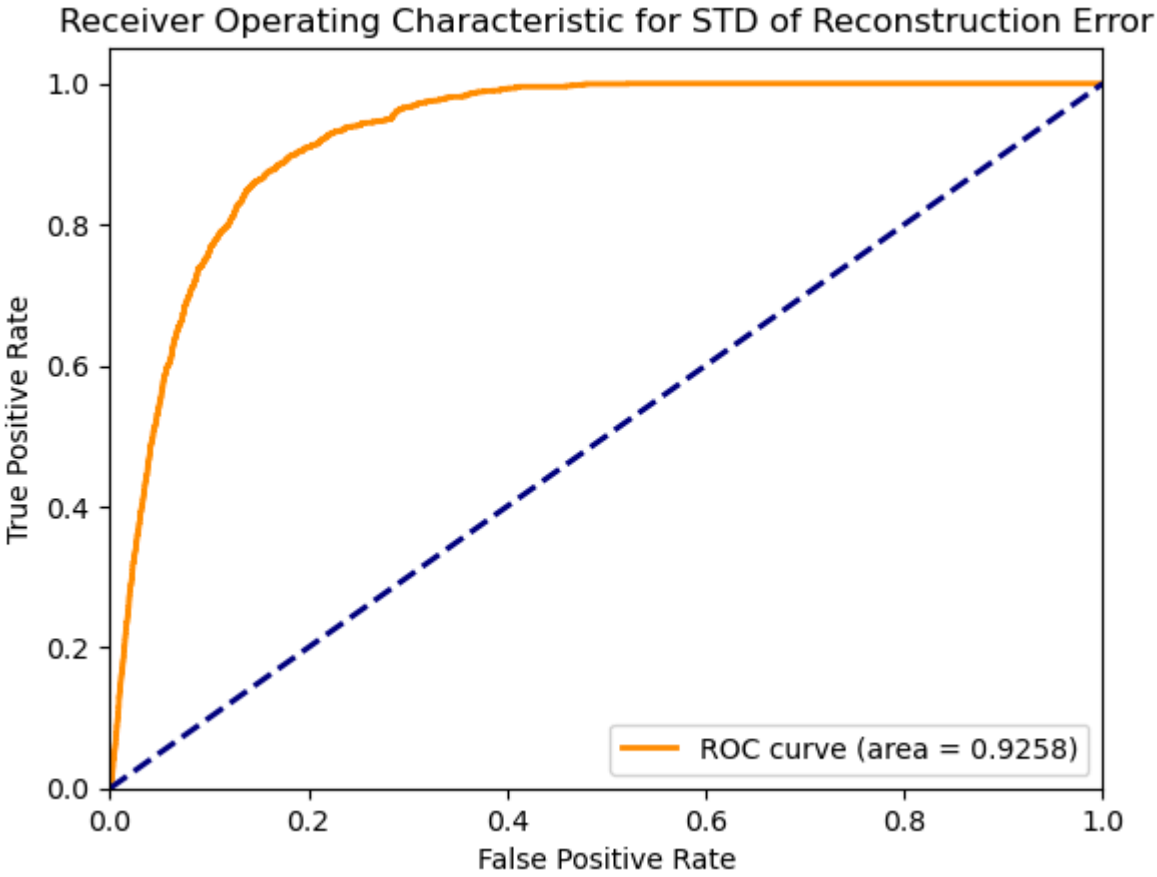
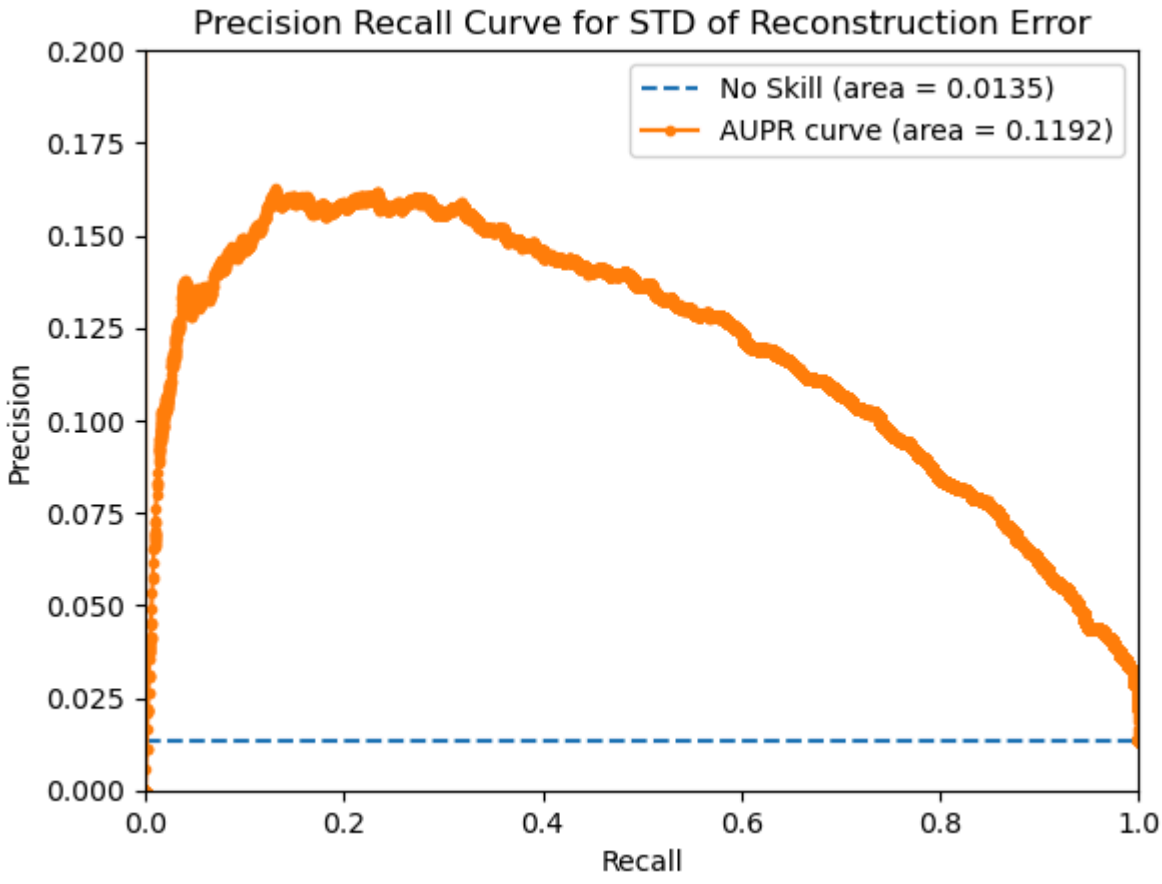
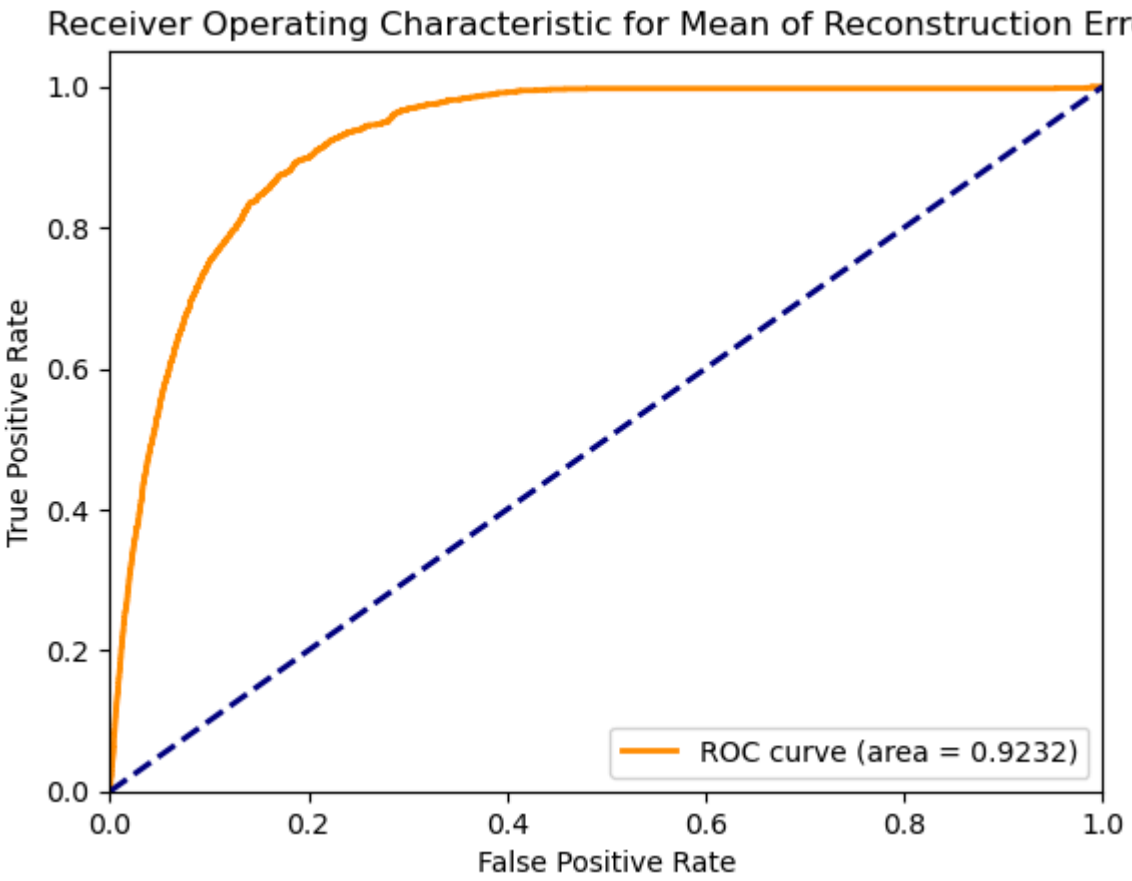
```
Modality 1 - Thermal
Non Falls - 48, Falls - 173

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

Train Dataloader - 48
Test Dataloader - 173

Device Used - cuda

Model Used - LateAddition_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 = SmoothL1Loss()

Training has Begun
epoch [1/20], loss:0.0001
epoch [2/20], loss:0.0000
epoch [3/20], loss:0.0000
epoch [4/20], loss:0.0000
epoch [5/20], loss:0.0000
epoch [6/20], loss:0.0000
epoch [7/20], loss:0.0000
epoch [8/20], loss:0.0000
epoch [9/20], loss:0.0000
epoch [10/20], loss:0.0000
epoch [11/20], loss:0.0000
epoch [12/20], loss:0.0000
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
```

