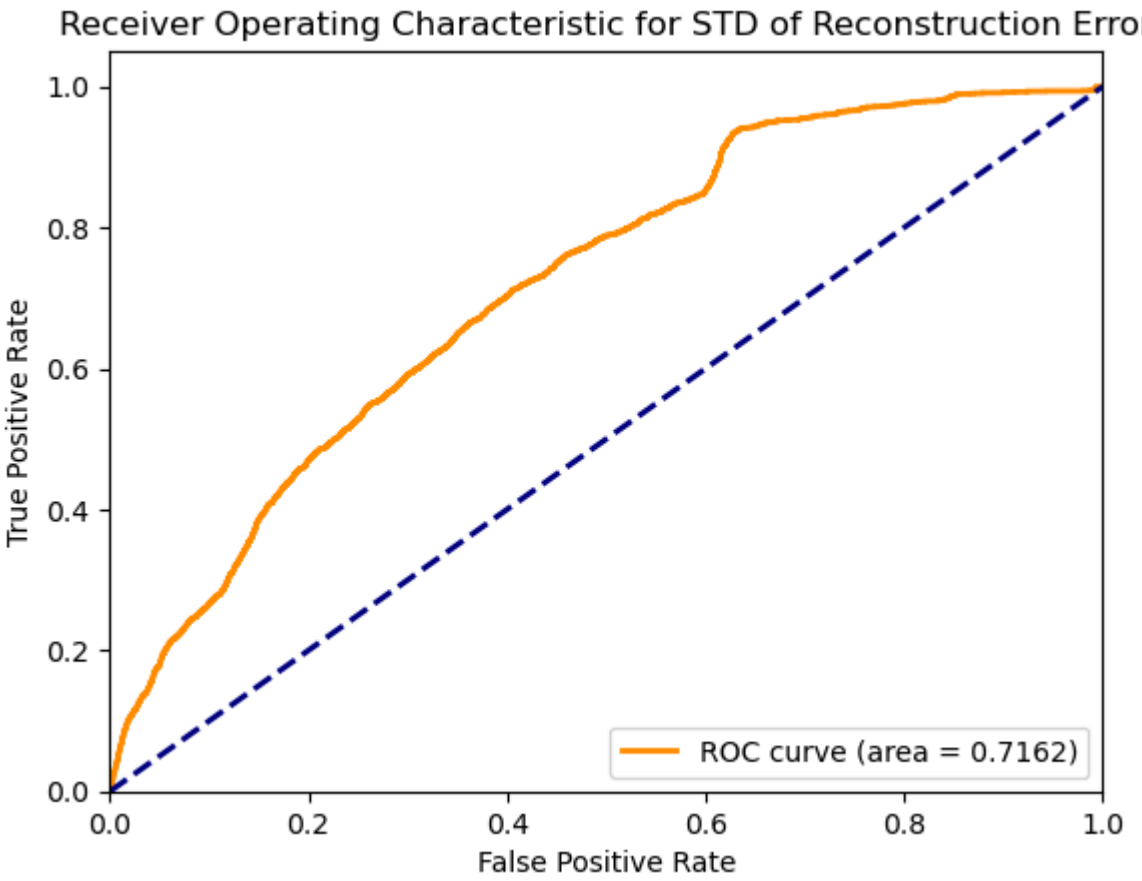
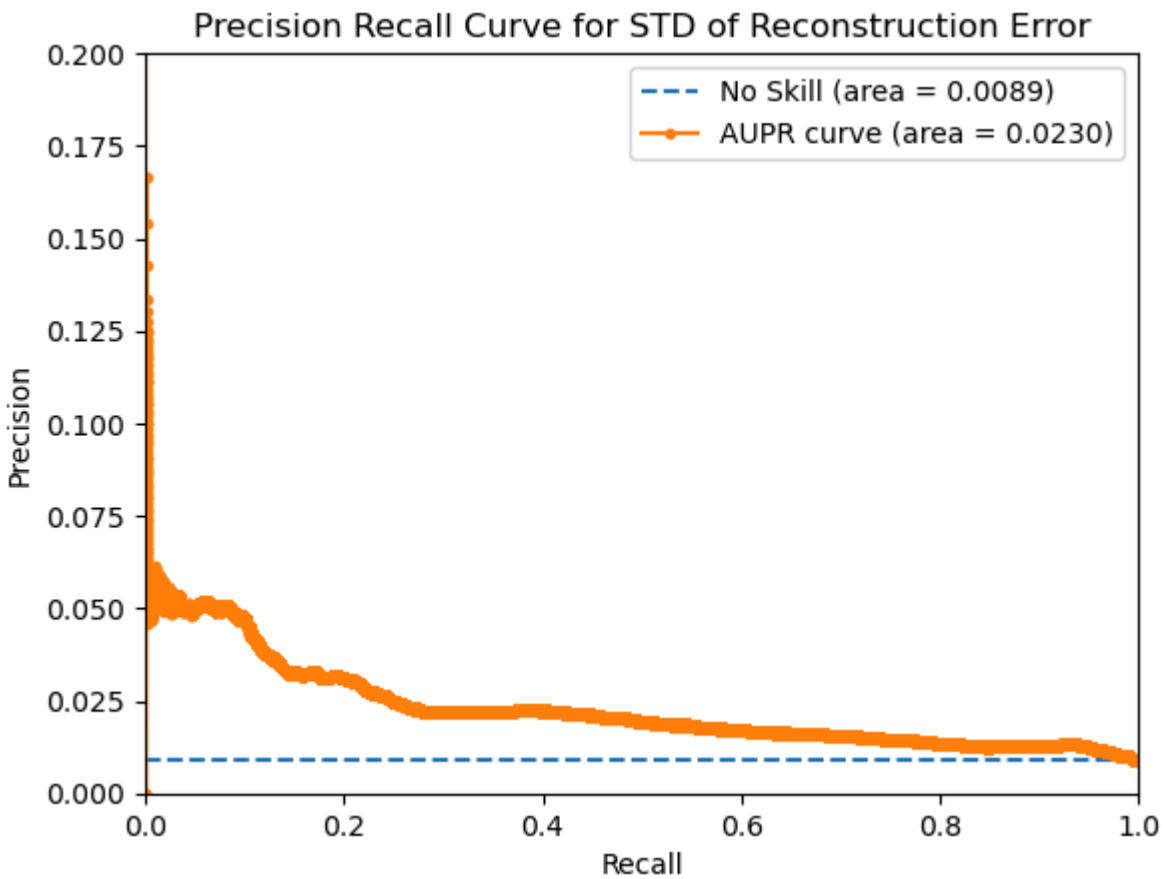
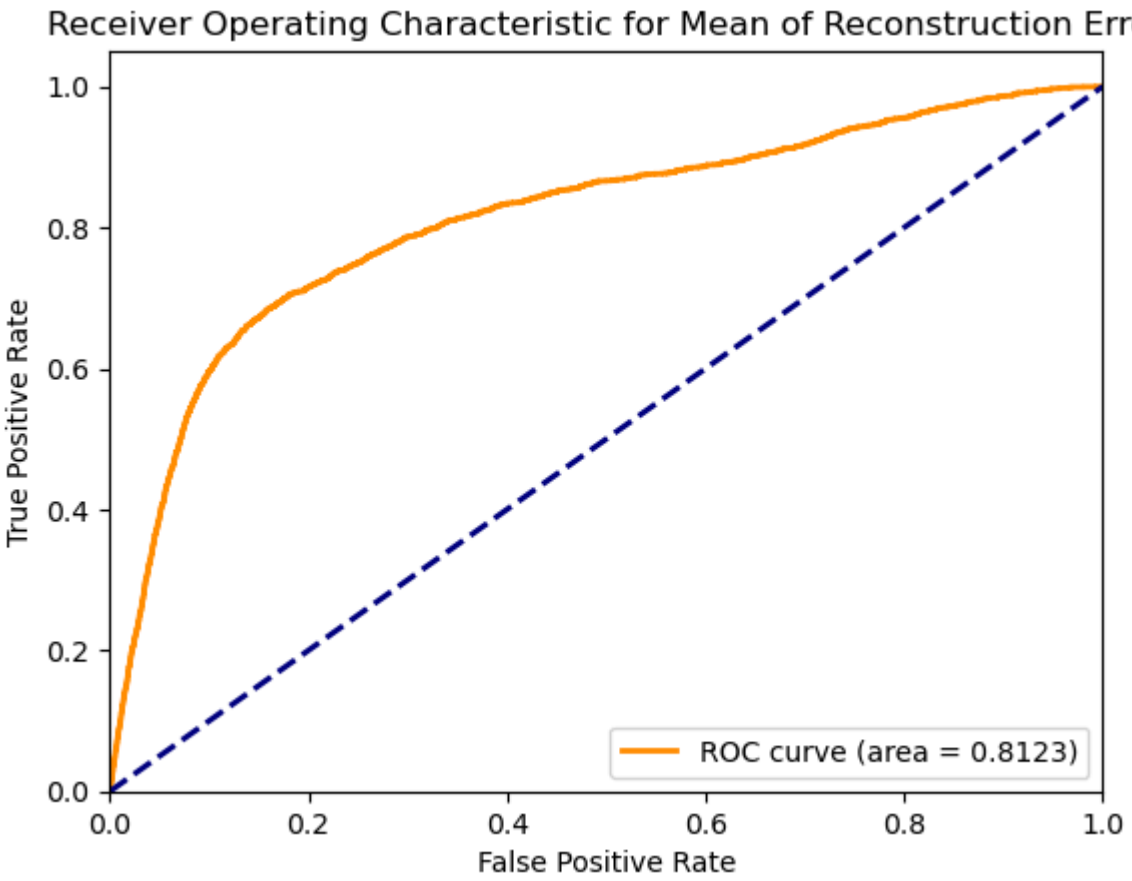
```
Modality 1 - Thermal
Non Falls - 48, Falls - 173

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

Train Dataloader - 48
Test Dataloader - 173

Device Used - cuda

Model Used - LateConcatenation_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:0.0026
epoch [2/20], loss:0.0019
epoch [3/20], loss:0.0017
epoch [4/20], loss:0.0016
epoch [5/20], loss:0.0015
epoch [6/20], loss:0.0015
epoch [7/20], loss:0.0014
epoch [8/20], loss:0.0013
epoch [9/20], loss:0.0013
epoch [10/20], loss:0.0012
epoch [11/20], loss:0.0012
epoch [12/20], loss:0.0012
epoch [13/20], loss:0.0011
epoch [14/20], loss:0.0011
epoch [15/20], loss:0.0011
epoch [16/20], loss:0.0011
epoch [17/20], loss:0.0011
epoch [18/20], loss:0.0011
epoch [19/20], loss:0.0011
epoch [20/20], loss:0.0011
Training has Completed

Forward pass occuring
Forward pass completed

MultiModal_Thermal_T3_ONI_IR_T_2024-04-22-03-55-37
```

