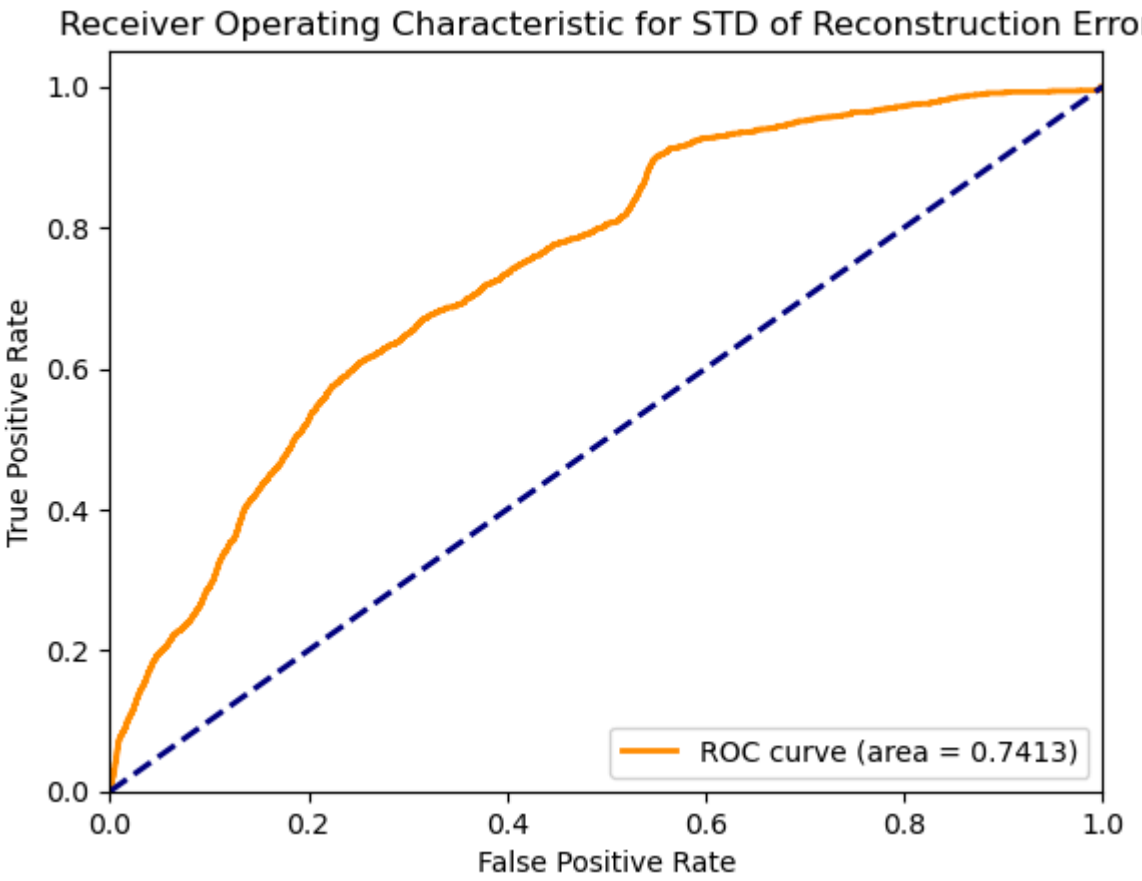
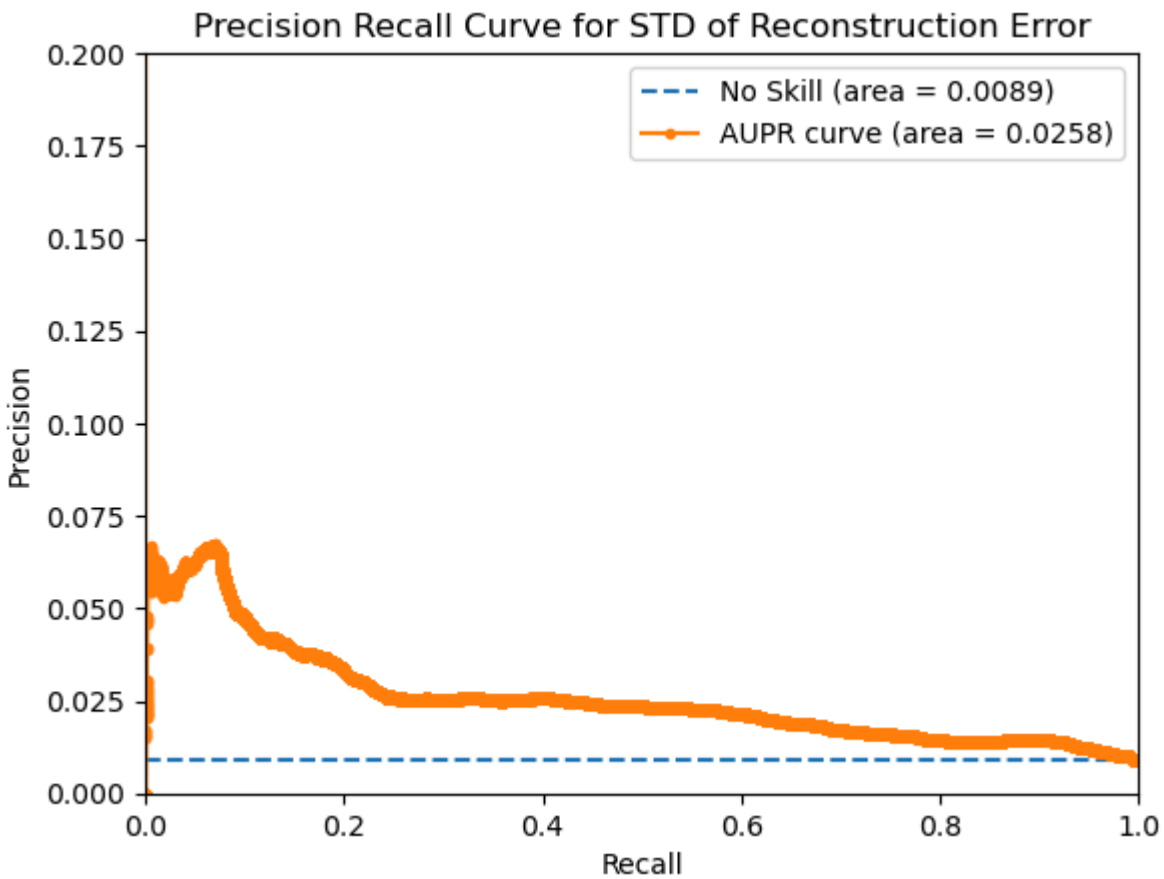
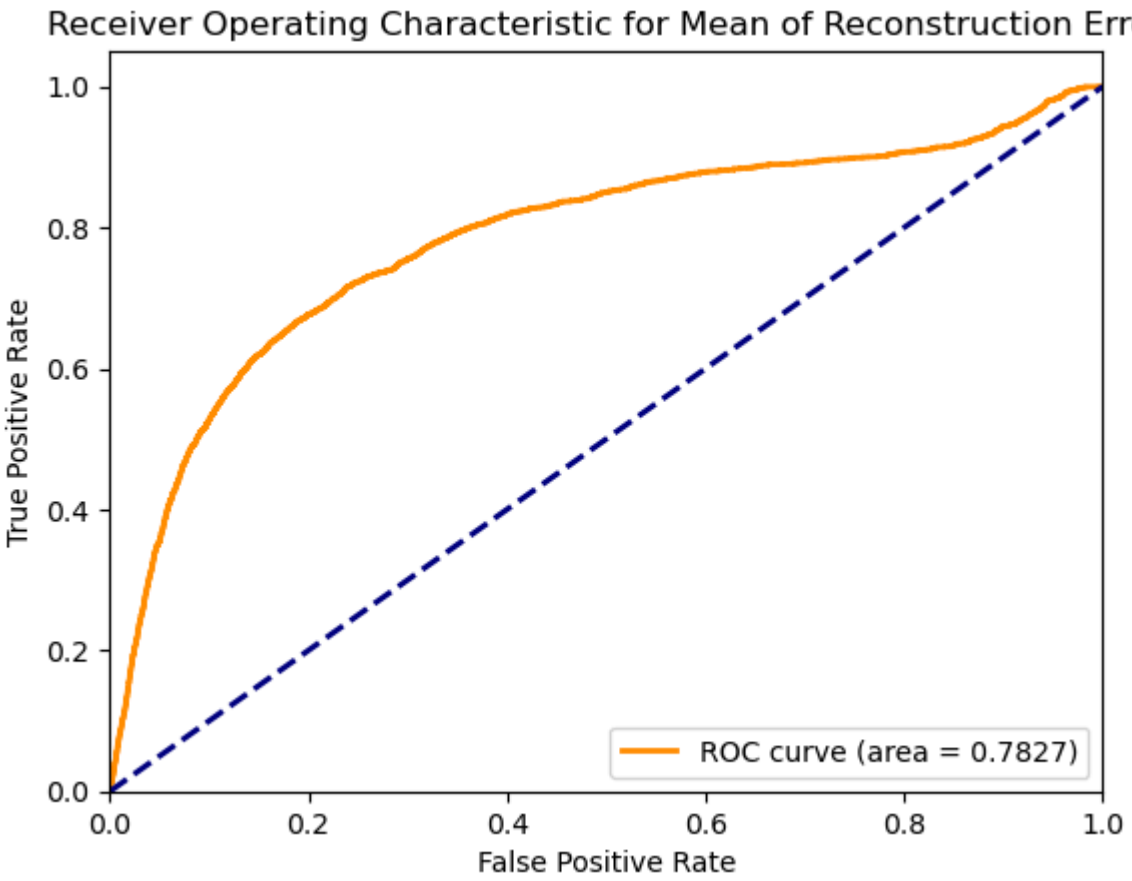
```
Modality 1 - Thermal
Non Falls - 48, Falls - 173

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 - True
Synchronise Video - False
Video length adjustment method - Pad Minimum

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:0.0023
epoch [2/20], loss:0.0017
epoch [3/20], loss:0.0013
epoch [4/20], loss:0.0012
epoch [5/20], loss:0.0011
epoch [6/20], loss:0.0010
epoch [7/20], loss:0.0010
epoch [8/20], loss:0.0010
epoch [9/20], loss:0.0010
epoch [10/20], loss:0.0009
epoch [11/20], loss:0.0009
epoch [12/20], loss:0.0009
epoch [13/20], loss:0.0009
epoch [14/20], loss:0.0009
epoch [15/20], loss:0.0009
epoch [16/20], loss:0.0009
epoch [17/20], loss:0.0009
epoch [18/20], loss:0.0009
epoch [19/20], loss:0.0009
epoch [20/20], loss:0.0009
Training has Completed

Forward pass occuring
Forward pass completed

MultiModal_Thermal_T3_ONI_IR_T_2024-04-17-23-38-27
```

