

# GPS Spoofing Detection Report

Generated: 2025-08-23 21:31 UTC

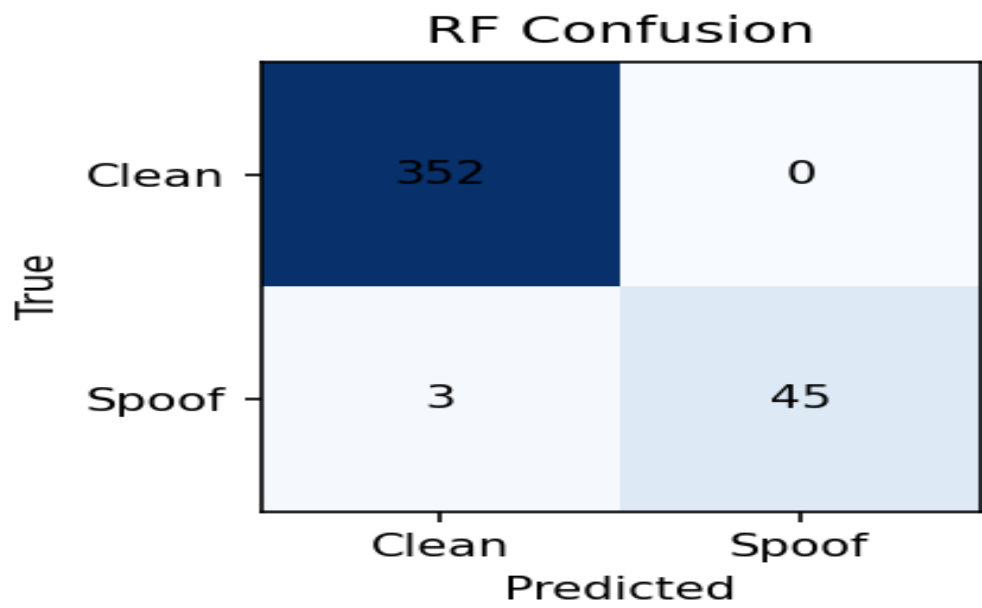
## Per-Fold Metrics:

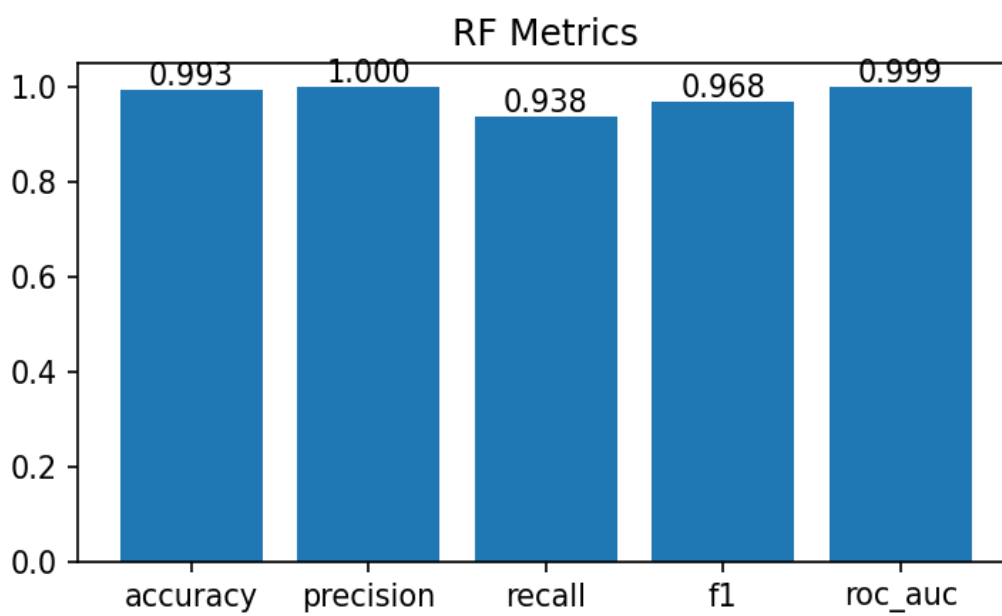
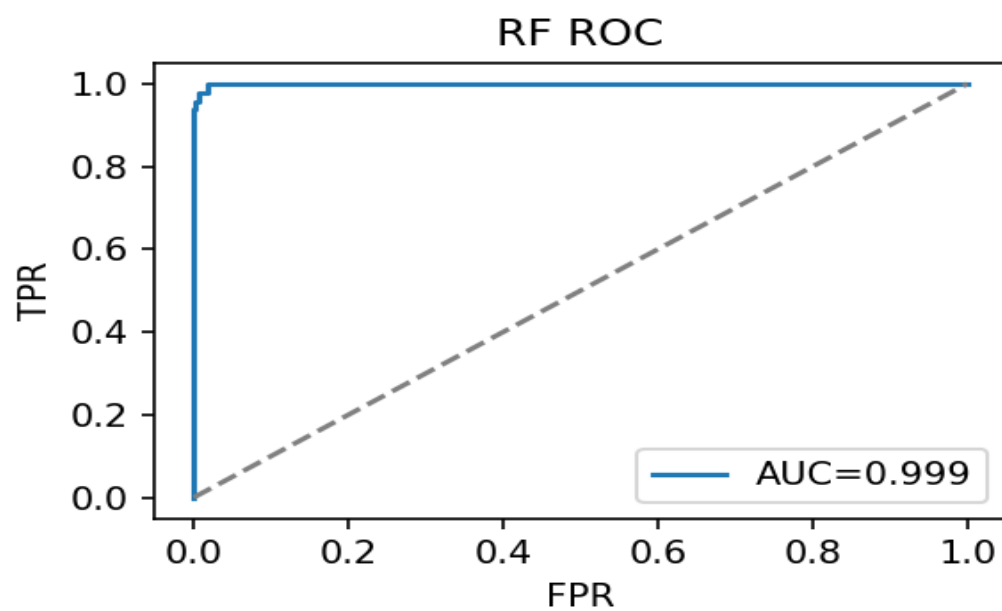
model fold accuracy precision recall f1 roc\_auc RandomForest 1 0.9925 1.000000 0.937500 0.967742  
0.999467 XGBoost 1 0.9975 1.000000 0.979167 0.989474 1.000000 RandomForest 2 0.9975  
1.000000 0.979167 0.989474 1.000000 XGBoost 2 0.9975 1.000000 0.979167 0.989474 1.000000  
RandomForest 3 0.9900 0.958333 0.958333 0.958333 0.999645 XGBoost 3 1.0000 1.000000  
1.000000 1.000000 1.000000 RandomForest 4 0.9975 1.000000 0.979167 0.989474 0.999171  
XGBoost 4 0.9975 1.000000 0.979167 0.989474 0.994614 RandomForest 5 0.9975 1.000000  
0.979167 0.989474 1.000000 XGBoost 5 1.0000 1.000000 1.000000 1.000000 1.000000

