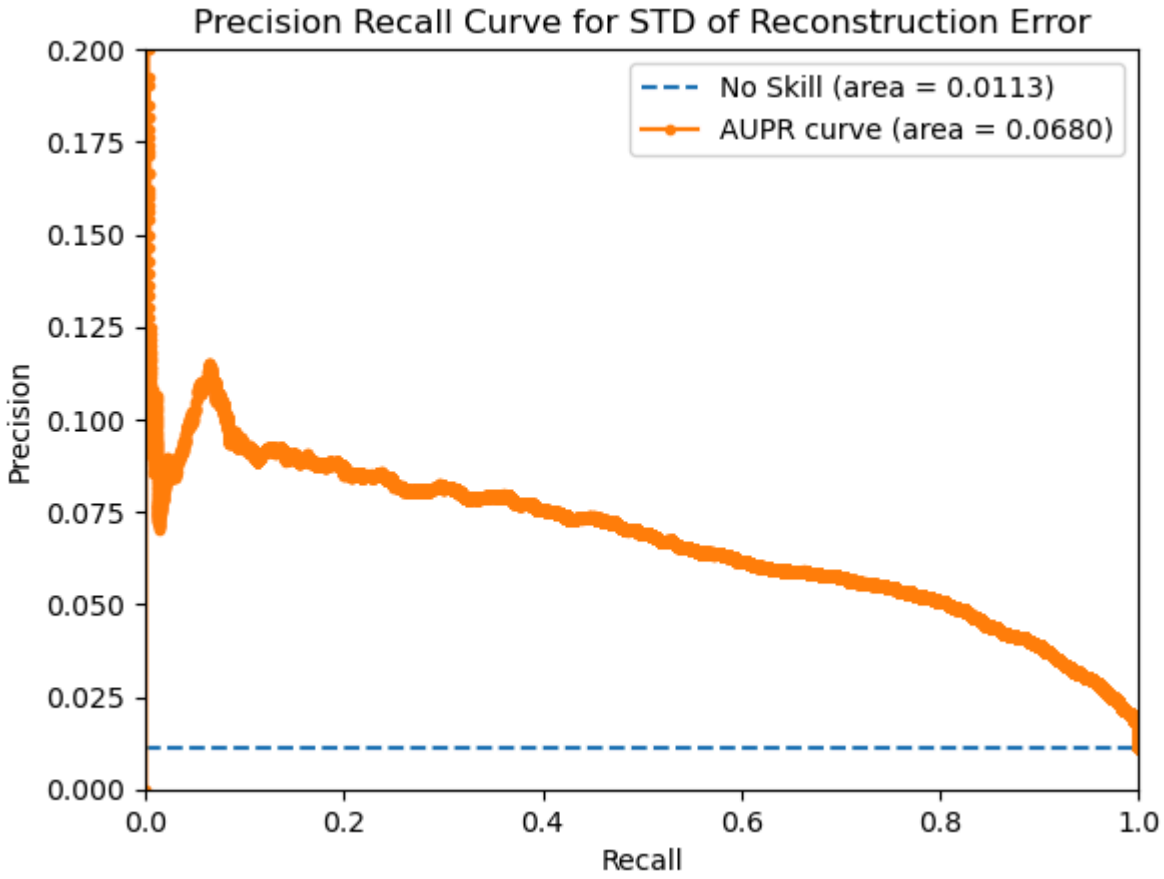

Receiver Operating Characteristic for STD of Reconstruction Error
ROC curve (area = 0.8562)
True Positive Rate
False Positive Rate
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0

