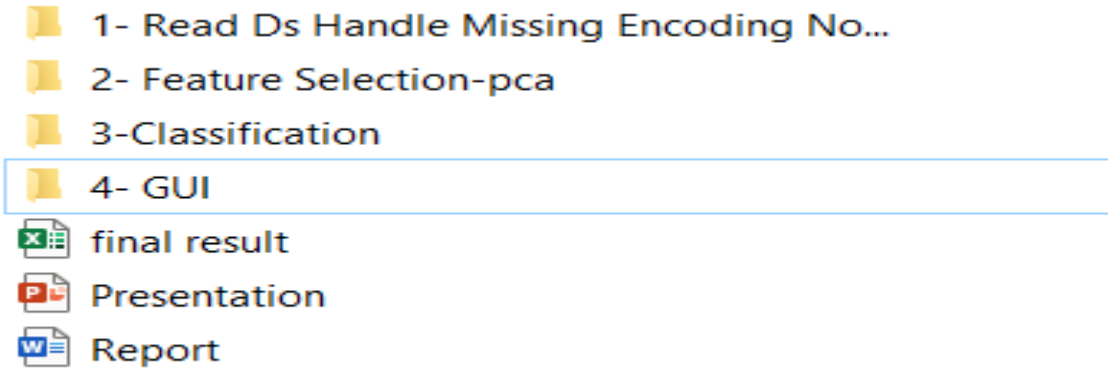
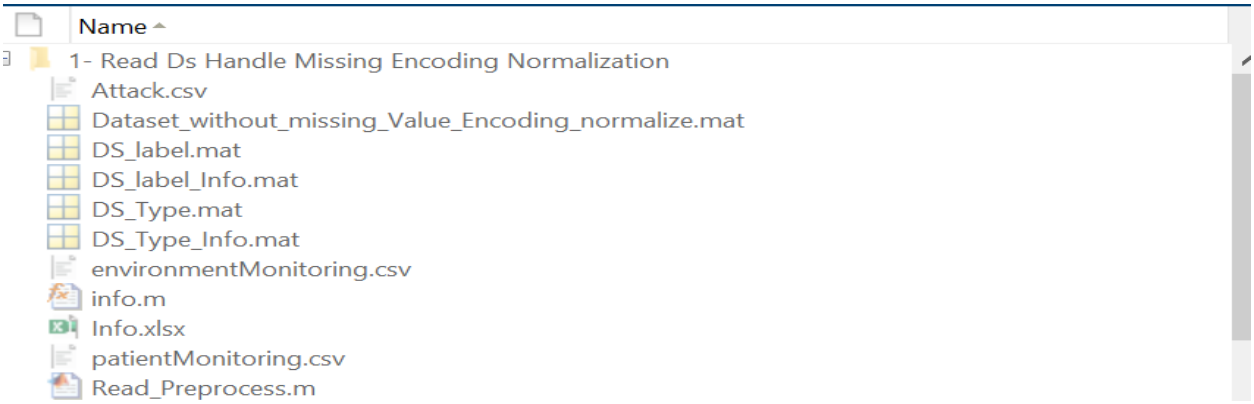
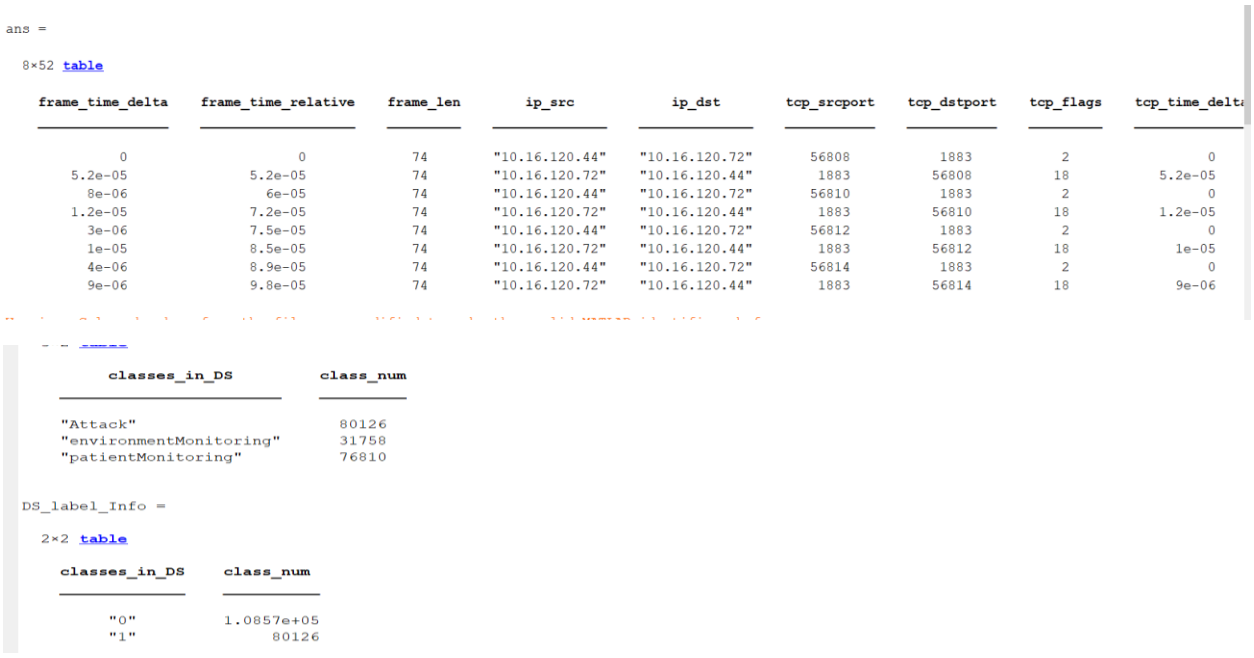
The Project Full Contents