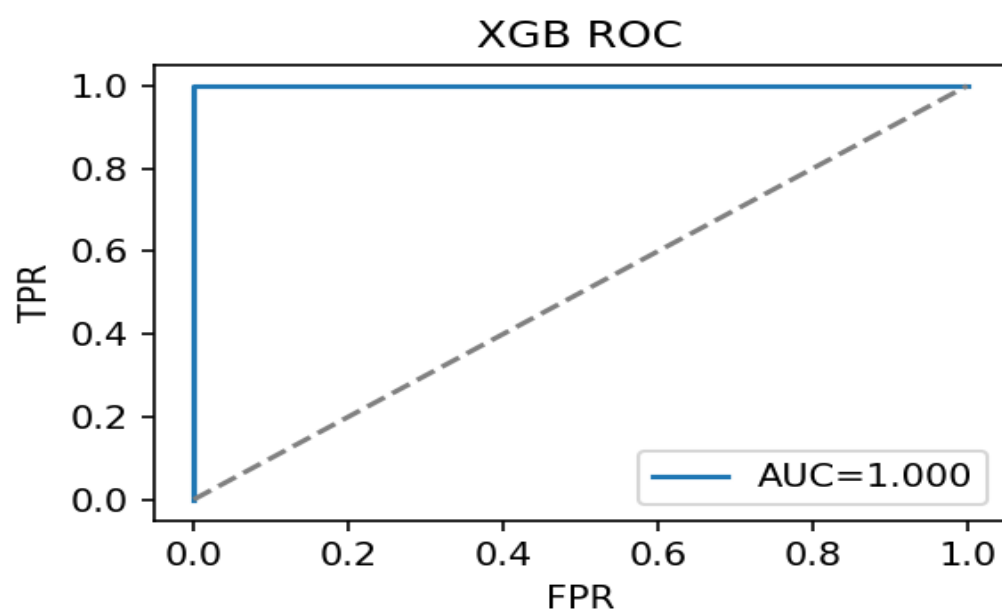
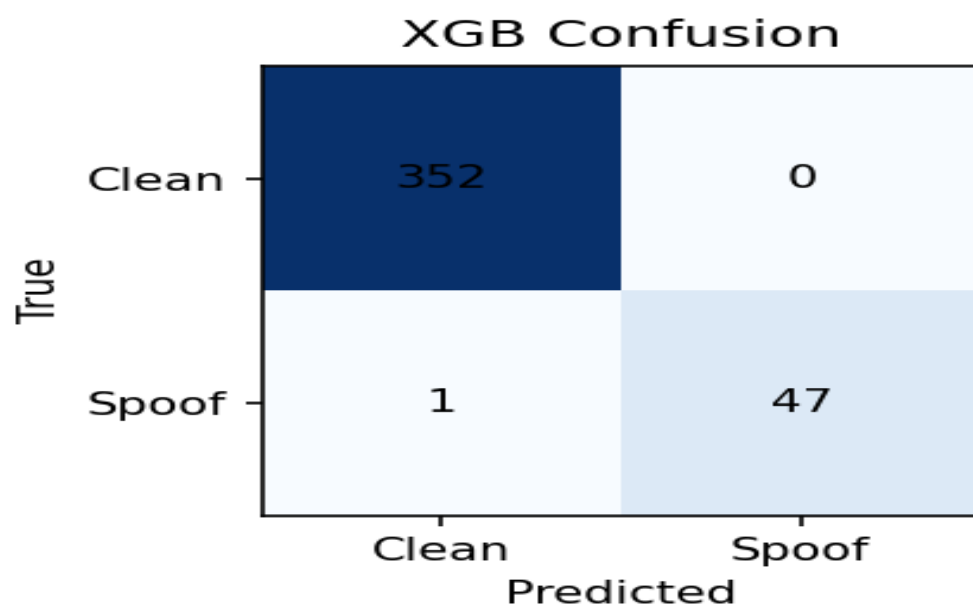
## Average Metrics (Cross Validation):

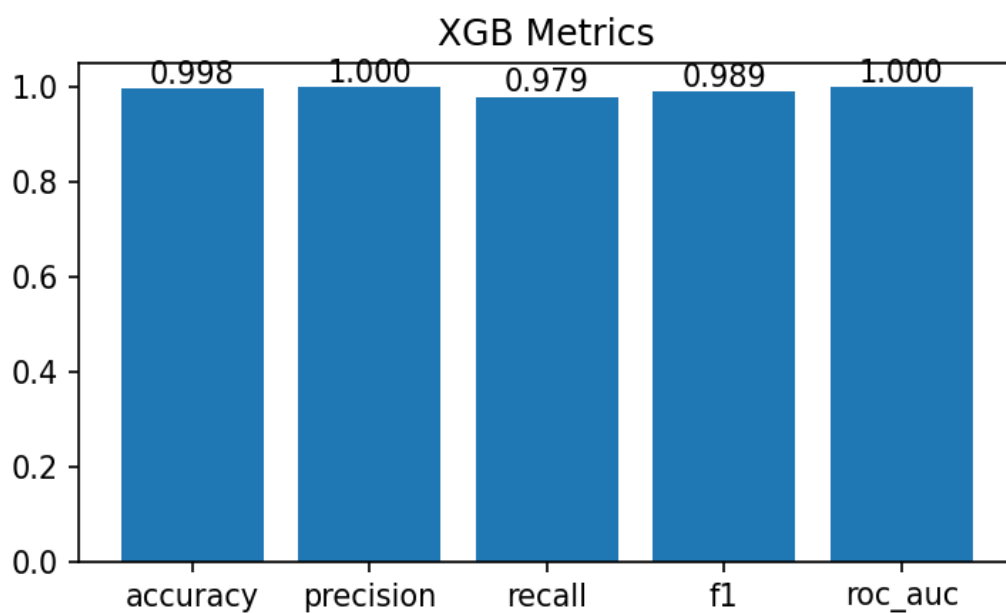
model accuracy precision recall f1 roc\_auc RandomForest 0.9950 0.991667 0.966667 0.978899  
0.999657 XGBoost 0.9985 1.000000 0.987500 0.993684 0.998923