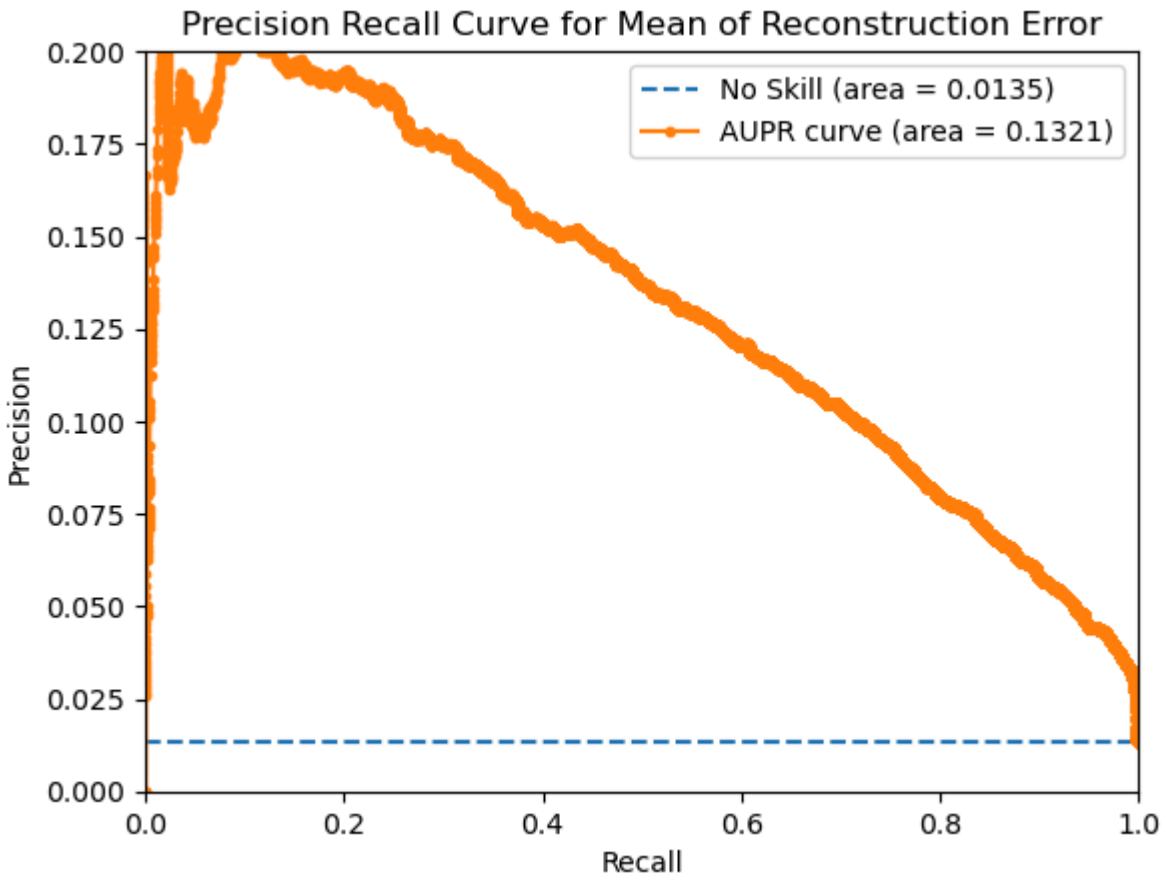
```
MultiModal_Thermal_T3_ONI_IR_T_2024-04-26-21-15-24

---------------------------------
STD Global Classification Results
TPR 0.898, FPR 0.182, Precision 0.063, Recall 0.898
tn 107268, fp 23854, fn 184, tp 1612
std_AUROC  0.926
---------------------------------
---------------------------------
Mean Global Classification Results
TPR 0.893, FPR 0.188, Precision 0.061, Recall 0.893
tn 106480, fp 24642, fn 192, tp 1604
mean_AUROC 0.923
---------------------------------
d:\Abdul Rasheed NITT\Academics\Eigth Semester\FYP\Implementation\FallDetection\Code\funct
ions.py:302: 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 0.893, FPR 0.172, Precision 0.066, Recall 0.893
tn 108523, fp 22599, fn 193, tp 1603
std_AUROC  0.917
---------------------------------
---------------------------------
Mean Global Classification Results
TPR 0.932, FPR 0.216, Precision 0.056, Recall 0.932
tn 102785, fp 28337, fn 123, tp 1673
mean_AUROC 0.892
---------------------------------
d:\Abdul Rasheed NITT\Academics\Eigth Semester\FYP\Implementation\FallDetection\Code\funct
ions.py:302: 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 0.878, FPR 0.155, Precision 0.072, Recall 0.878
tn 110854, fp 20268, fn 220, tp 1576
std_AUROC  0.934
---------------------------------
---------------------------------
Mean Global Classification Results
TPR 0.894, FPR 0.186, Precision 0.062, Recall 0.894
tn 106675, fp 24447, fn 191, tp 1605
mean_AUROC 0.924
---------------------------------
d:\Abdul Rasheed NITT\Academics\Eigth Semester\FYP\Implementation\FallDetection\Code\funct
ions.py:302: 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,
```