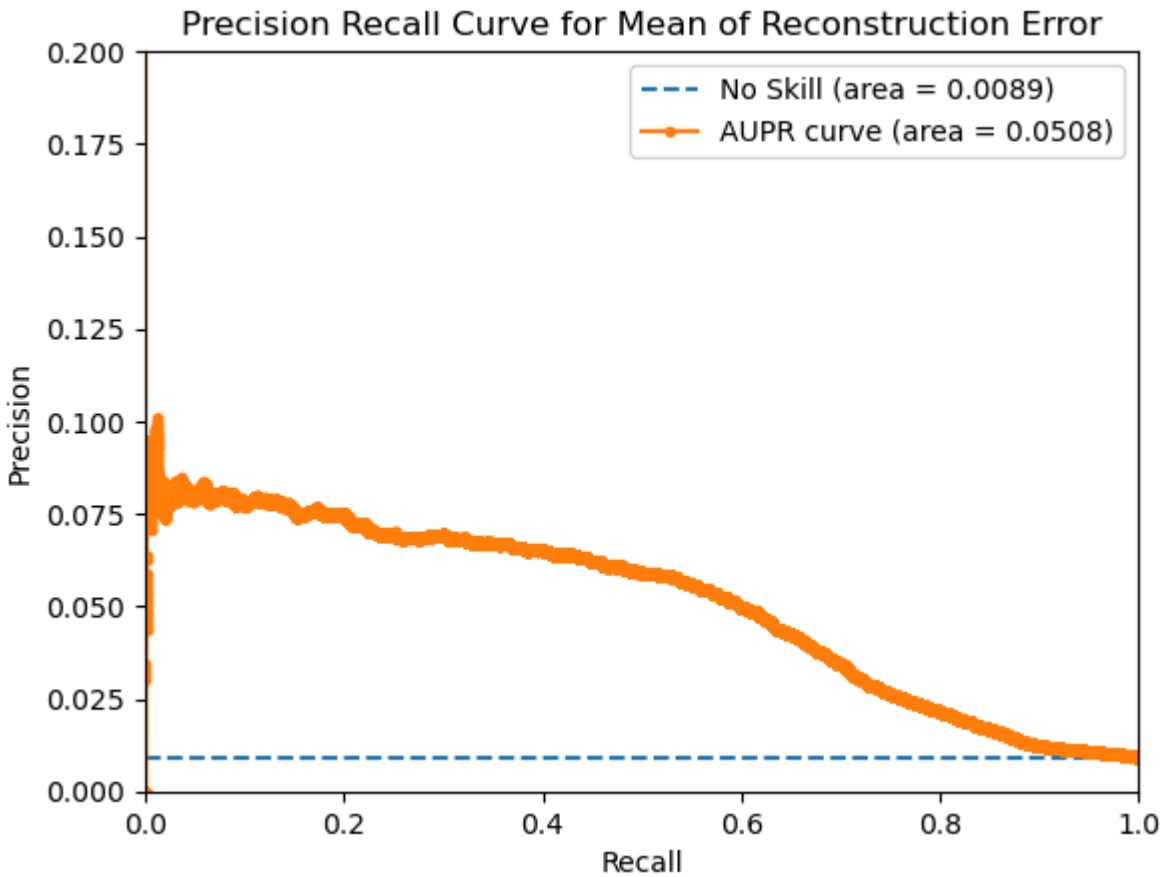
```
----------------------------------
STD Global Classification Results
TPR 0.934, FPR 0.628, Precision 0.013, Recall 0.934
tn 98527, fp 166277, fn 157, tp 2217
std_AUROC  0.716
----------------------------------
----------------------------------
Mean Global Classification Results
TPR 0.684, FPR 0.159, Precision 0.037, Recall 0.684
tn 222588, fp 42216, fn 749, tp 1625
mean_AUROC 0.812
----------------------------------
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 0.792, FPR 0.290, Precision 0.024, Recall 0.792
tn 188084, fp 76754, fn 486, tp 1854
std_AUROC  0.829
----------------------------------
----------------------------------
Mean Global Classification Results
TPR 0.727, FPR 0.266, Precision 0.024, Recall 0.727
tn 194479, fp 70359, fn 639, tp 1701
mean_AUROC 0.794
----------------------------------
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 0.880, FPR 0.549, Precision 0.014, Recall 0.880
tn 119437, fp 145367, fn 286, tp 2088
std_AUROC  0.701
----------------------------------
----------------------------------
Mean Global Classification Results
TPR 0.528, FPR 0.146, Precision 0.032, Recall 0.528
tn 226262, fp 38542, fn 1120, tp 1254
mean_AUROC 0.752
----------------------------------
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,
```