## Results for Fold 1:

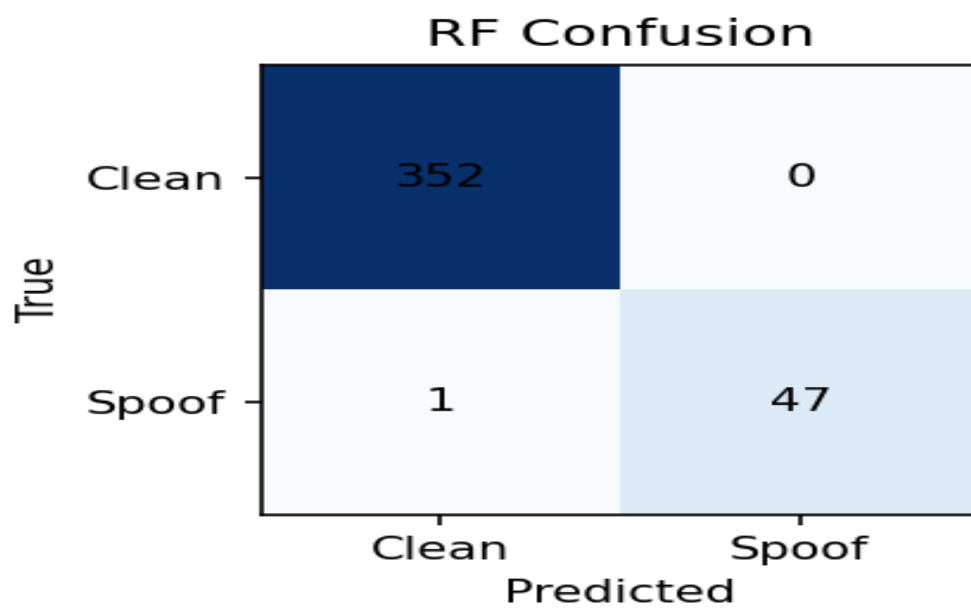


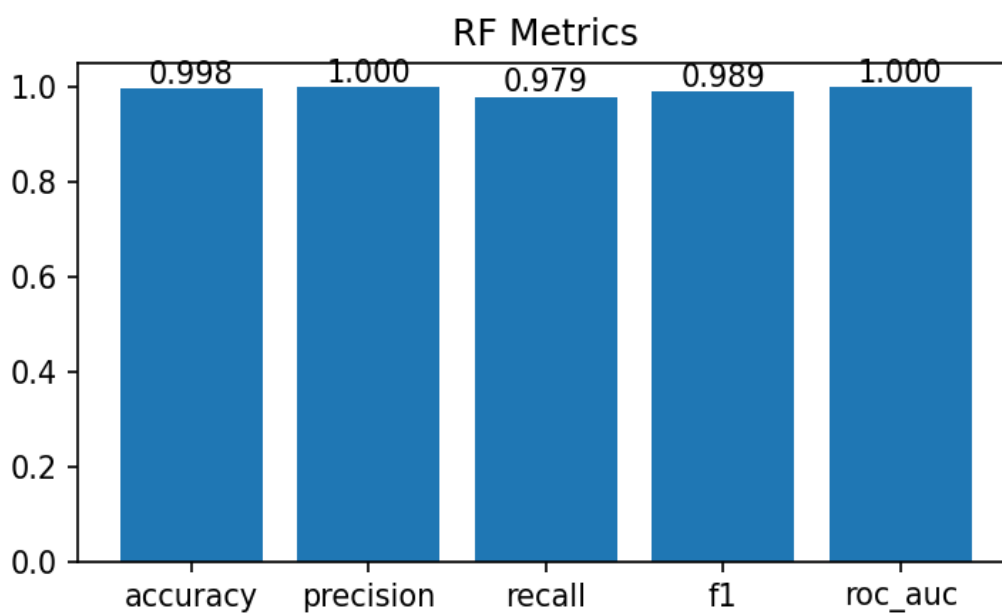
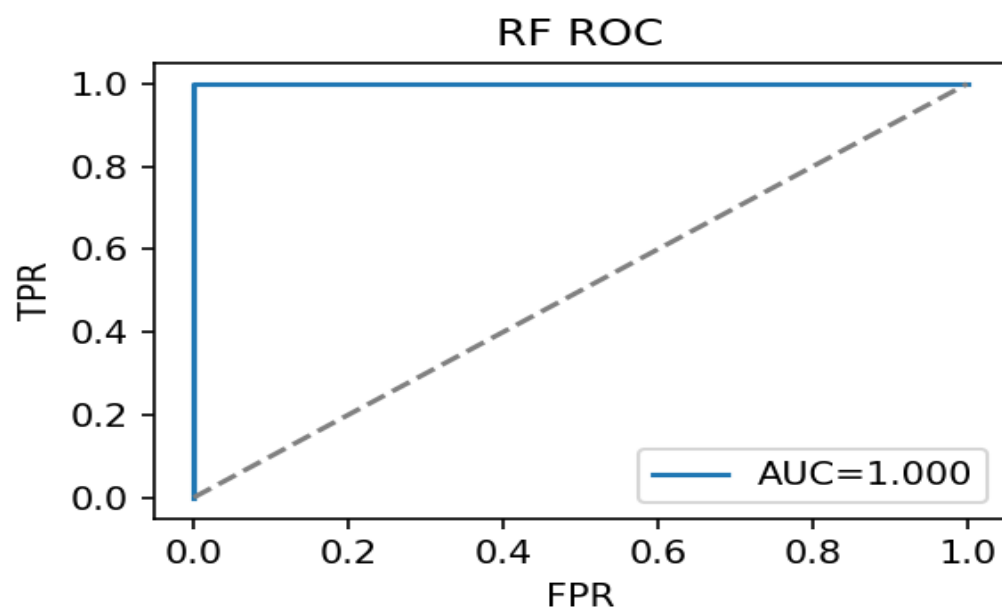


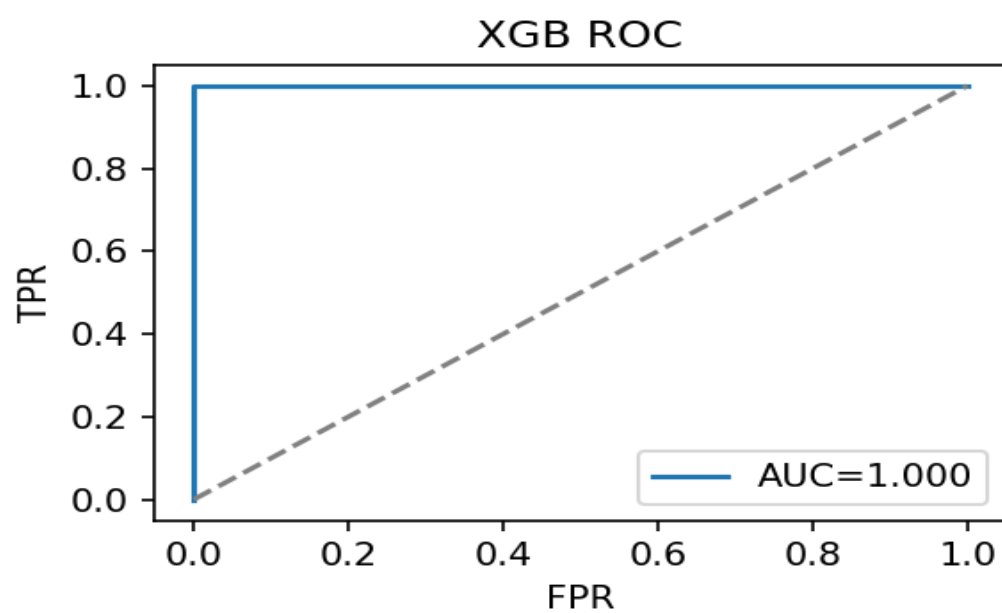
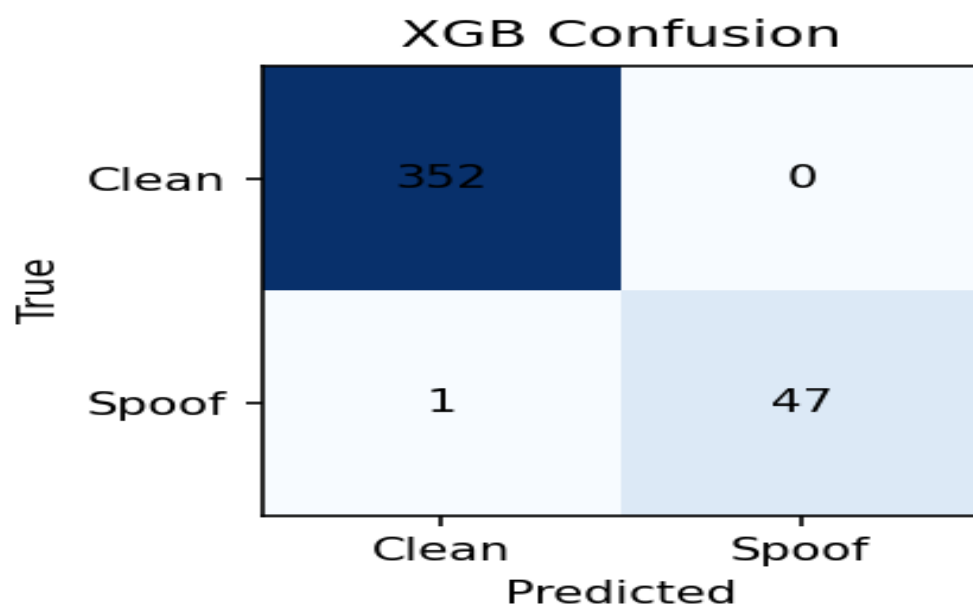