Folder contents



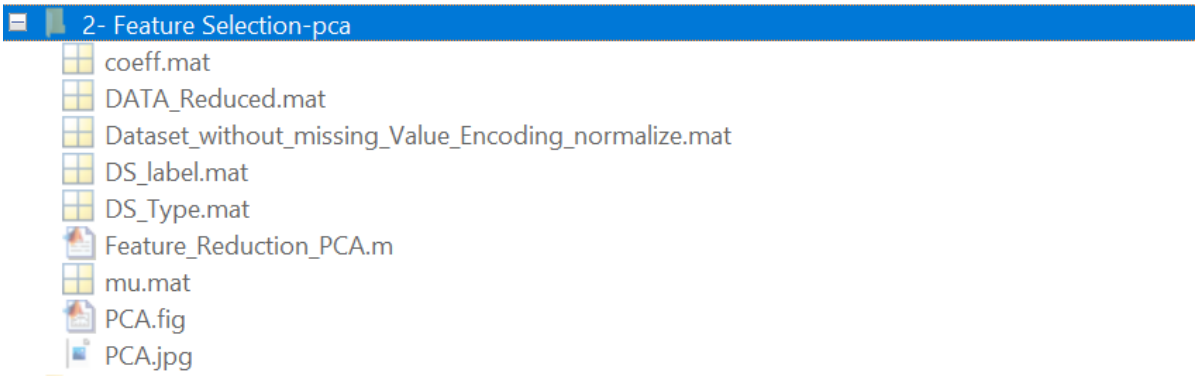
Running the code for loading and exploring the datasets



```
ans =

  8×52 table

    frame_time_delta    frame_time_relative    frame_len        ip_src            ip_dst          tcp_srcport    tcp_dstport    tcp_flags    tcp_time_delta
    ________________    ___________________    _________    ______________    ______________    ___________    ___________    _________    ______________

                   0                      0           74    "10.16.120.44"    "10.16.120.72"          56808           1883            2                0
             5.2e-05                5.2e-05           74    "10.16.120.72"    "10.16.120.44"           1883          56808           18          5.2e-05
               8e-06                  6e-05           74    "10.16.120.44"    "10.16.120.72"          56810           1883            2                0
             1.2e-05                7.2e-05           74    "10.16.120.72"    "10.16.120.44"           1883          56810           18          1.2e-05
               3e-06                7.5e-05           74    "10.16.120.44"    "10.16.120.72"          56812           1883            2                0
               1e-05                8.5e-05           74    "10.16.120.72"    "10.16.120.44"           1883          56812           18            1e-05
               4e-06                8.9e-05           74    "10.16.120.44"    "10.16.120.72"          56814           1883            2                0
               9e-06                9.8e-05           74    "10.16.120.72"    "10.16.120.44"           1883          56814           18            9e-06
```