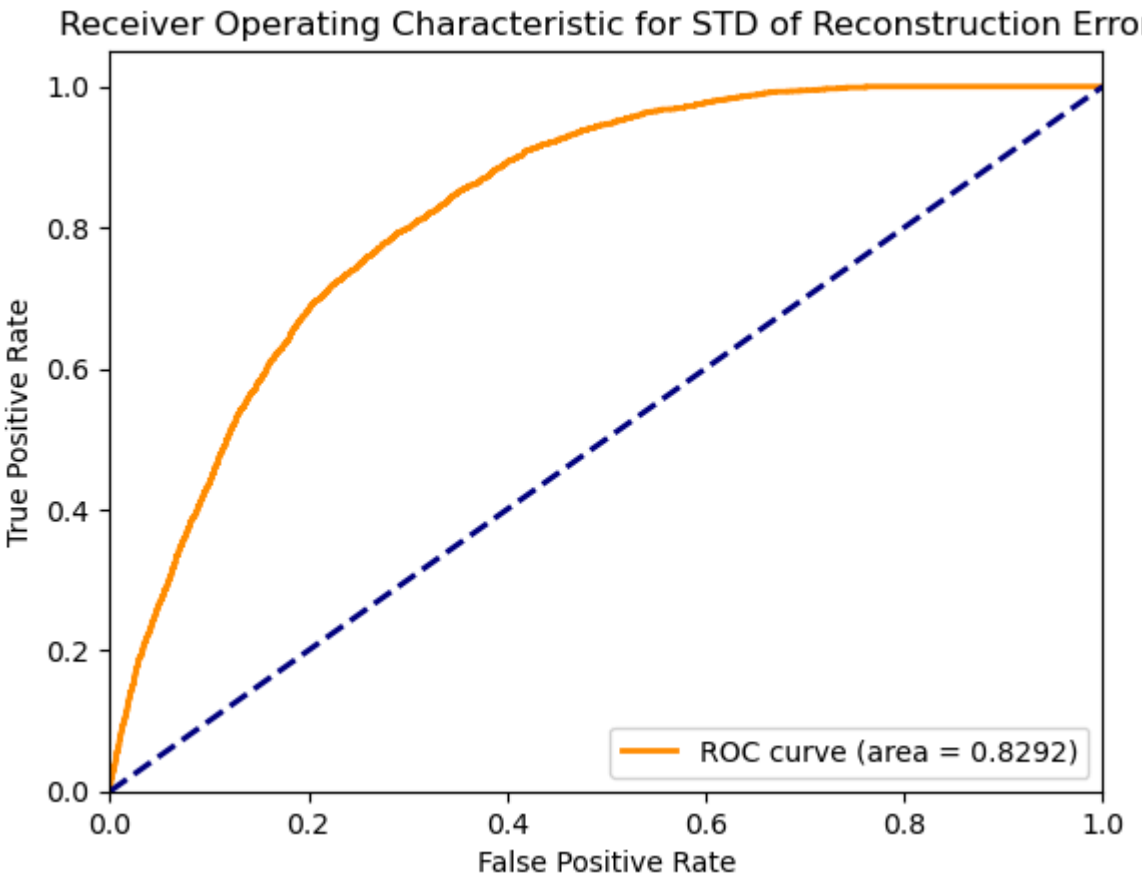
()