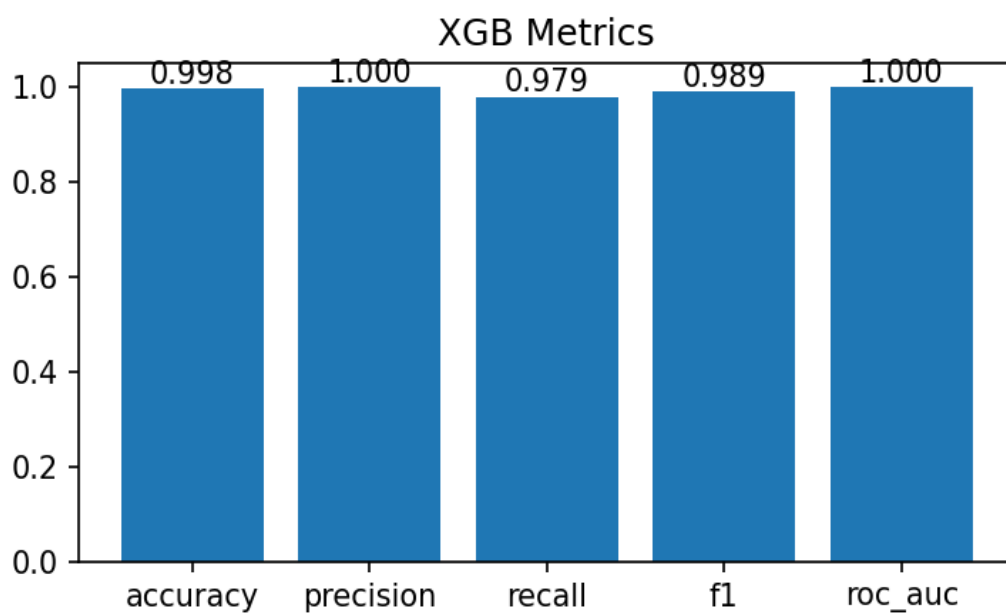


### Results for Fold 2:

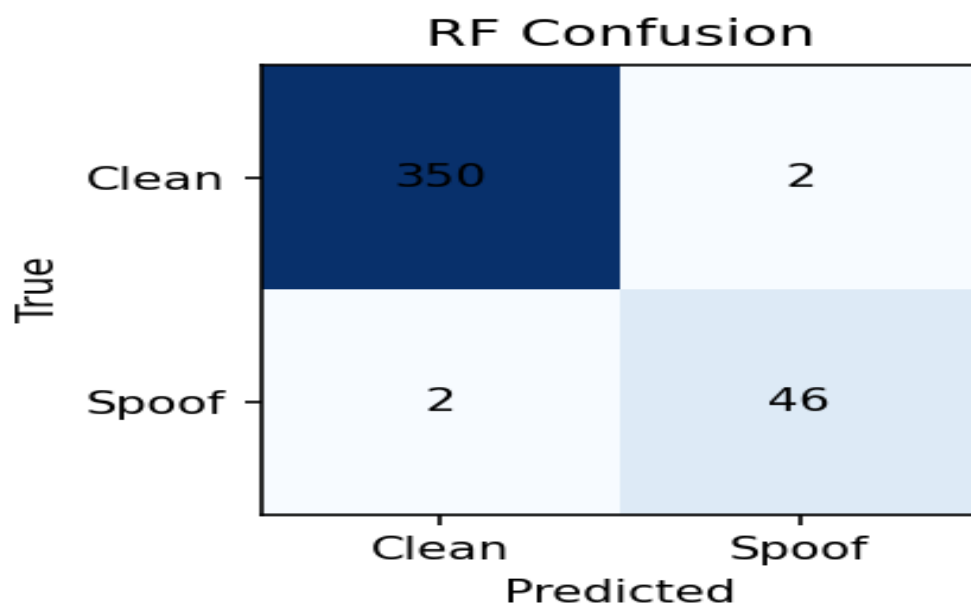


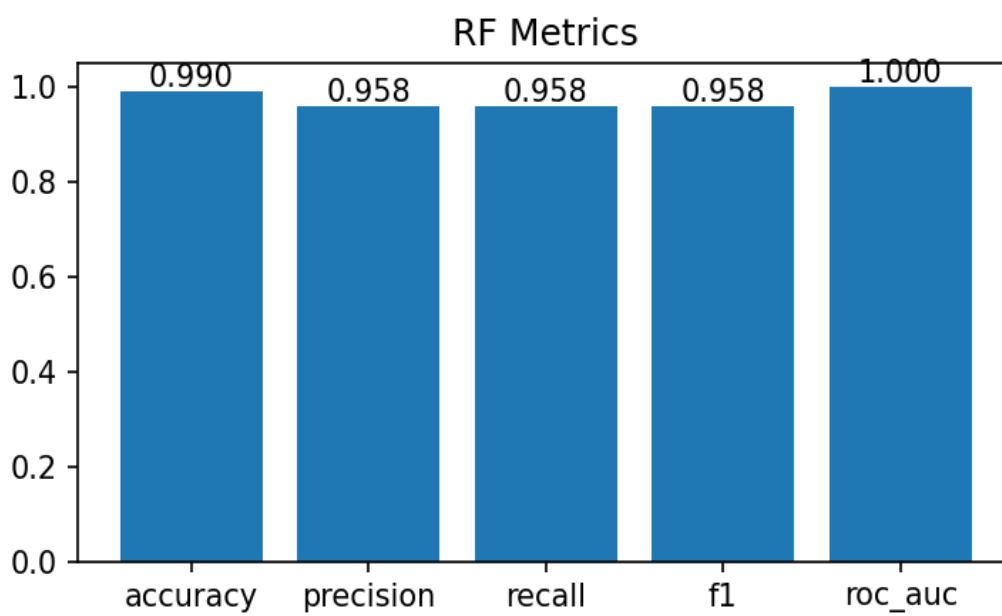
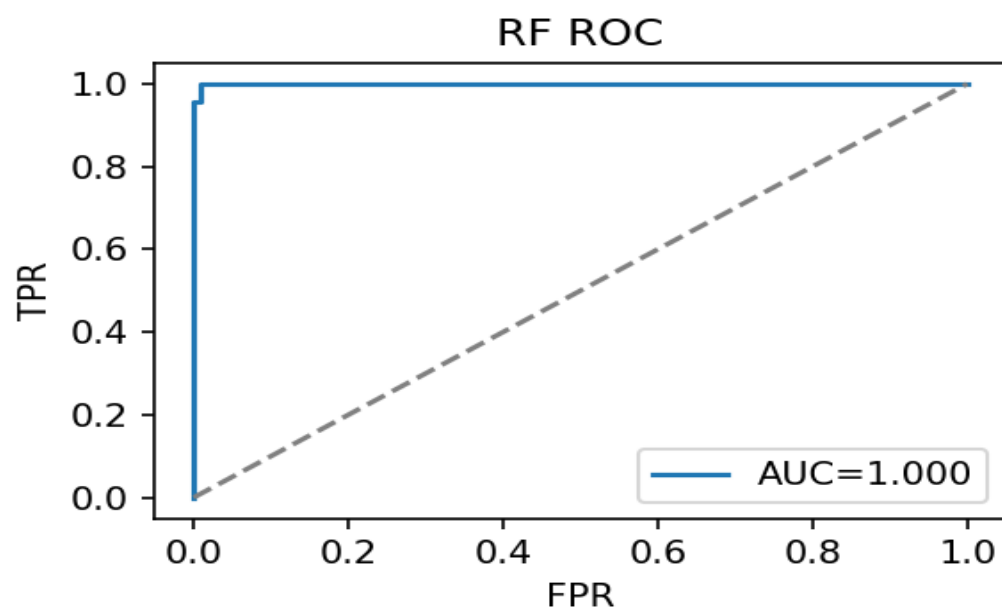