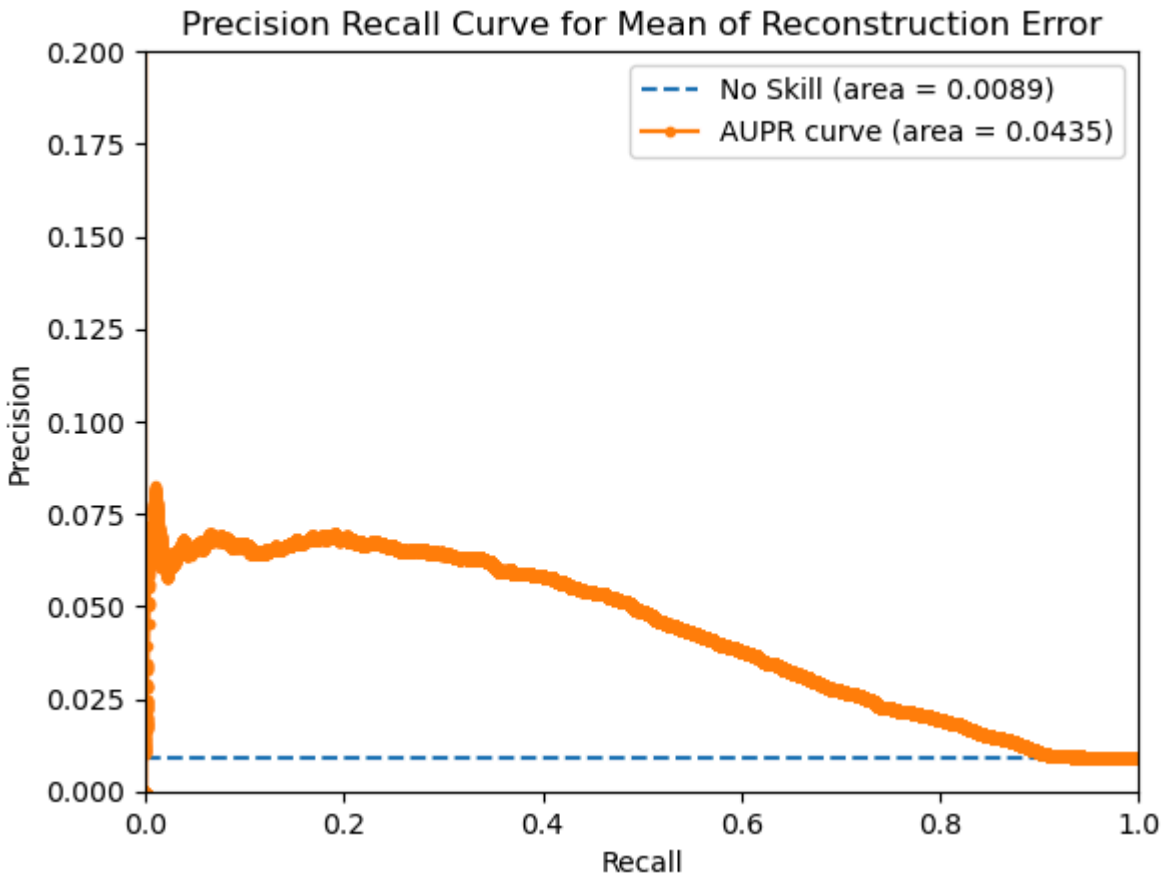
```
----------------------------------
STD Global Classification Results
TPR 0.608, FPR 0.252, Precision 0.021, Recall 0.608
tn 198054, fp 66750, fn 930, tp 1444
std_AUROC  0.741
----------------------------------
----------------------------------
Mean Global Classification Results
TPR 0.667, FPR 0.188, Precision 0.031, Recall 0.667
tn 215046, fp 49758, fn 791, tp 1583
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,
----------------------------------
STD Global Classification Results
TPR 0.890, FPR 0.275, Precision 0.028, Recall 0.890
tn 191937, fp 72901, fn 257, tp 2083
std_AUROC  0.872
----------------------------------
----------------------------------
Mean Global Classification Results
TPR 0.865, FPR 0.229, Precision 0.032, Recall 0.865
tn 204147, fp 60691, fn 316, tp 2024
mean_AUROC 0.883
----------------------------------
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 0.872, FPR 0.508, Precision 0.015, Recall 0.872
tn 130162, fp 134642, fn 304, tp 2070
std_AUROC  0.727
----------------------------------
----------------------------------
Mean Global Classification Results
TPR 0.657, FPR 0.209, Precision 0.027, Recall 0.657
tn 209509, fp 55295, fn 814, tp 1560
mean_AUROC 0.769
----------------------------------
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,
```