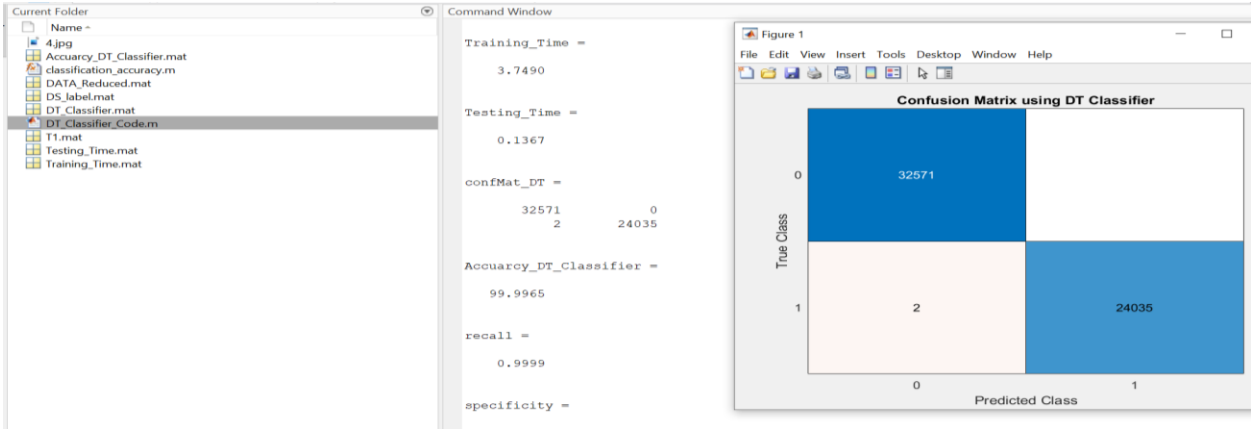
```
        classes_in_DS          class_num
    ______________________    _________

    "Attack"                    80126
    "environmentMonitoring"     31758
    "patientMonitoring"         76810


DS_label_Info =

  2×2 table

    classes_in_DS    class_num
    _____________    _________

          "0"        1.0857e+05
          "1"             80126
```