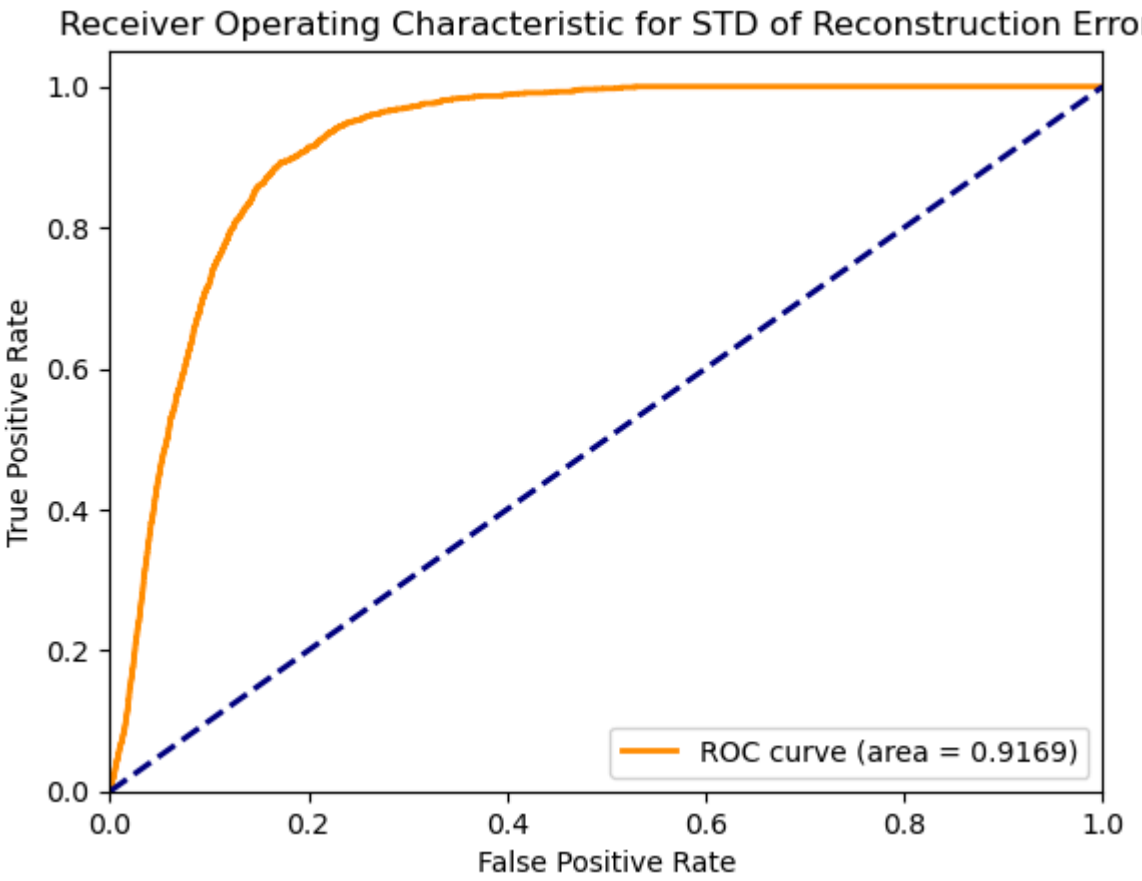
()