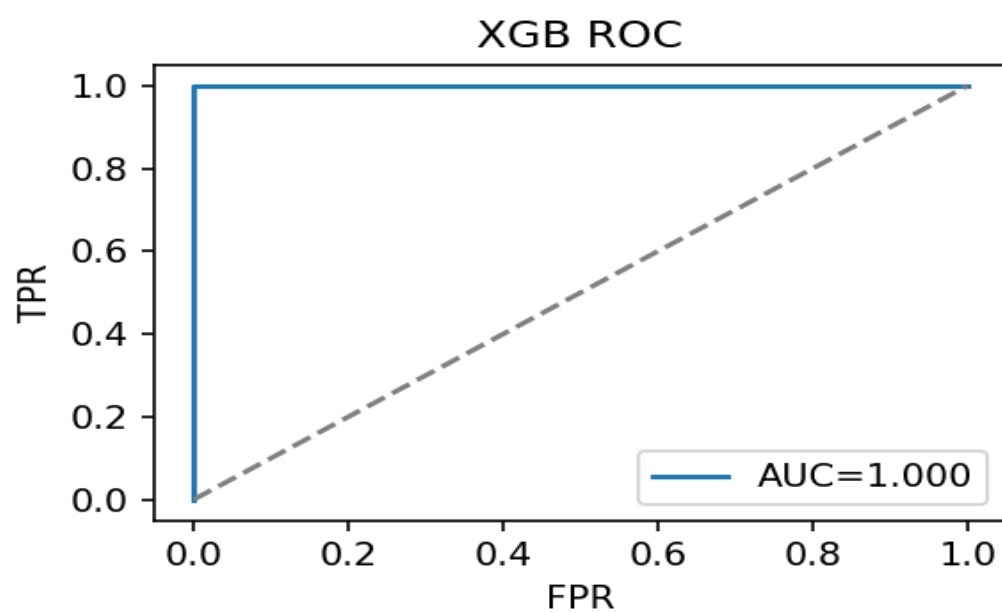
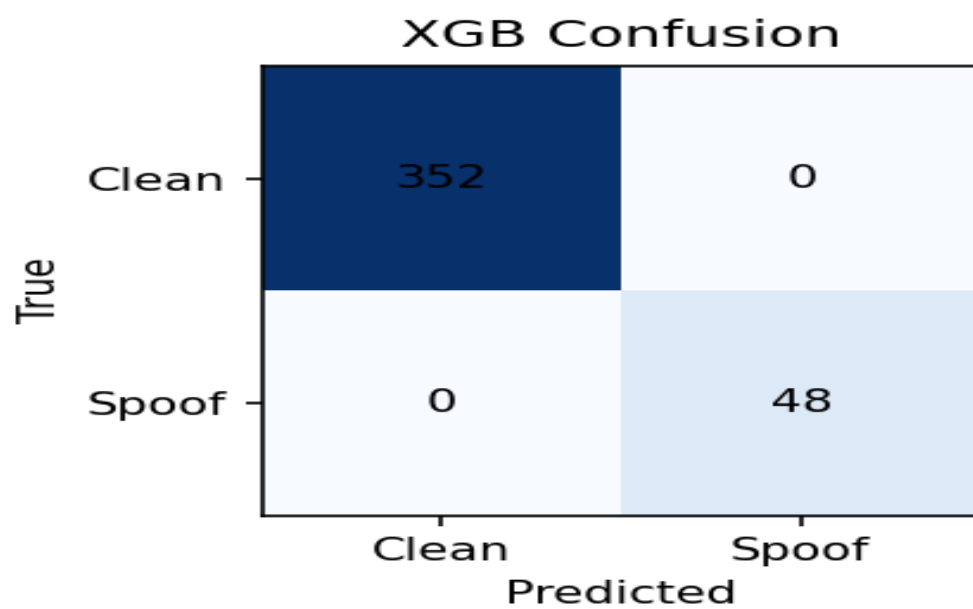


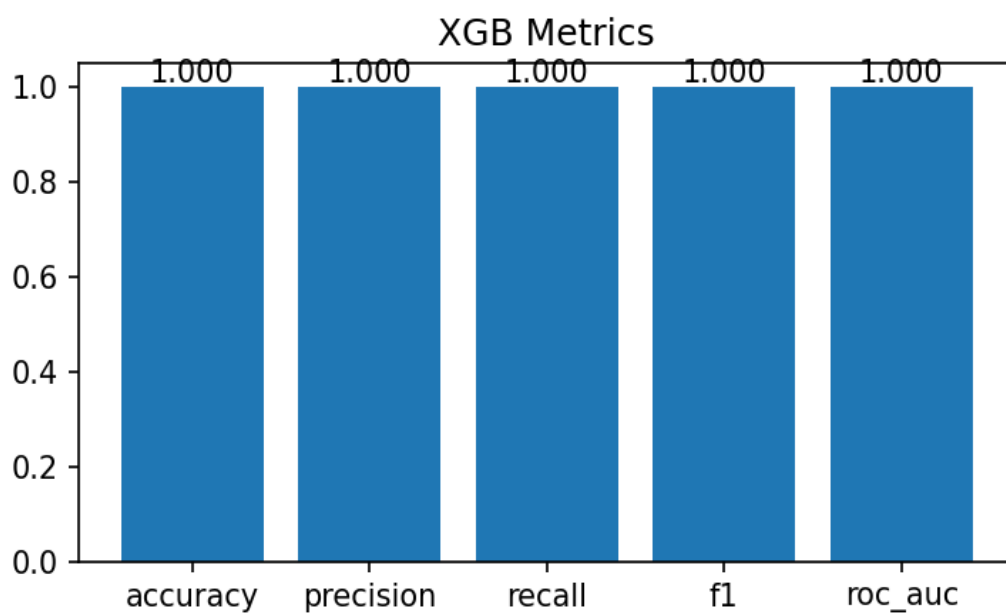
### Results for Fold 3:



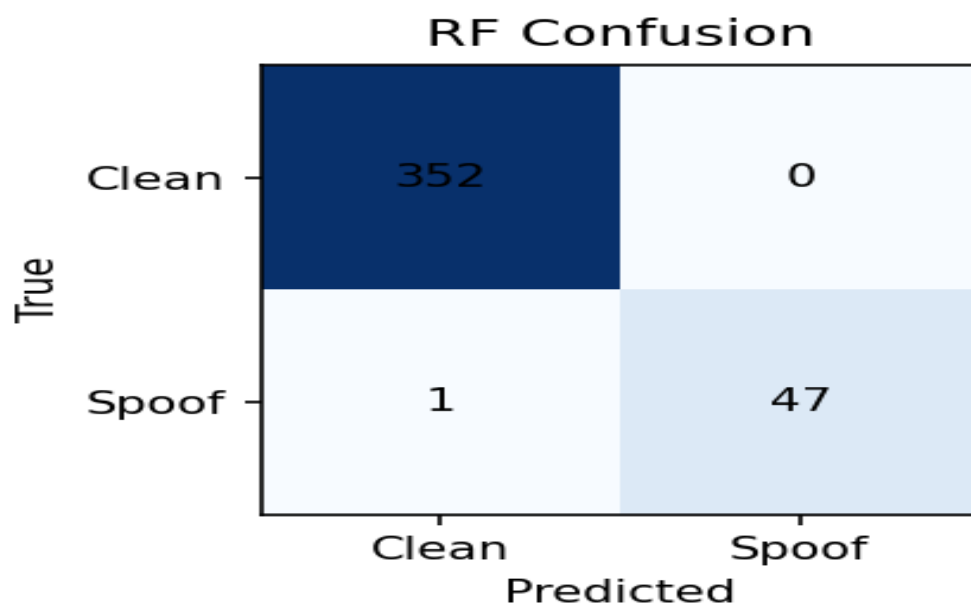


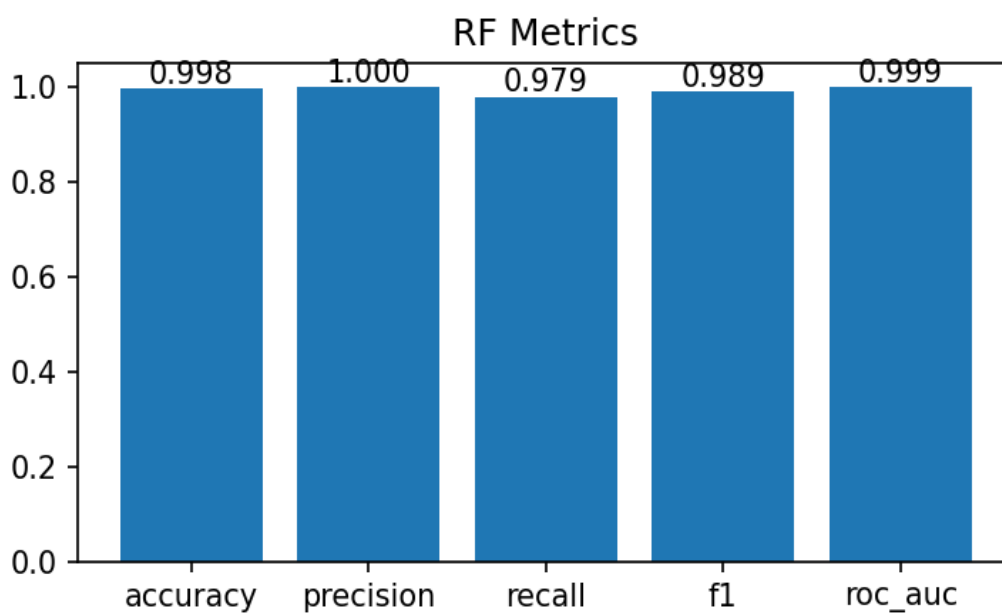
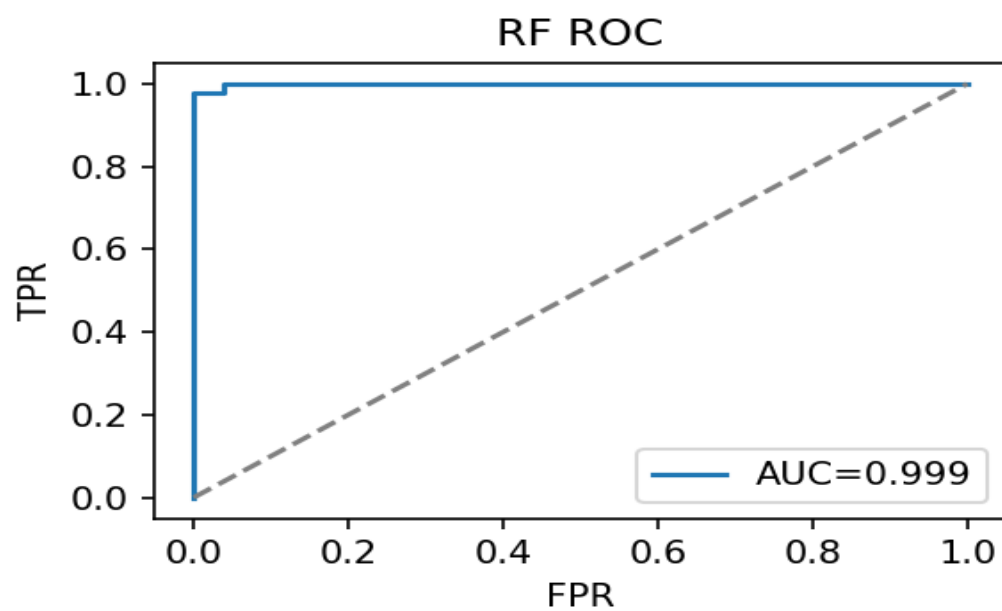


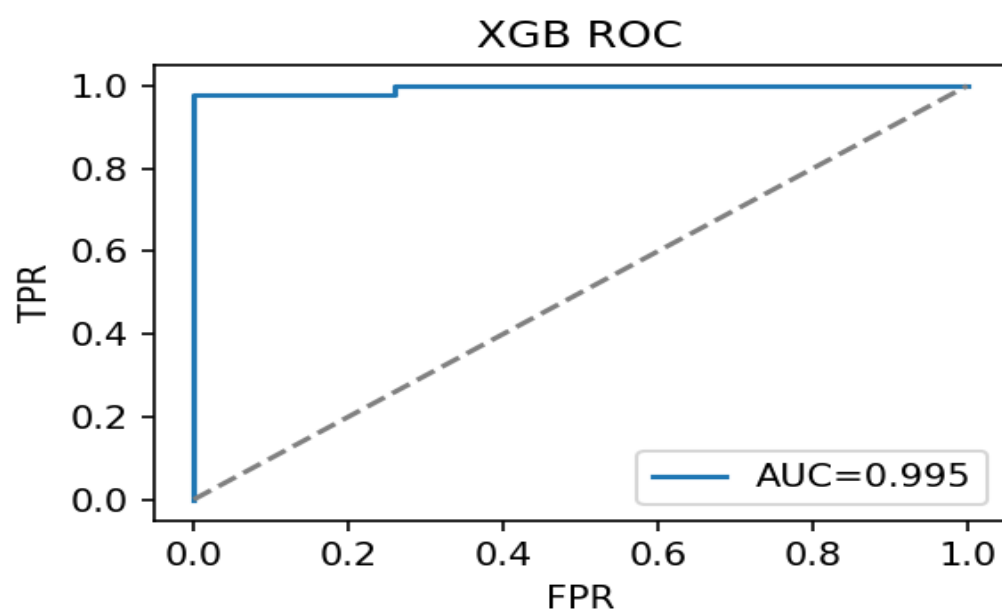
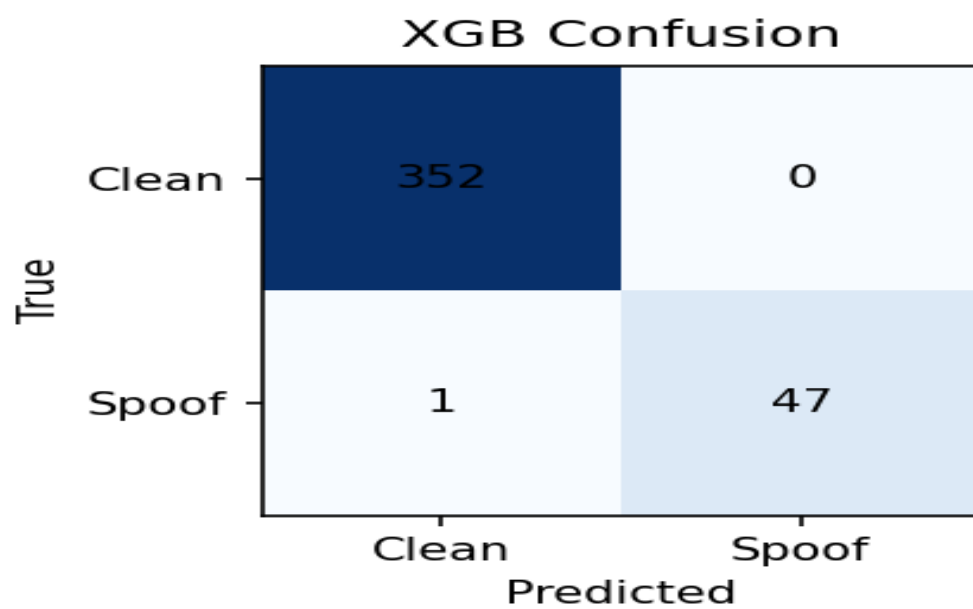


