Adaptive Intrusion Detection in Cyber-Physical Systems

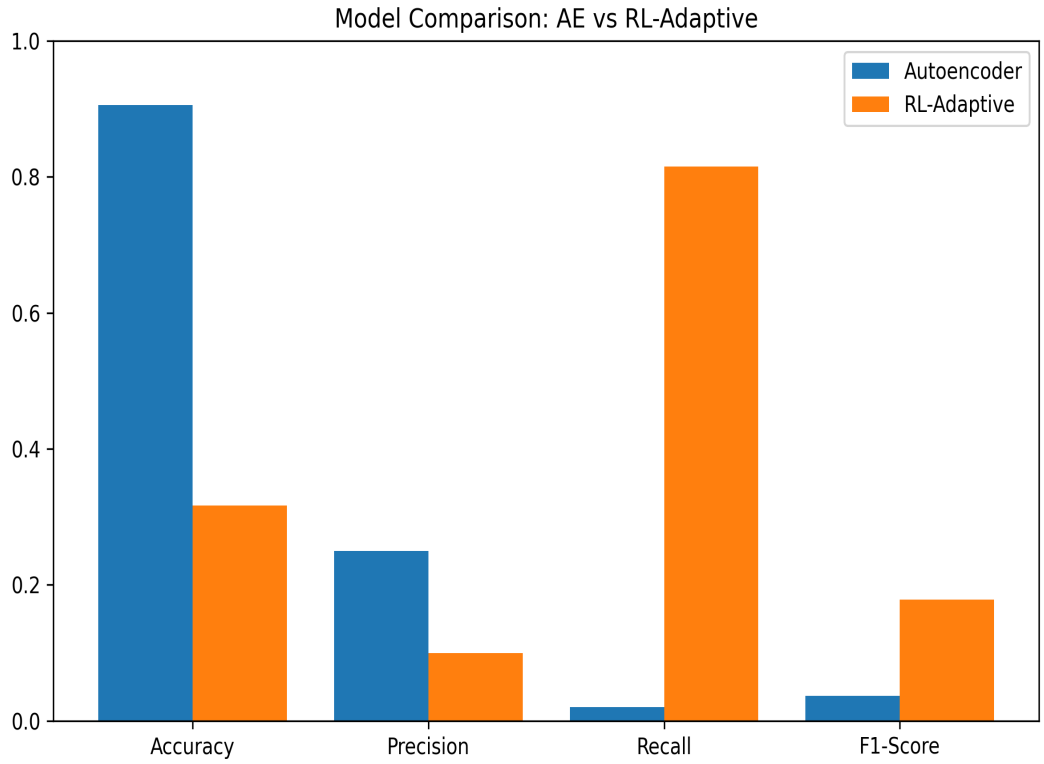
This report compares Autoencoder-based IDS with a Reinforcement-Learning-based Adaptive IDS.

Performance Summary:

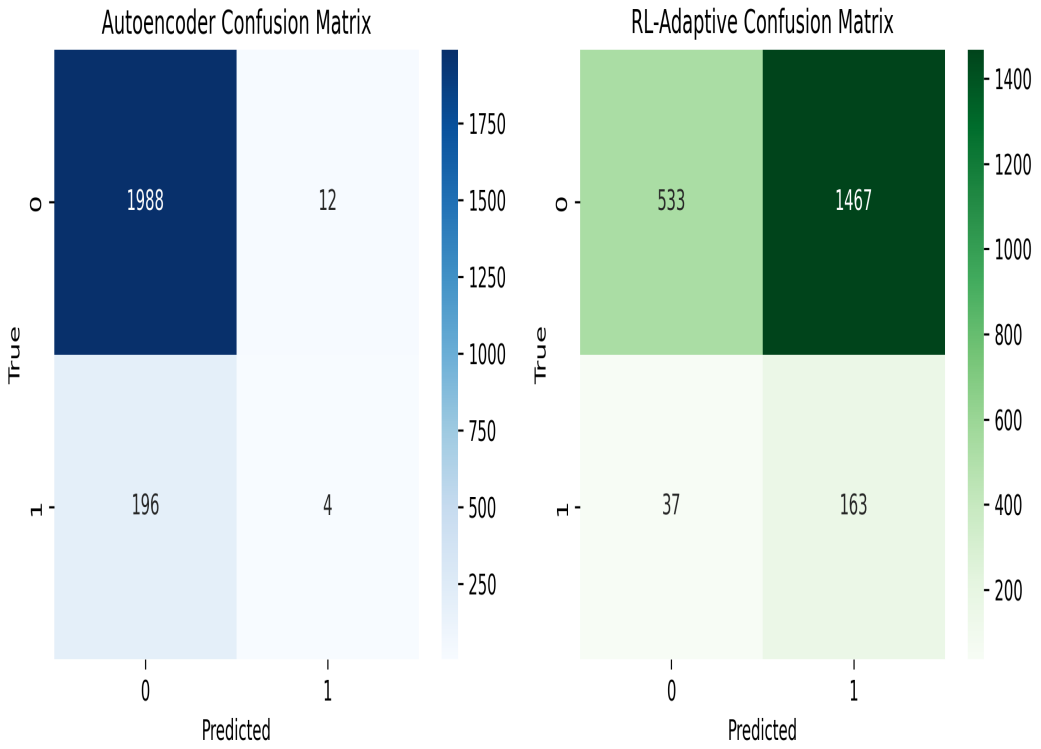
Autoencoder:
Accuracy=0.905, Precision=0.250, Recall=0.020, F1=0.037

RL-Adaptive:
Accuracy=0.316, Precision=0.100, Recall=0.815, F1=0.178

Model Comparison:



Confusion Matrices:


Autoencoder Confusion Matrix
1988
12
196
4
True
Predicted
0
1
1750
1500
1250
1000
750
500
250
RL-Adaptive Confusion Matrix
533
1467
37
163
True
Predicted
0
1
1400
1200
1000
800
600
400
200