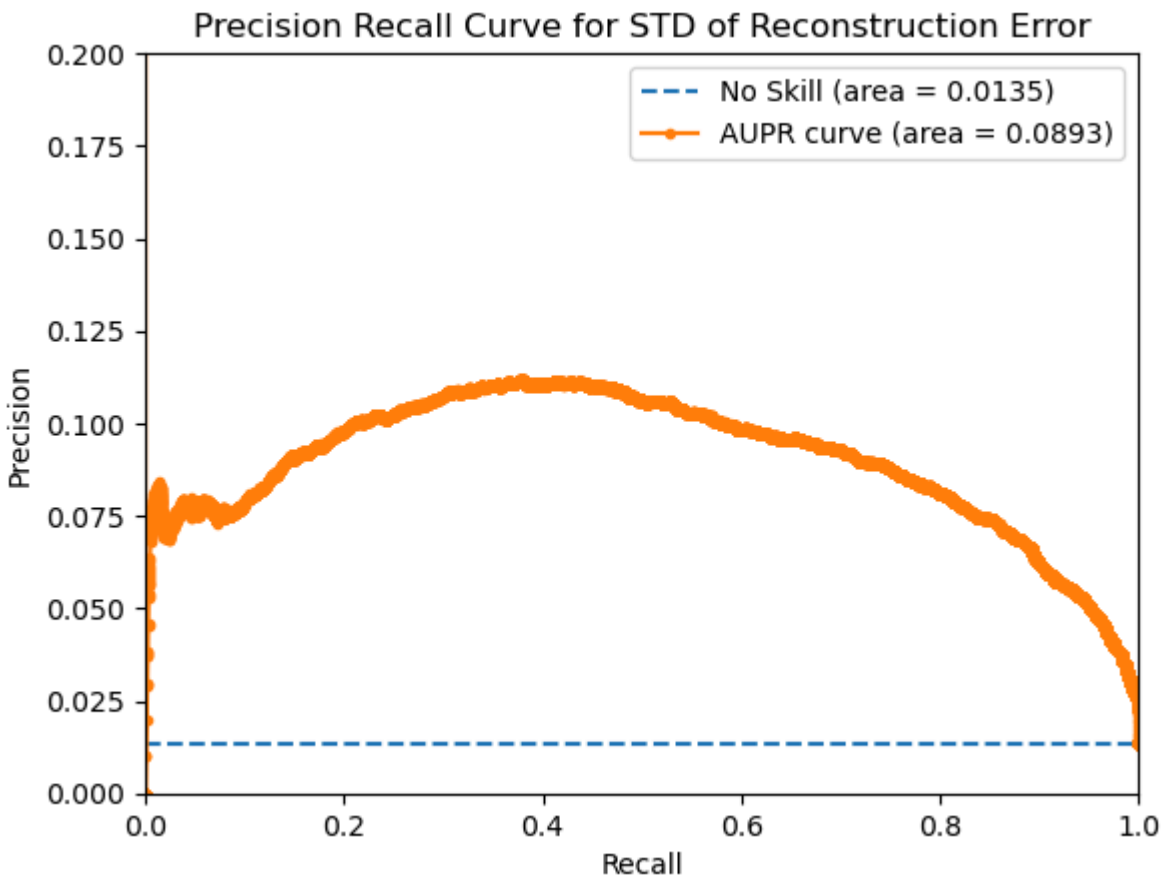

Receiver Operating Characteristic for STD of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.9258)
0.0
0.2
0.4
0.6
0.8
1.0