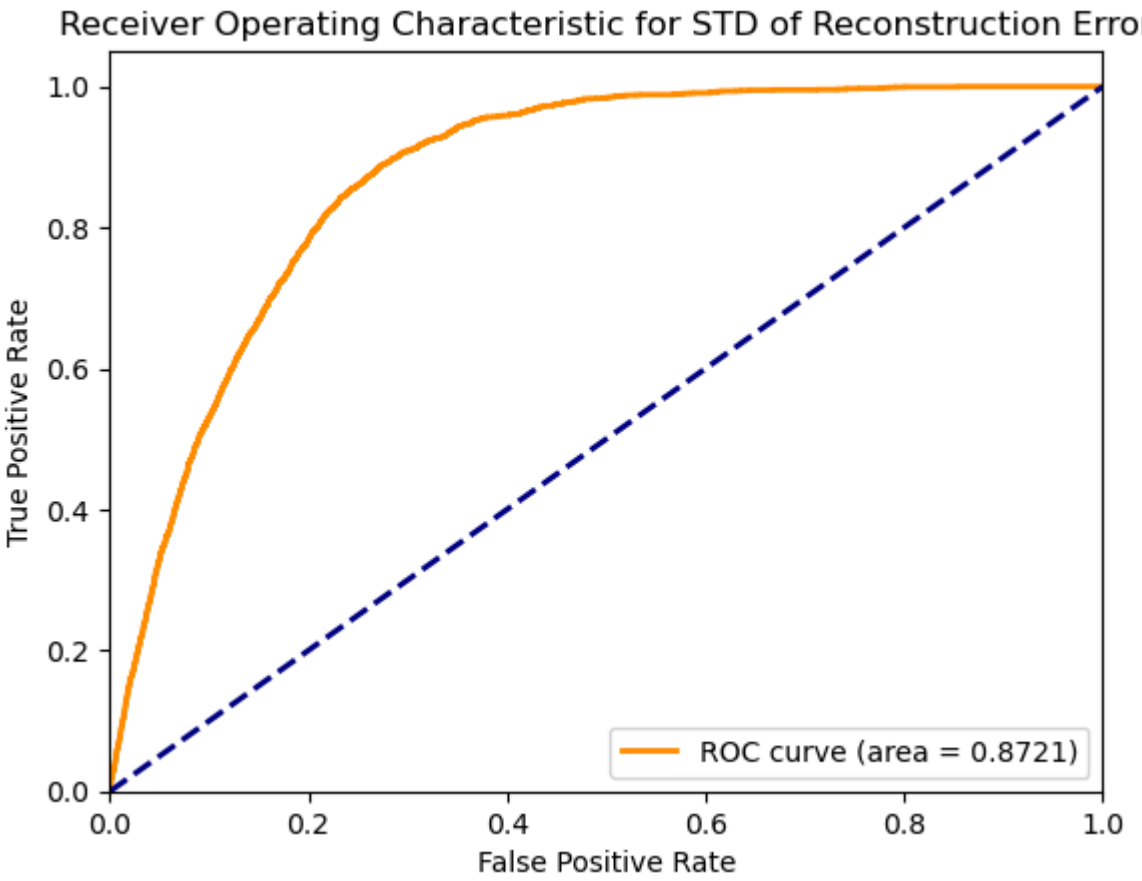
()