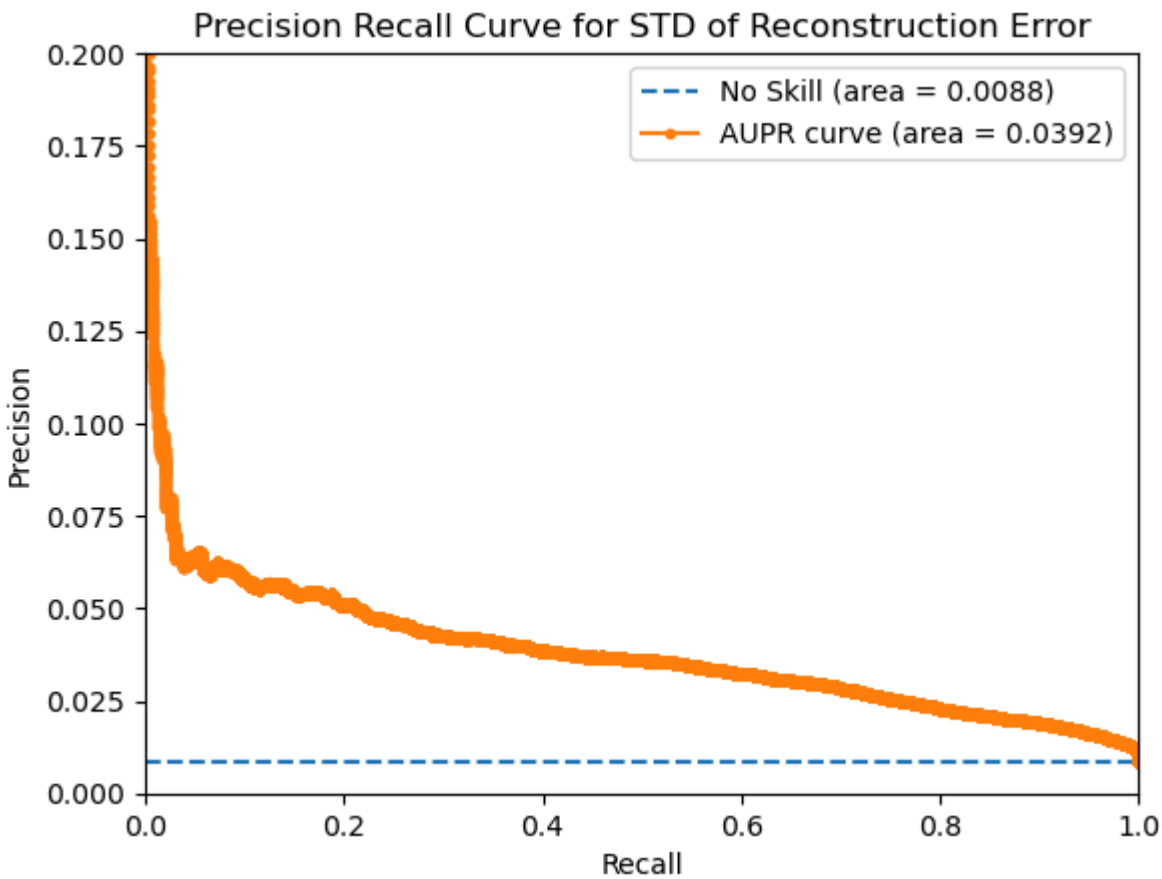

Receiver Operating Characteristic for STD of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.7162)
0.0
0.2
0.4
0.6
0.8
1.0