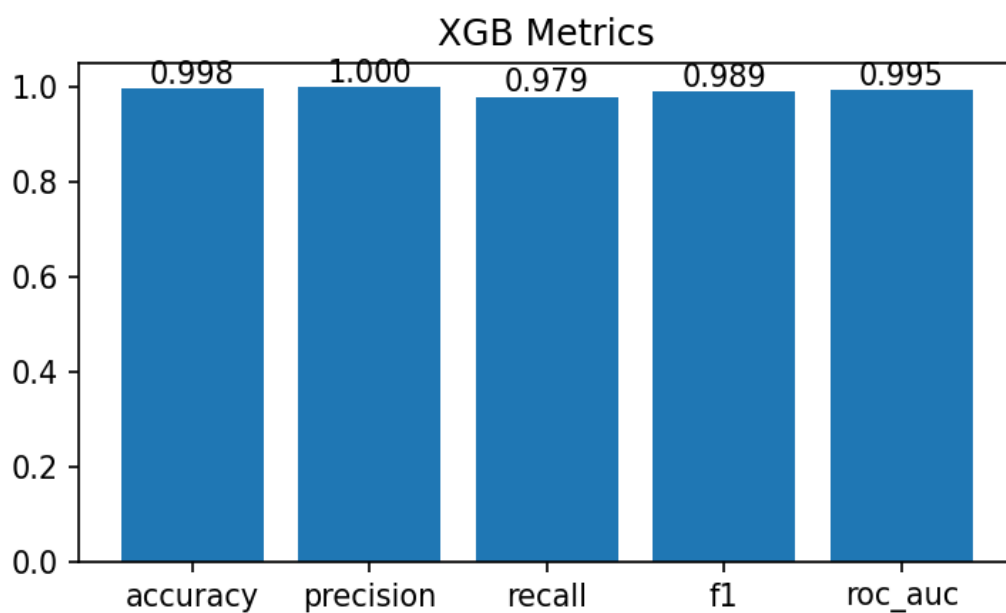


#### Results for Fold 4:

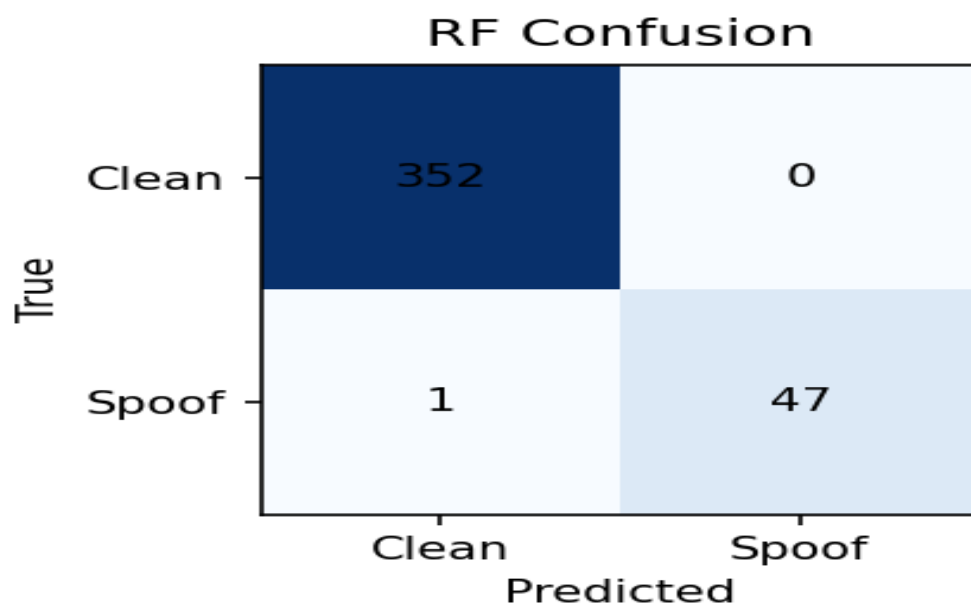


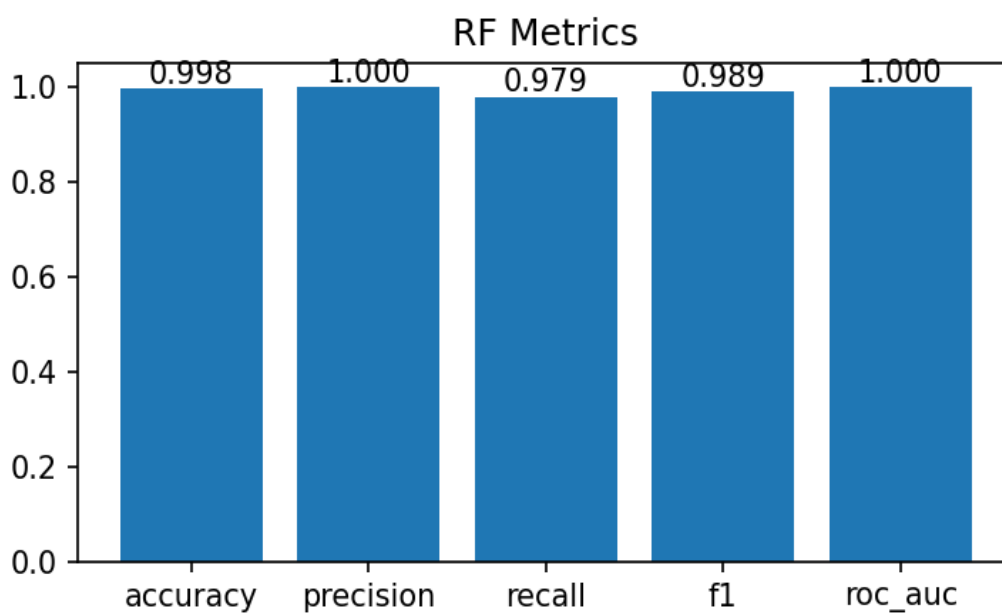
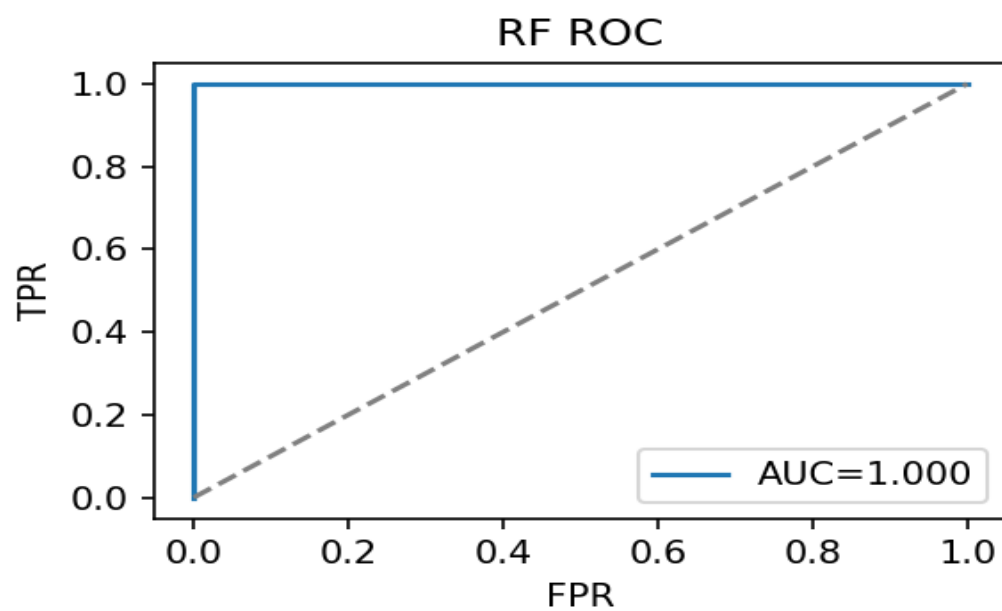