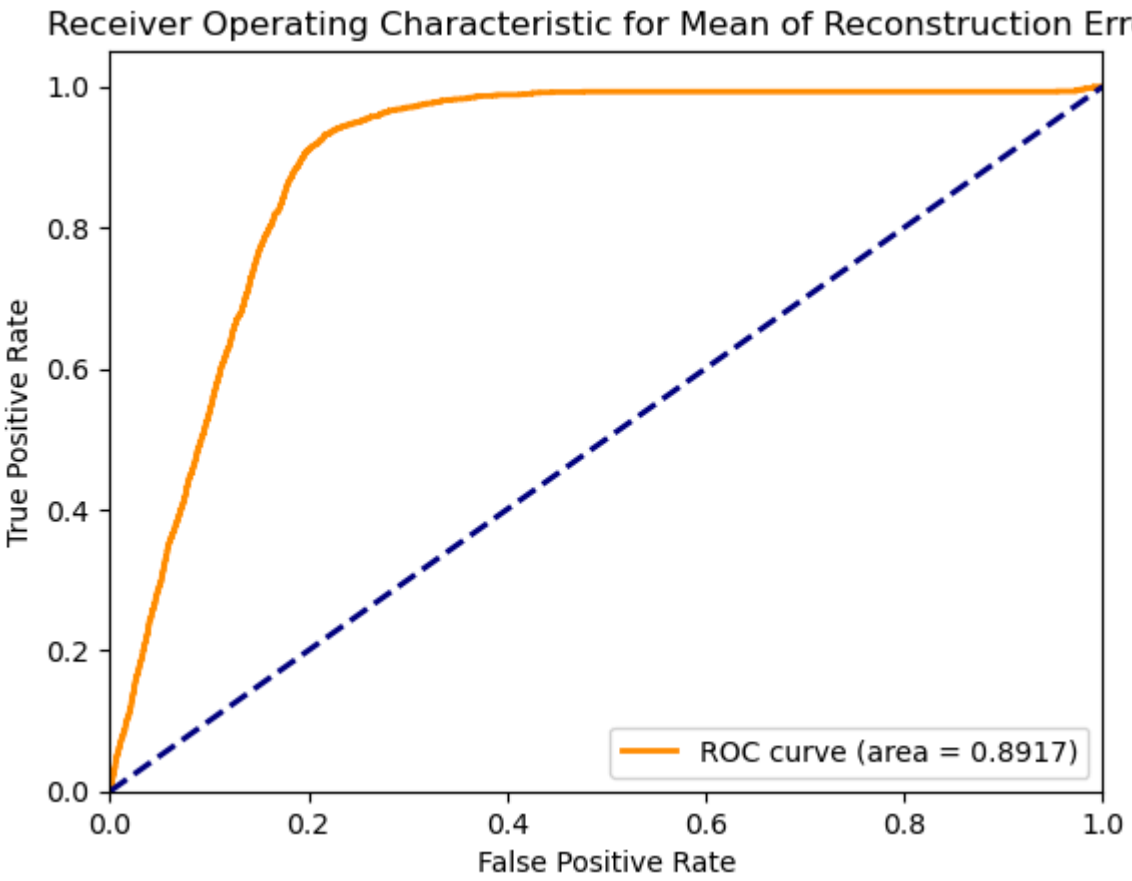

Precision Recall Curve for STD of Reconstruction Error
Precision
Recall
No Skill (area = 0.0135)
AUPR curve (area = 0.1192)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