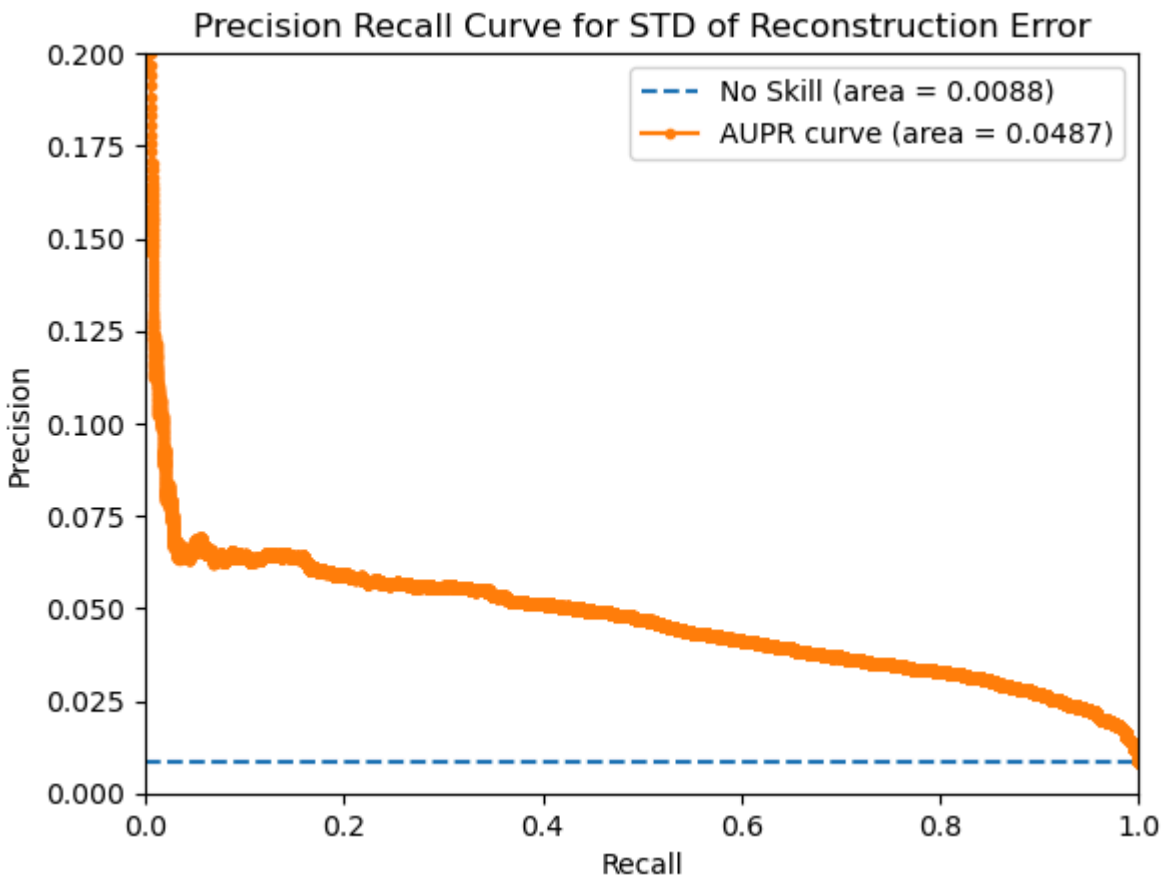

Receiver Operating Characteristic for STD of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.7413)
0.0
0.2
0.4
0.6
0.8
1.0