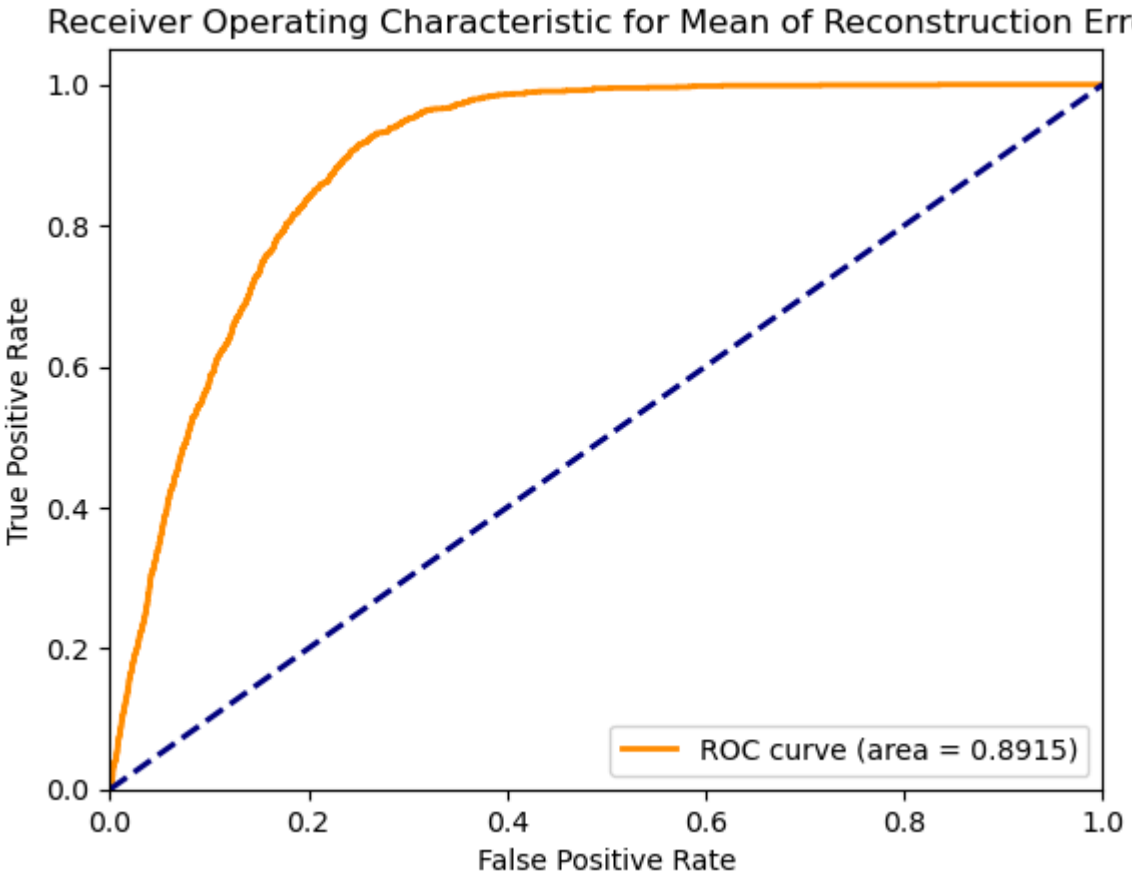

Precision Recall Curve for STD of Reconstruction Error
No Skill (area = 0.0112)
AUPR curve (area = 0.0531)
Precision
Recall
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
0.0
0.2
0.4
0.6
0.8
1.0

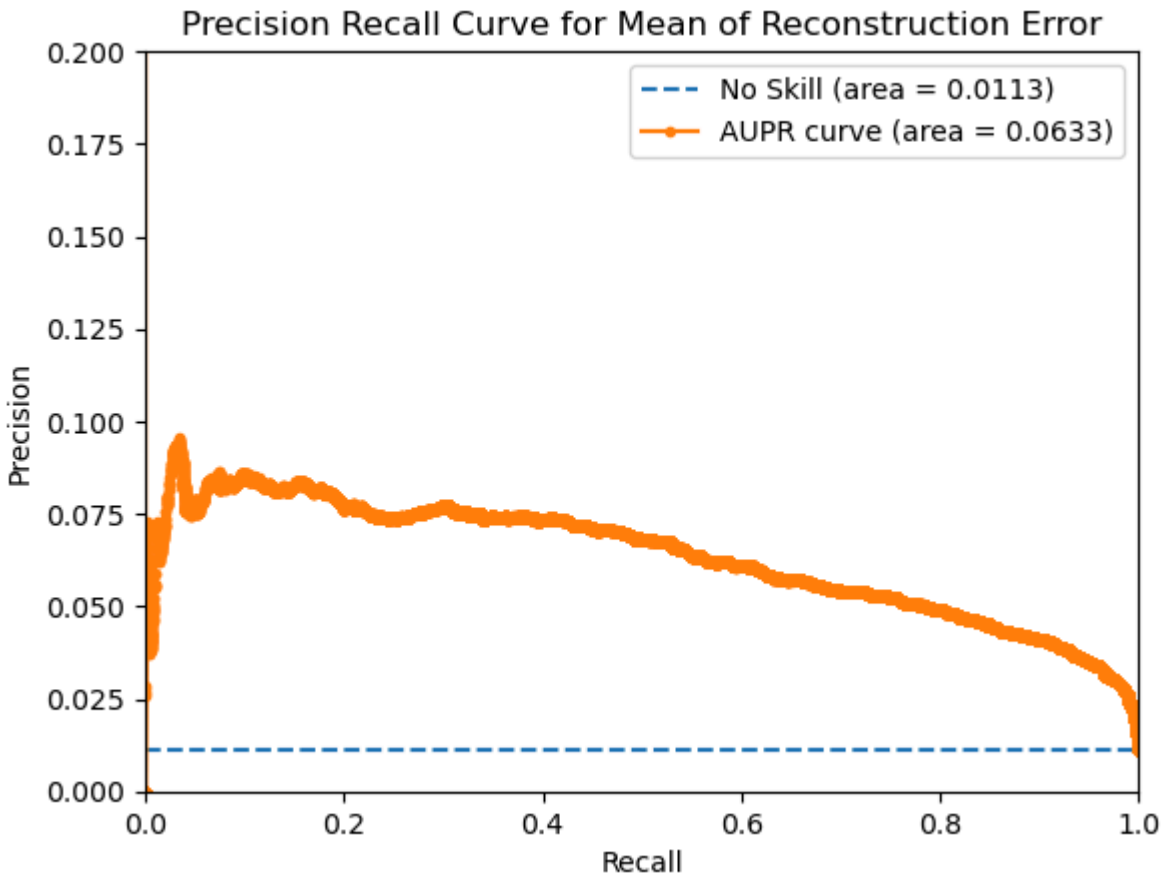

Receiver Operating Characteristic for Mean of Reconstruction Error
ROC curve (area = 0.8797)
True Positive Rate
False Positive Rate
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0


Precision Recall Curve for Mean of Reconstruction Error
No Skill (area = 0.0112)
AUPR curve (area = 0.0513)
Precision
Recall
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
0.0
0.2
0.4
0.6
0.8
1.0


Receiver Operating Characteristic for STD of Reconstruction Error
ROC curve (area = 0.8884)
True Positive Rate
False Positive Rate
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0


Precision Recall Curve for STD of Reconstruction Error
No Skill (area = 0.0113)
AUPR curve (area = 0.0680)
Precision
Recall
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
0.0
0.2
0.4
0.6
0.8
1.0


Receiver Operating Characteristic for Mean of Reconstruction Error
ROC curve (area = 0.8915)
True Positive Rate
False Positive Rate
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0


Precision Recall Curve for Mean of Reconstruction Error
No Skill (area = 0.0113)
AUPR curve (area = 0.0633)
Precision
Recall
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
0.0
0.2
0.4
0.6
0.8
1.0