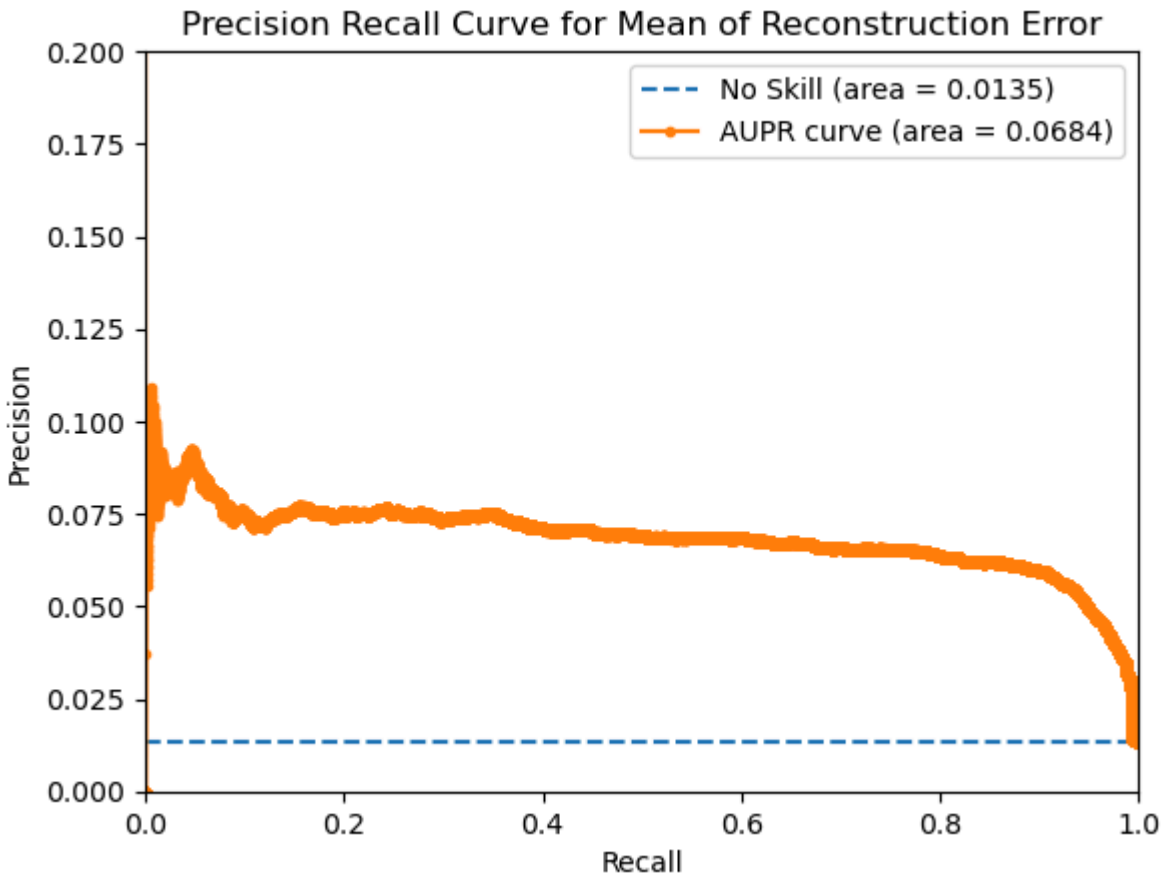

Receiver Operating Characteristic for Mean of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.9232)
0.0
0.2
0.4
0.6
0.8
1.0

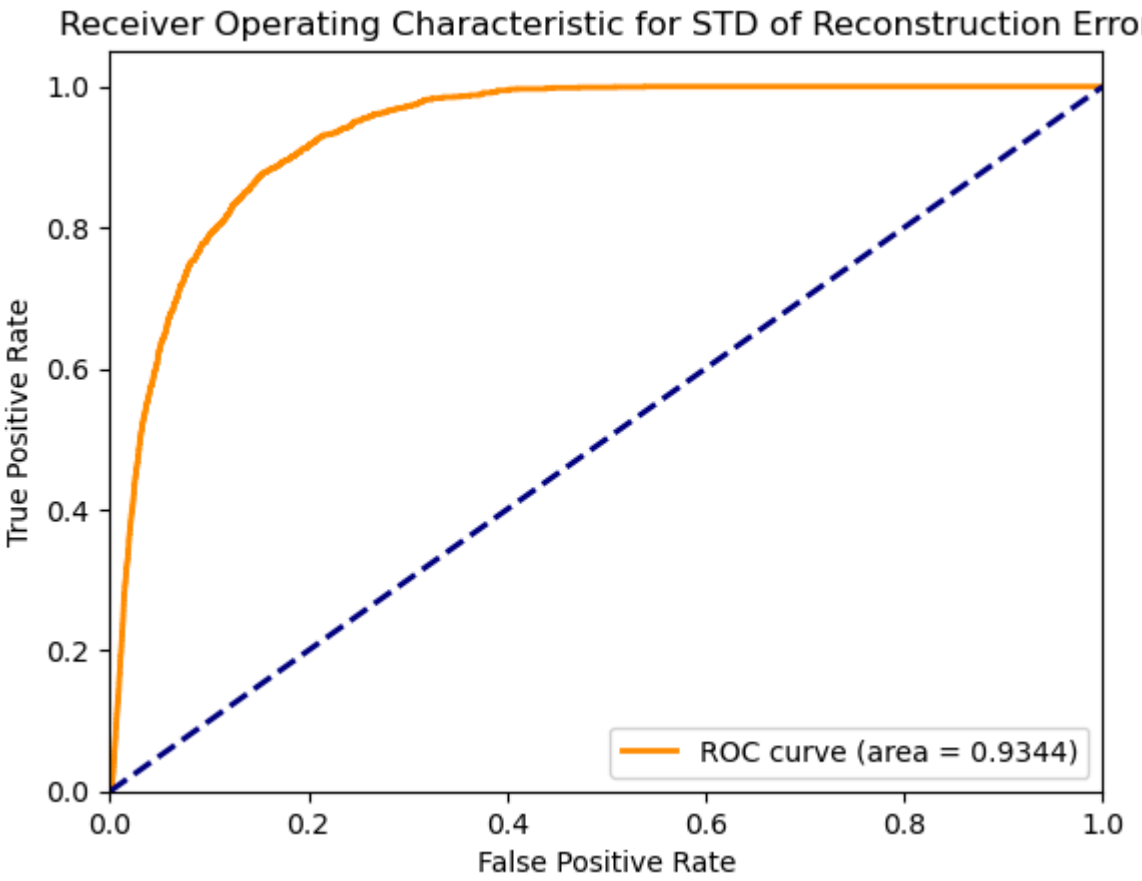

Precision Recall Curve for Mean of Reconstruction Error
Precision
Recall
No Skill (area = 0.0135)
AUPR curve (area = 0.1321)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