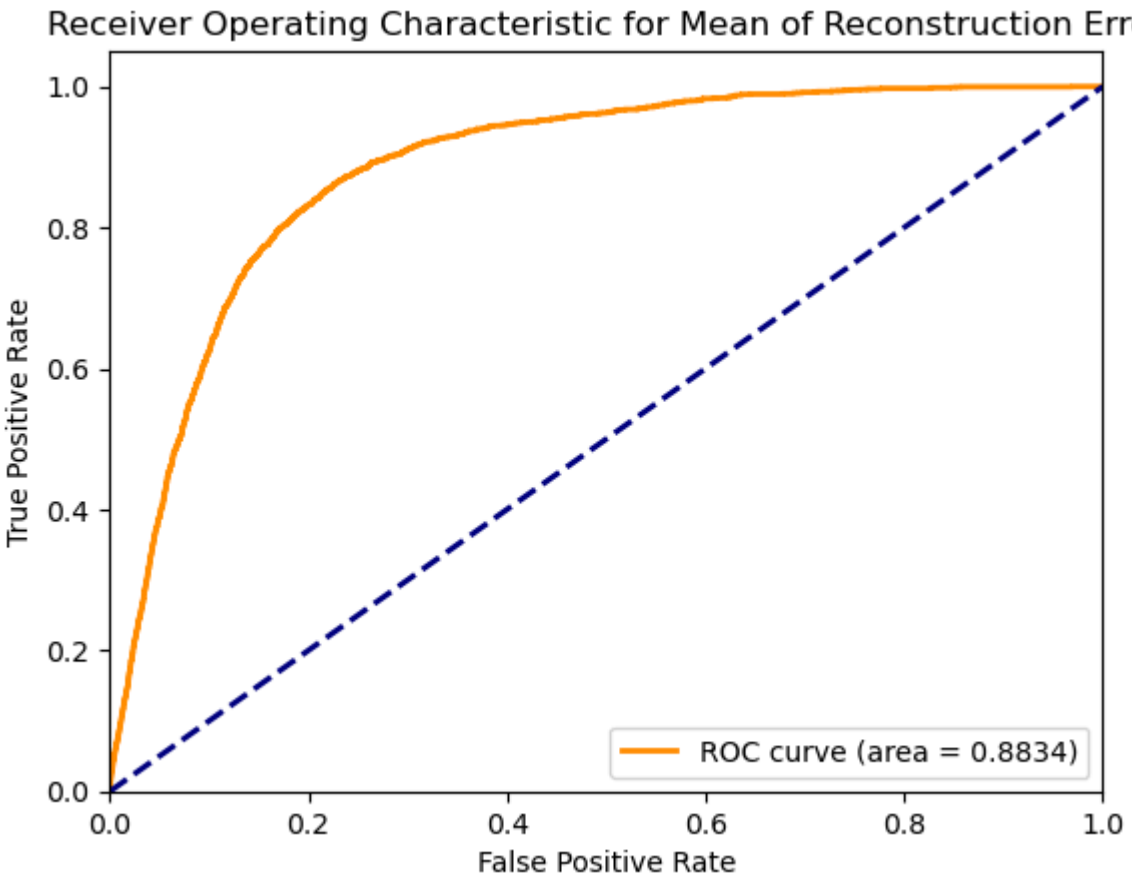

Precision Recall Curve for STD of Reconstruction Error
Precision
Recall
No Skill (area = 0.0089)
AUPR curve (area = 0.0258)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