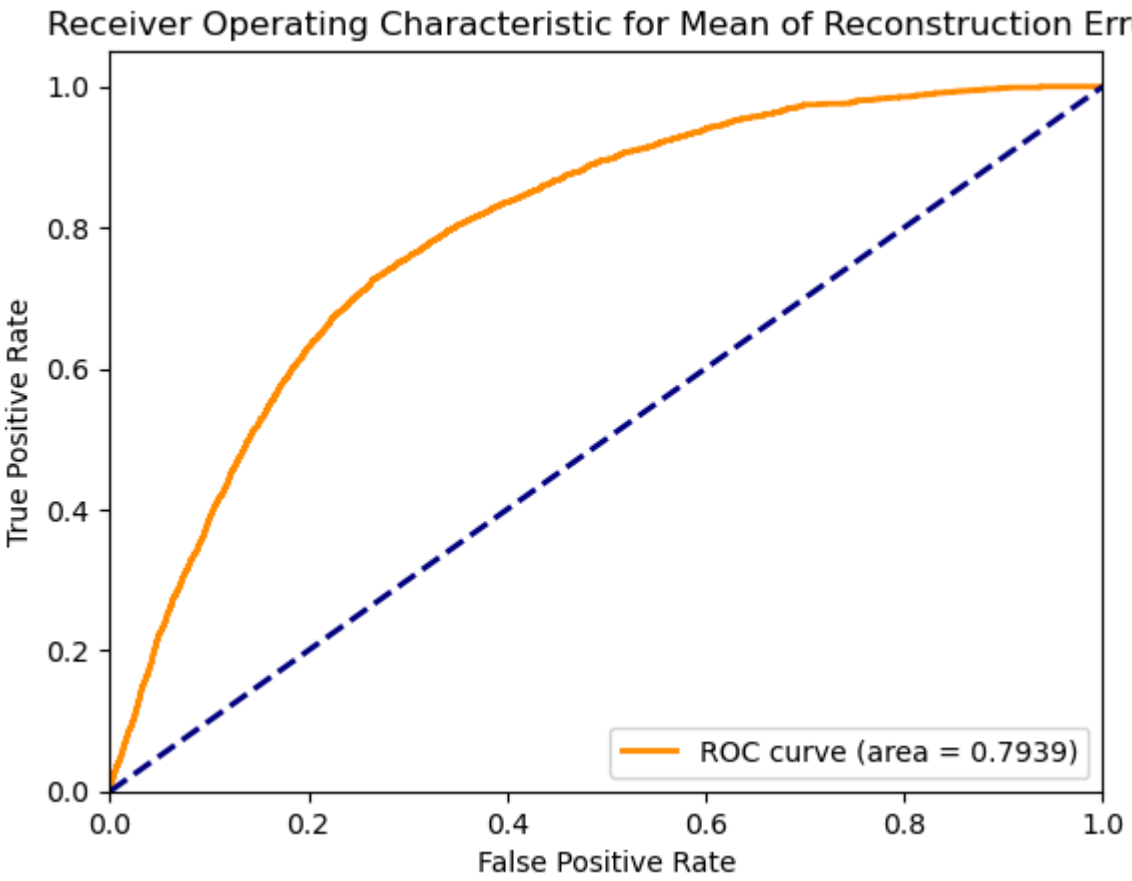

Precision Recall Curve for STD of Reconstruction Error
Precision
Recall
No Skill (area = 0.0089)
AUPR curve (area = 0.0230)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