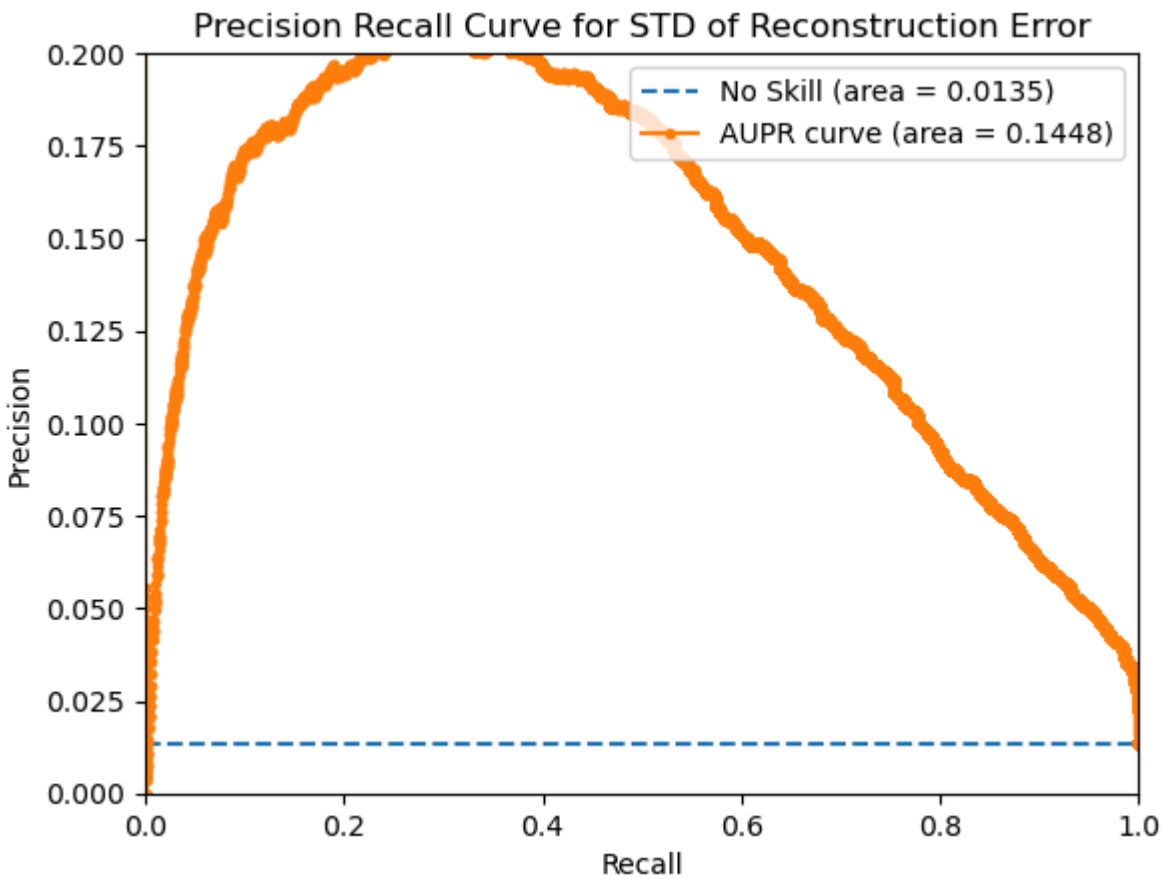

Receiver Operating Characteristic for STD of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.9169)
0.0
0.2
0.4
0.6
0.8
1.0