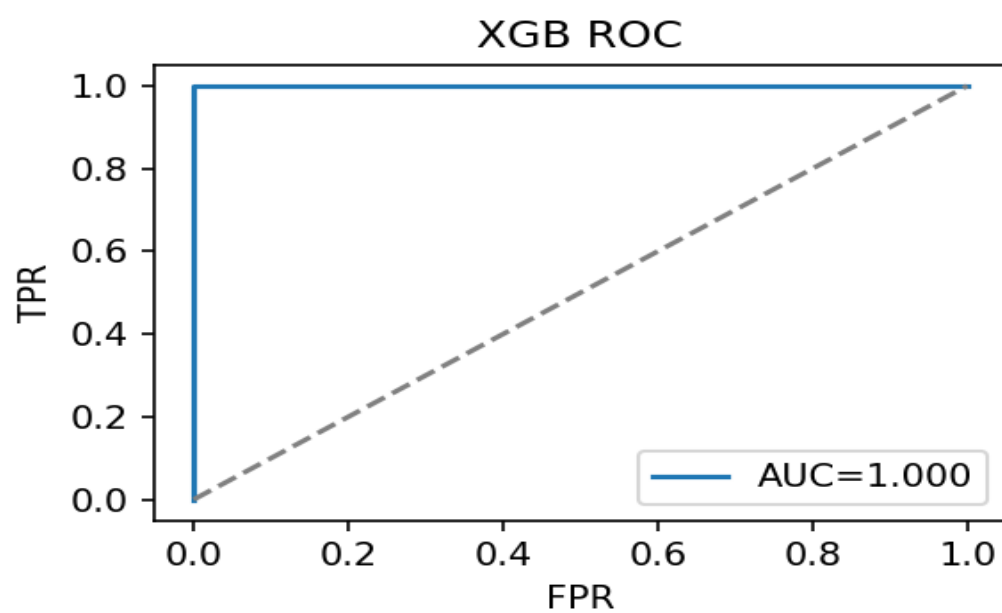
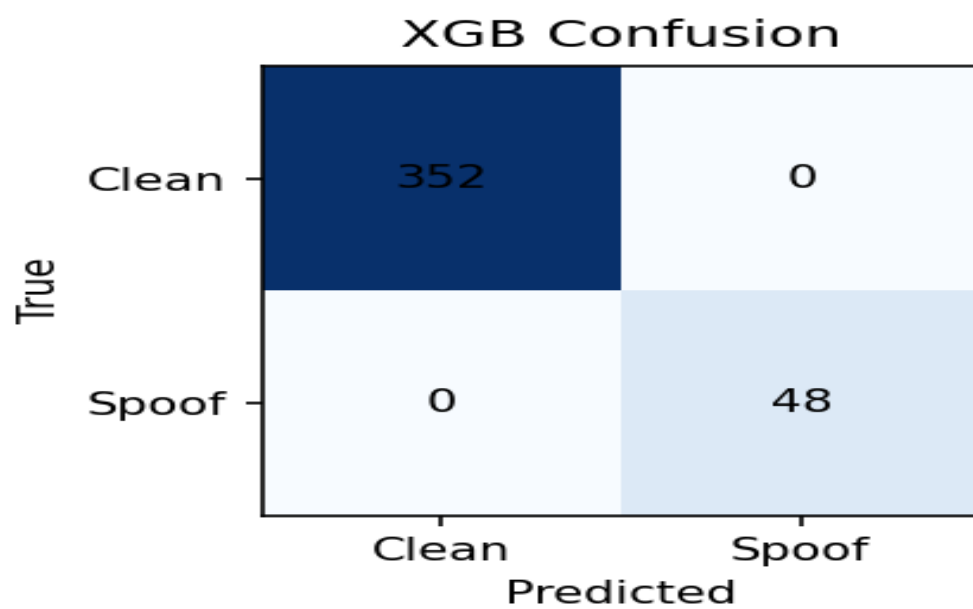


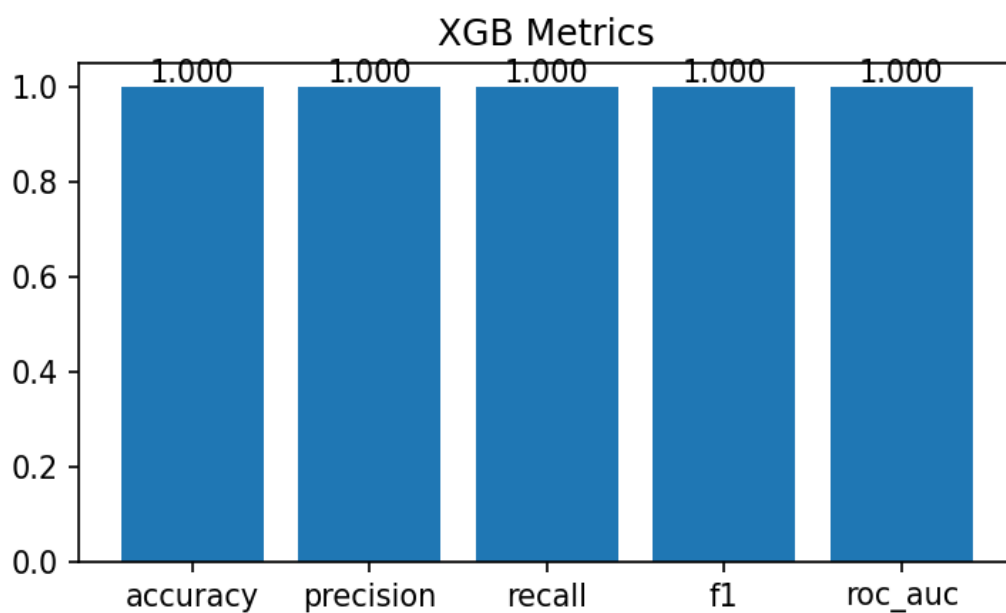


### Results for Fold 5:









## LSTM Autoencoder Results:

accuracy precision recall f1 roc\_auc 0.9245 0.667925 0.7375 0.70099 0.91393

95th percentile threshold: 0.3753