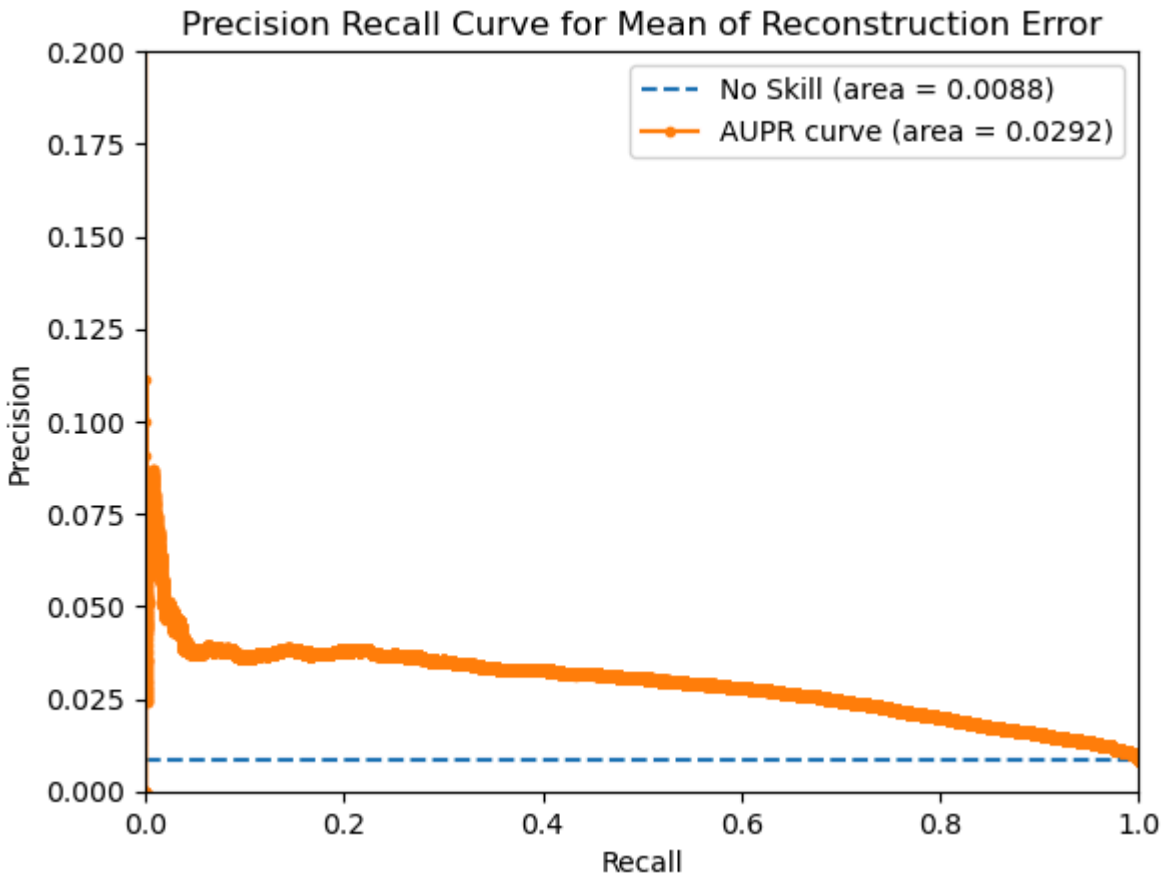

Receiver Operating Characteristic for Mean of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.8123)
0.0
0.2
0.4
0.6
0.8
1.0

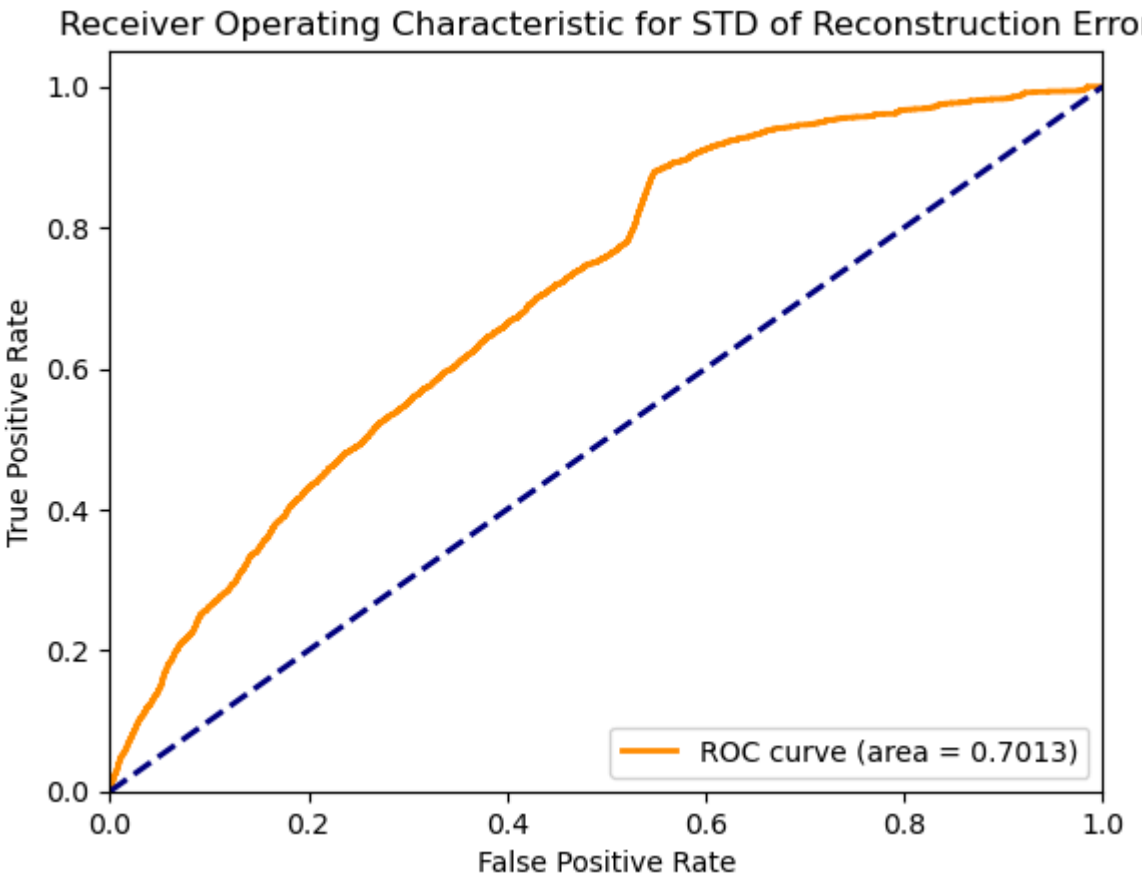

Precision Recall Curve for Mean of Reconstruction Error
Precision
Recall
No Skill (area = 0.0089)
AUPR curve (area = 0.0508)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