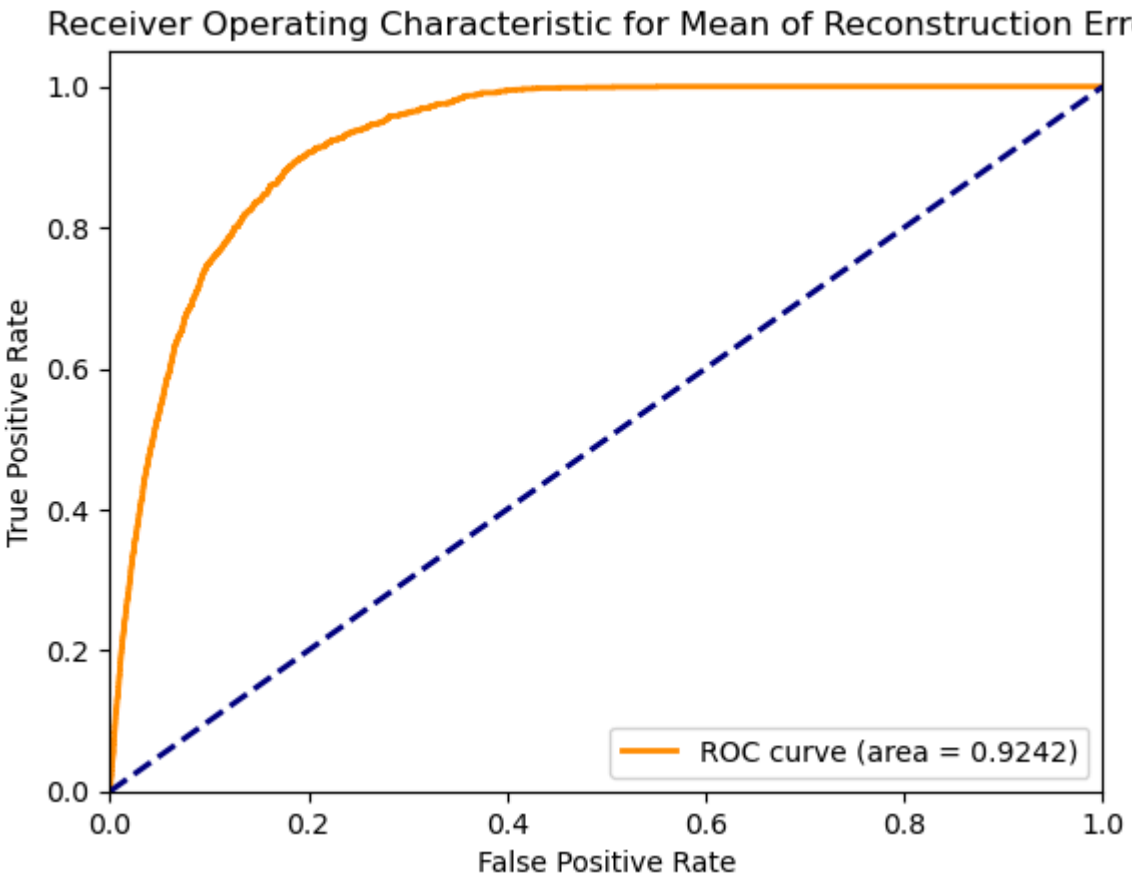

Precision Recall Curve for STD of Reconstruction Error
Precision
Recall
No Skill (area = 0.0135)
AUPR curve (area = 0.0893)
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
0.200
0.0
0.2
0.4
0.6
0.8
1.0

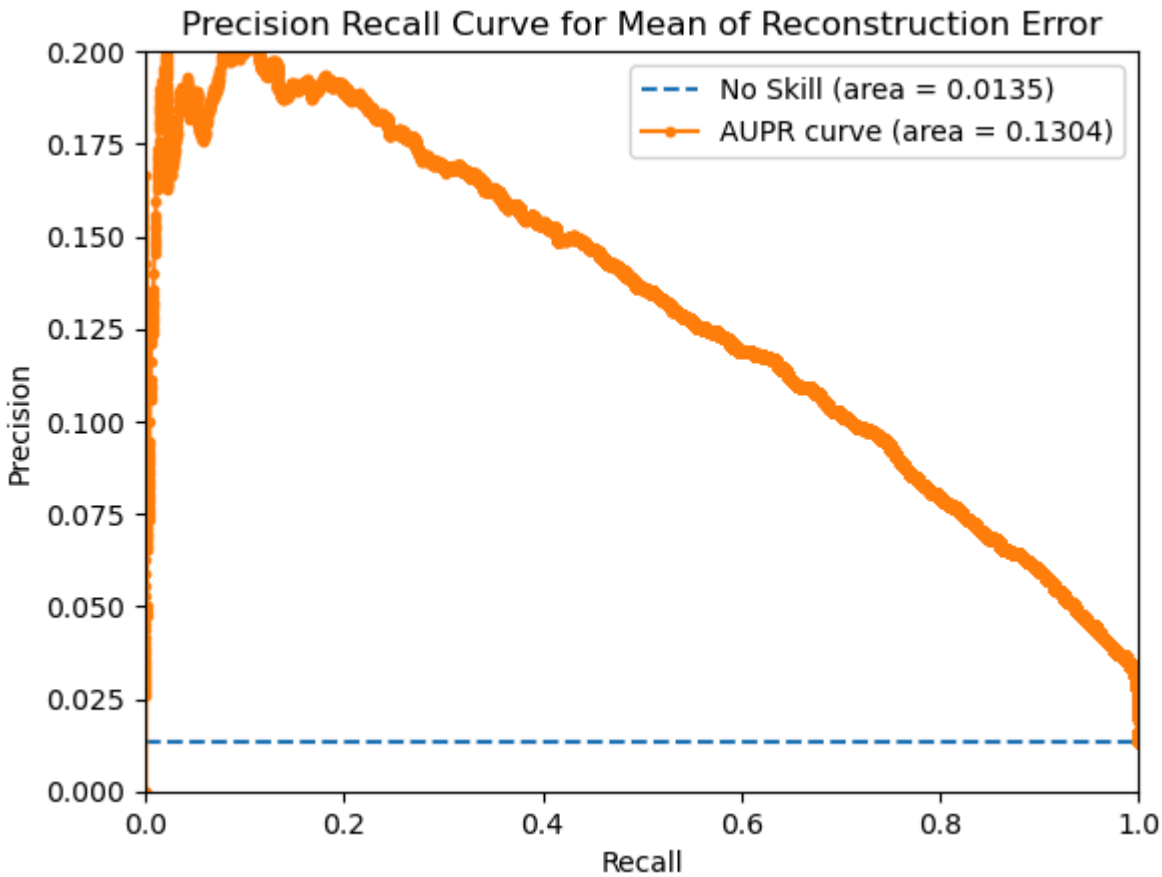

Receiver Operating Characteristic for Mean of Reconstruction Error
True Positive Rate
False Positive Rate
ROC curve (area = 0.8917)
0.0
0.2
0.4
0.6
0.8
1.0


Precision Recall Curve for Mean of Reconstruction Error
Precision
Recall
No Skill (area = 0.0135)
AUPR curve (area = 0.0684)
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 = 0.9344)
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 = 0.0135)
AUPR curve (area = 0.1448)
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 = 0.9242)
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 = 0.0135)
AUPR curve (area = 0.1304)
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