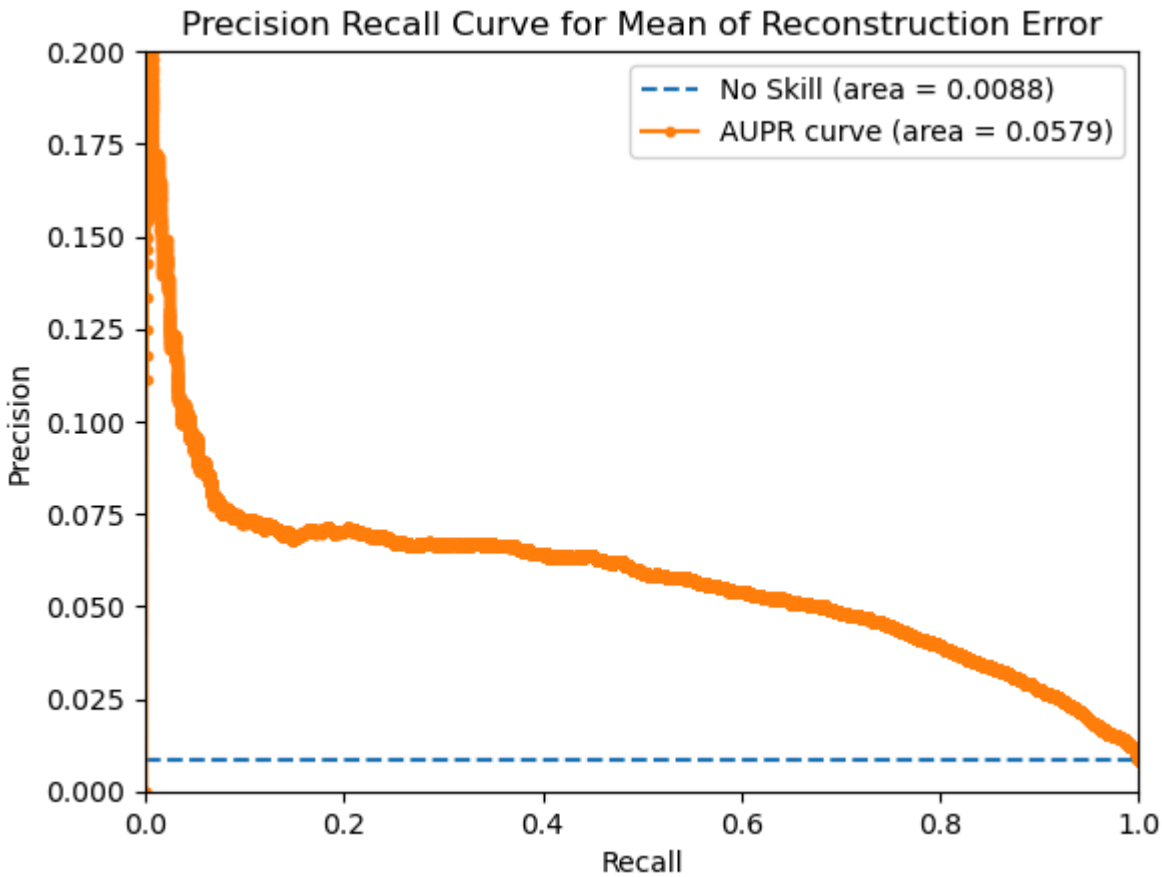

Receiver Operating Characteristic for Mean of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.7827)
0.0
0.2
0.4
0.6
0.8
1.0

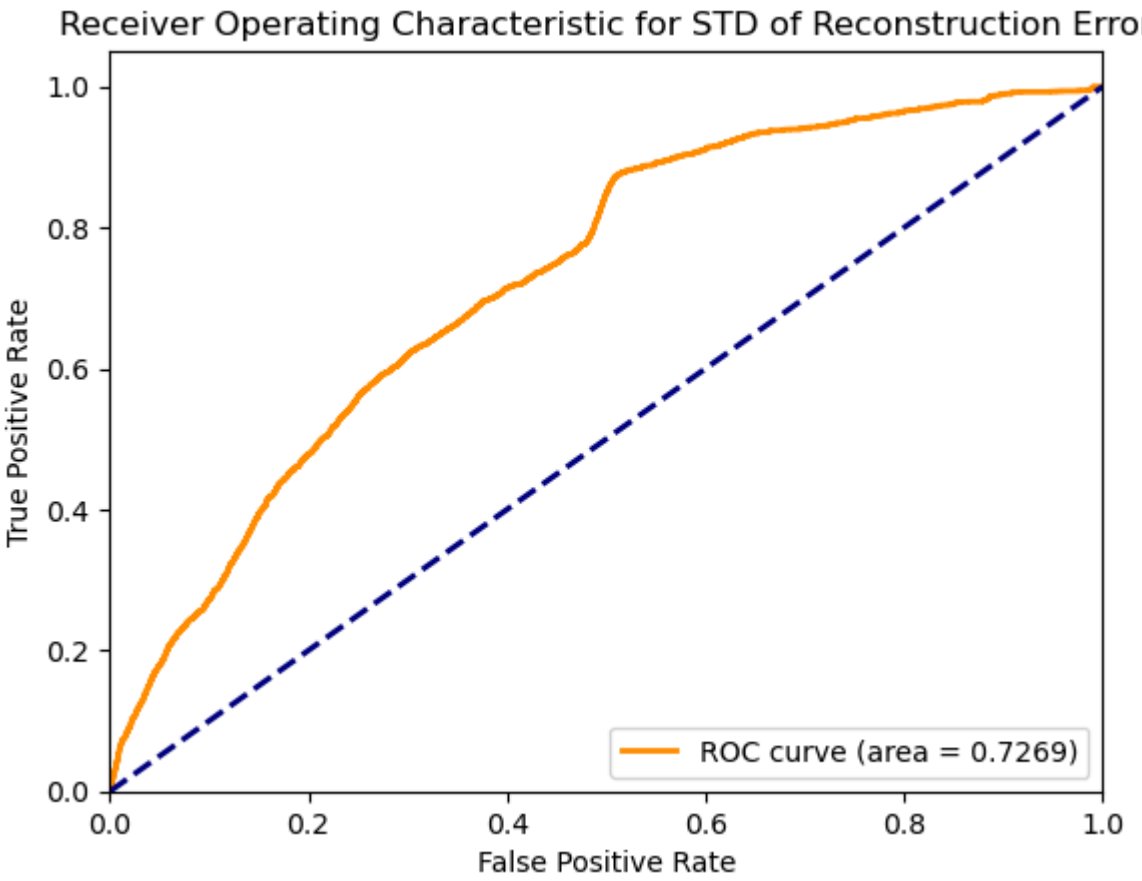

Precision Recall Curve for Mean of Reconstruction Error
Precision
Recall
No Skill (area = 0.0089)
AUPR curve (area = 0.0435)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