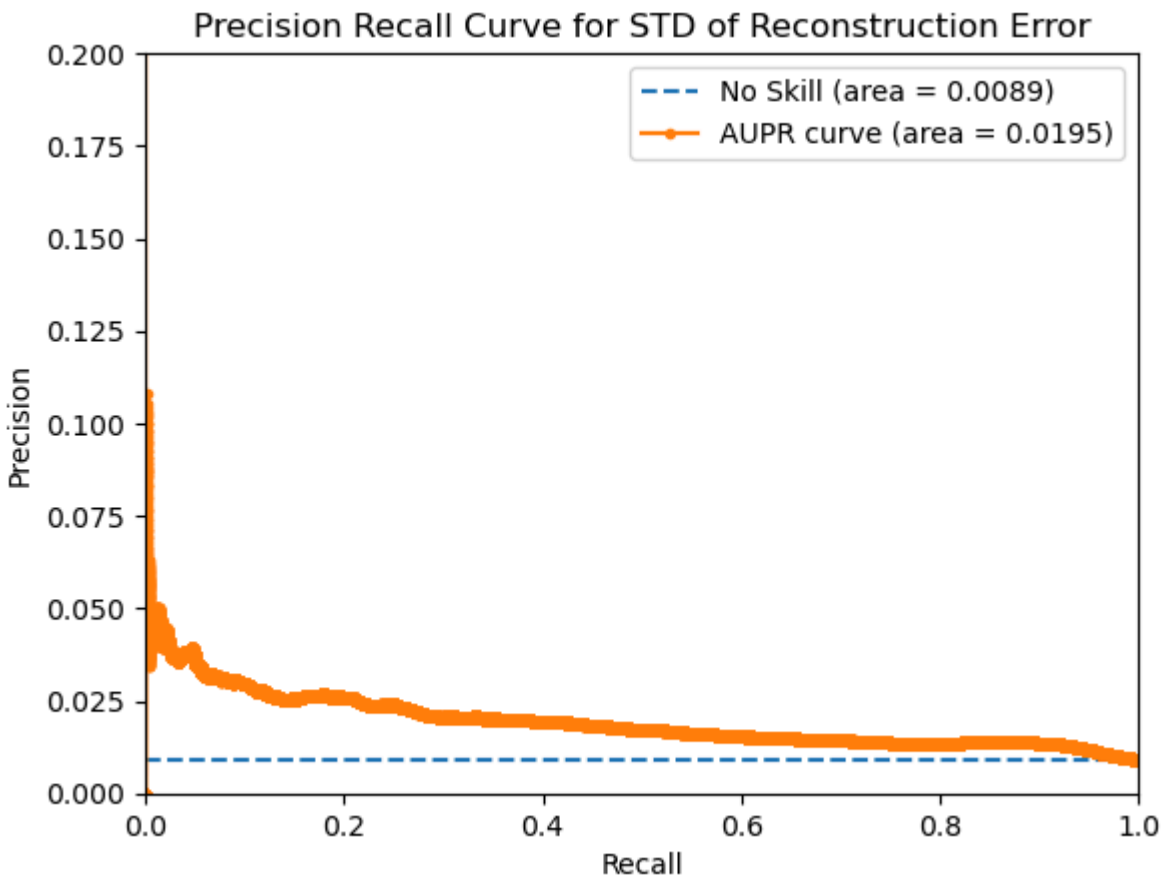

Receiver Operating Characteristic for STD of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.8292)
0.0
0.2
0.4
0.6
0.8
1.0