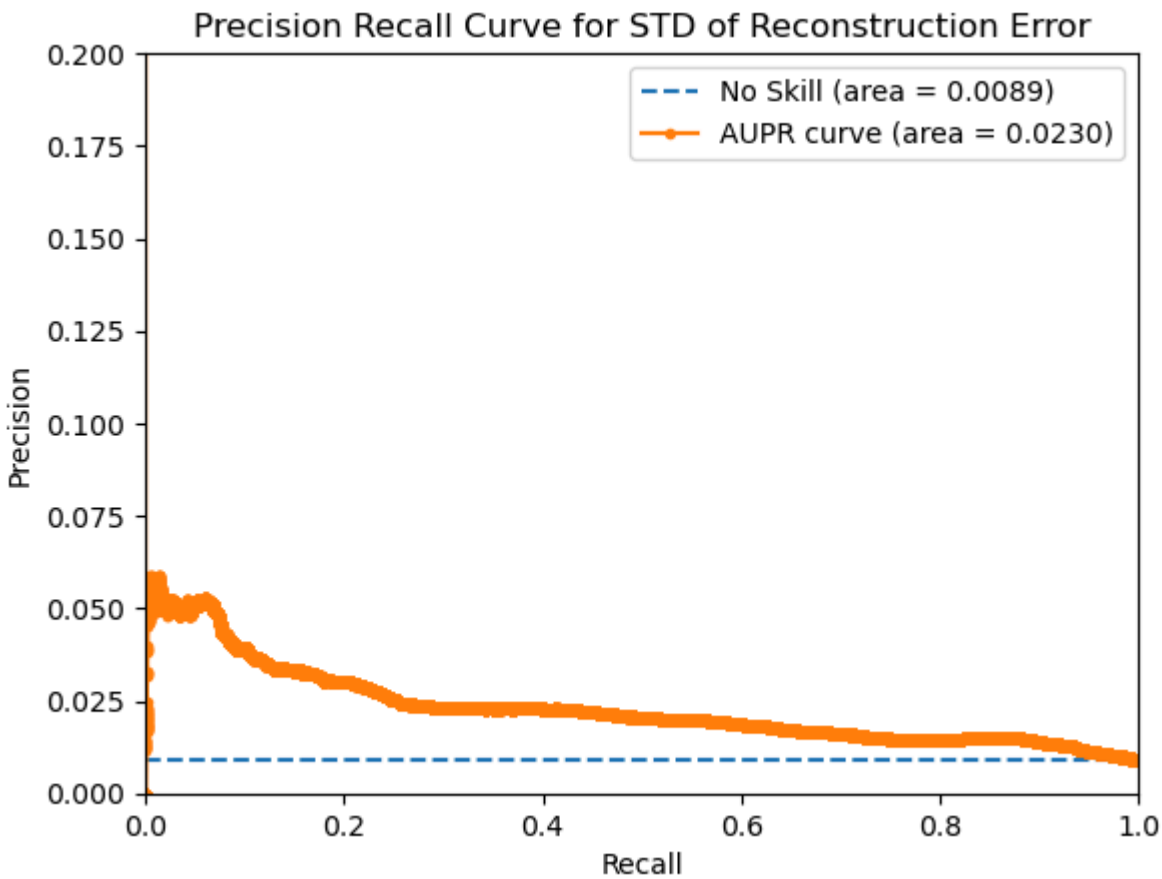

Receiver Operating Characteristic for STD of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.8721)
0.0
0.2
0.4
0.6
0.8
1.0