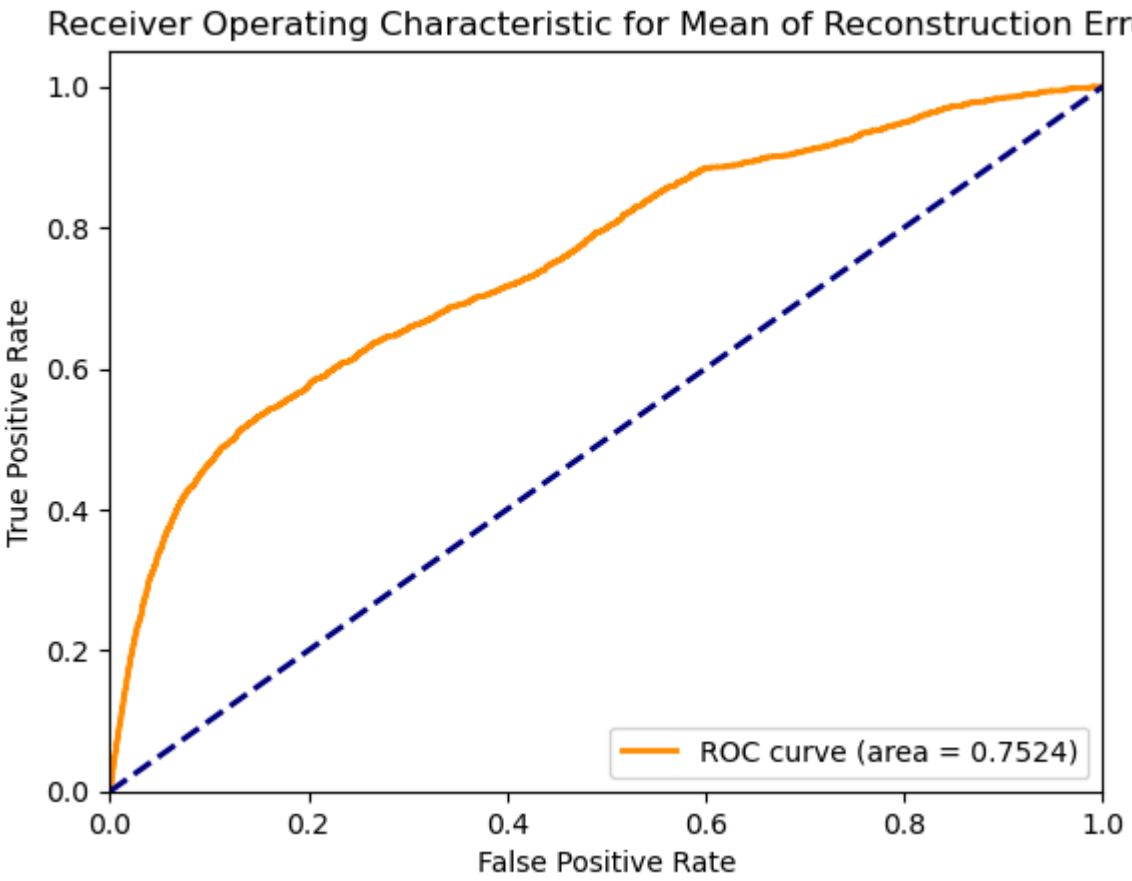

Precision Recall Curve for STD of Reconstruction Error
Precision
Recall
No Skill (area = 0.0088)
AUPR curve (area = 0.0392)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

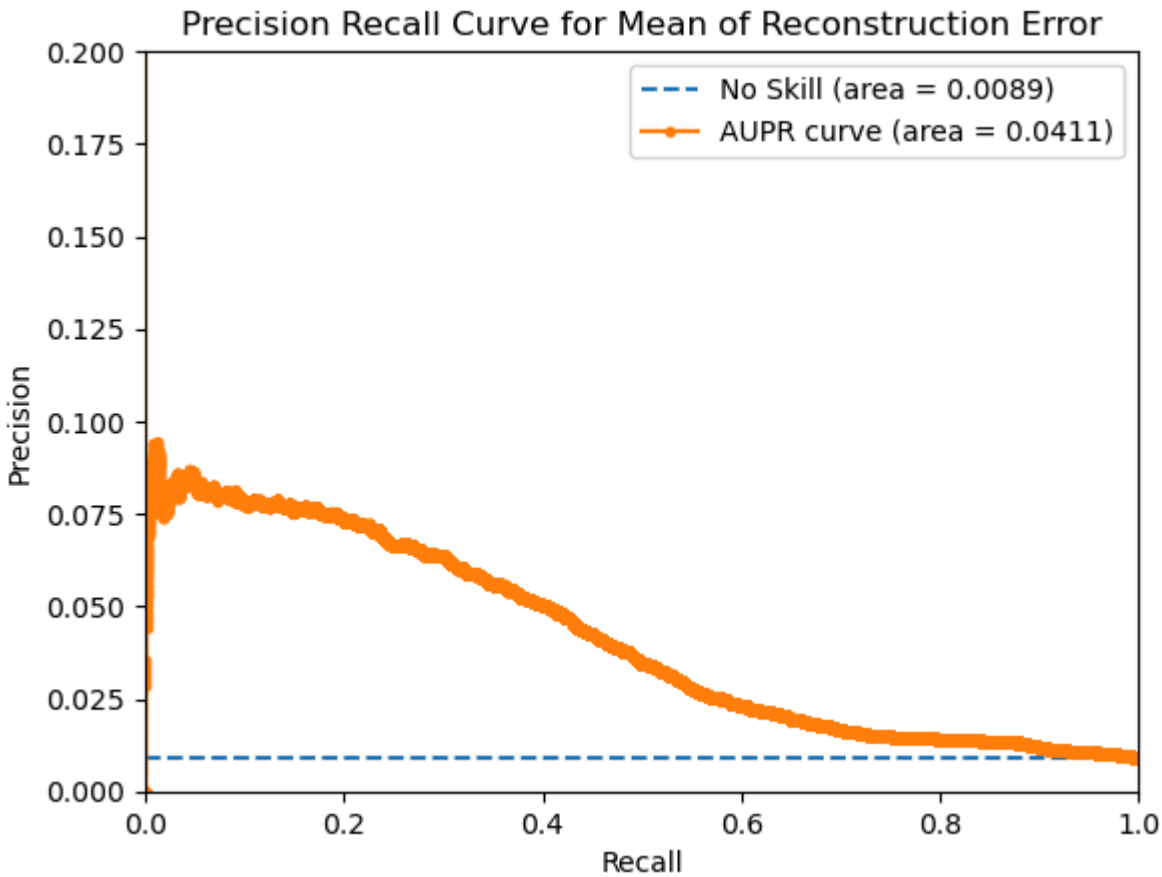

Receiver Operating Characteristic for Mean of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.7939)
0.0
0.2
0.4
0.6
0.8
1.0


Precision Recall Curve for Mean of Reconstruction Error
Precision
Recall
No Skill (area = 0.0088)
AUPR curve (area = 0.0292)
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 = 0.7013)
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 = 0.0195)
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 = 0.7524)
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 = 0.0411)
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