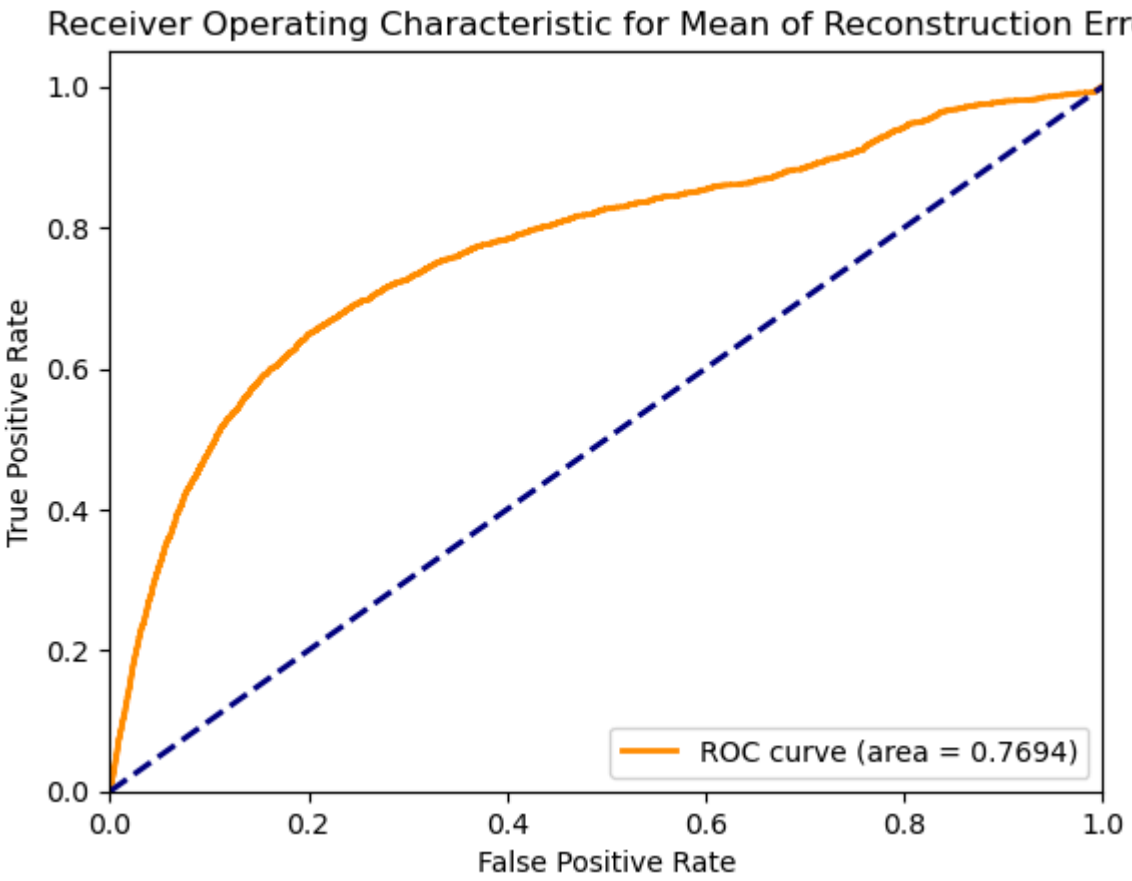

Precision Recall Curve for STD of Reconstruction Error
Precision
Recall
No Skill (area = 0.0088)
AUPR curve (area = 0.0487)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

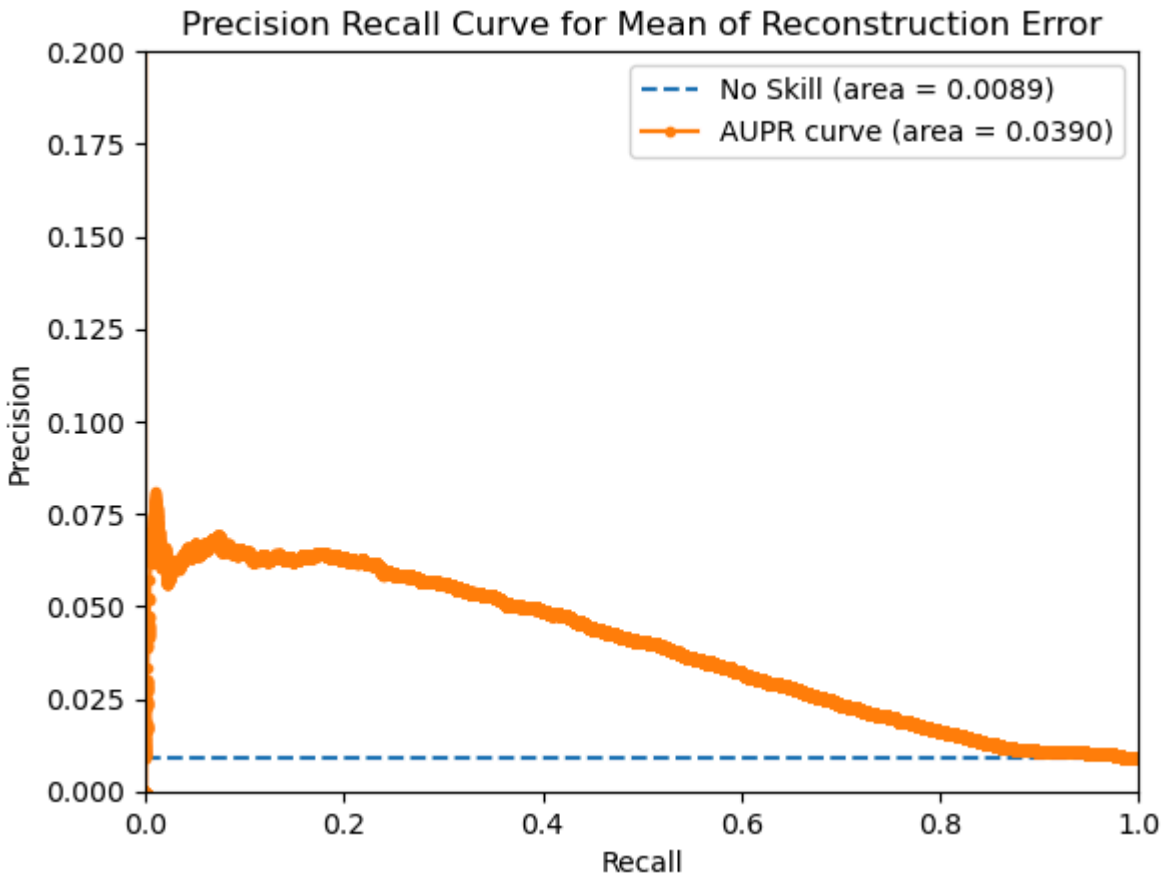

Receiver Operating Characteristic for Mean of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.8834)
0.0
0.2
0.4
0.6
0.8
1.0


Precision Recall Curve for Mean of Reconstruction Error
Precision
Recall
No Skill (area = 0.0088)
AUPR curve (area = 0.0579)
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 = 0.7269)
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 = 0.0089)
AUPR curve (area = 0.0230)
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 = 0.7694)
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 = 0.0089)
AUPR curve (area = 0.0390)
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