Second folder for Feature Selection



3-Classifications Algorithms

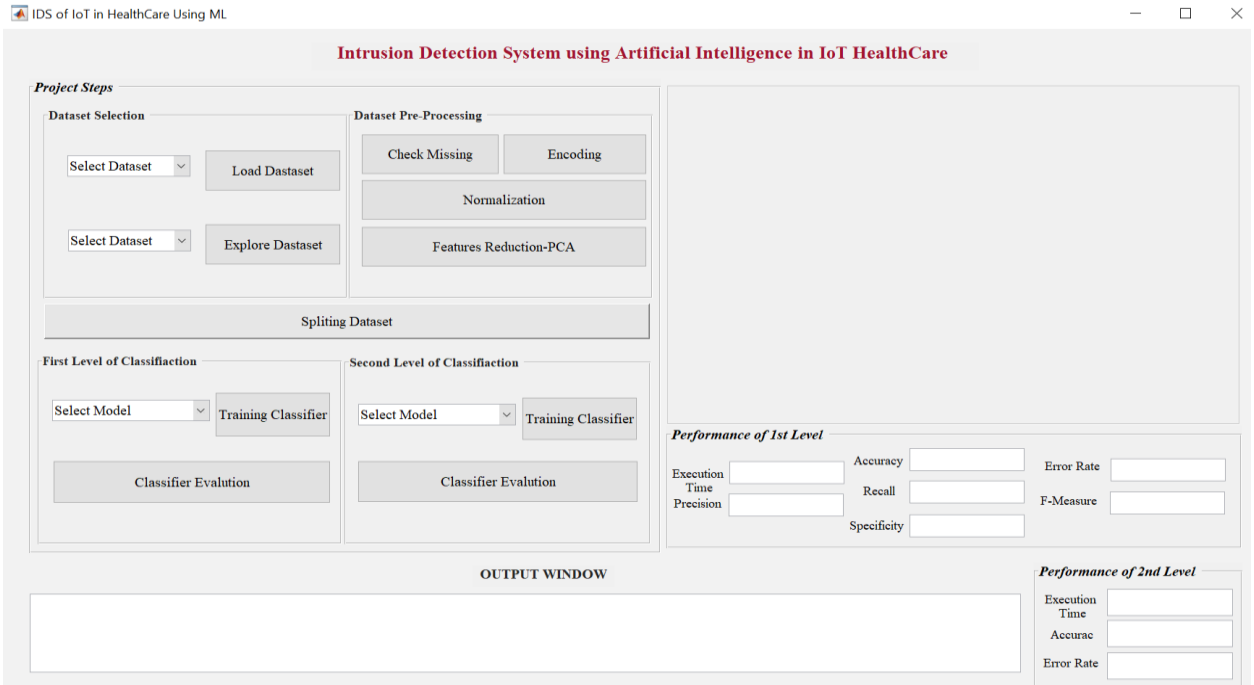
Running the Classification



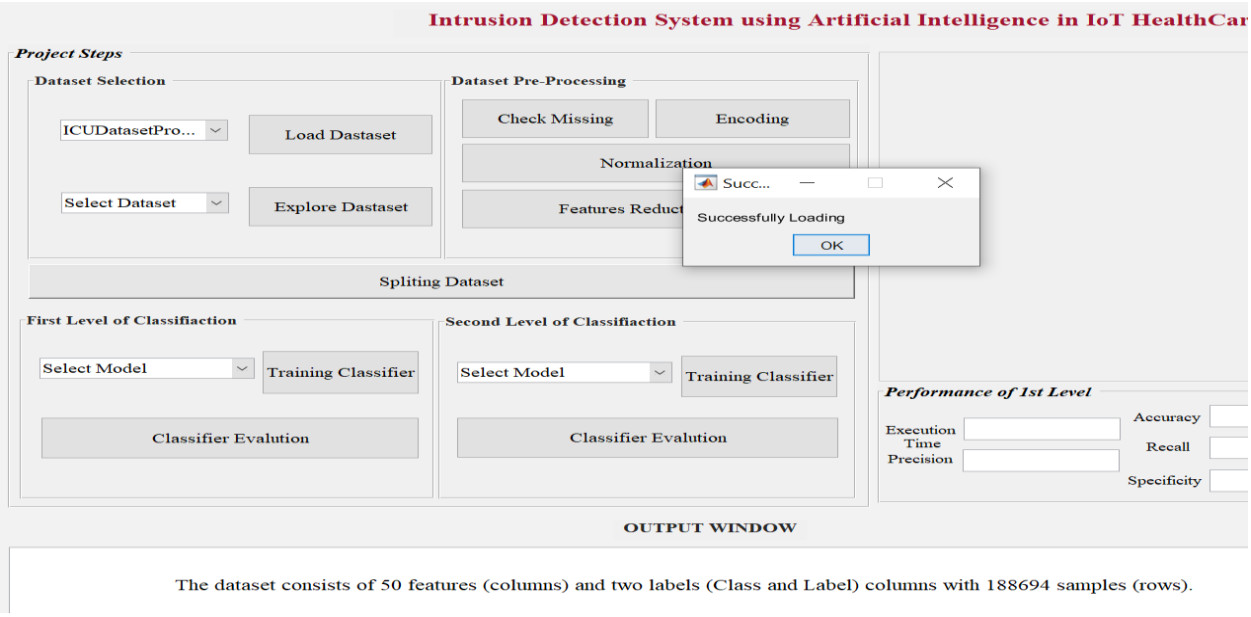
Traing and Evaluation the models

GUI

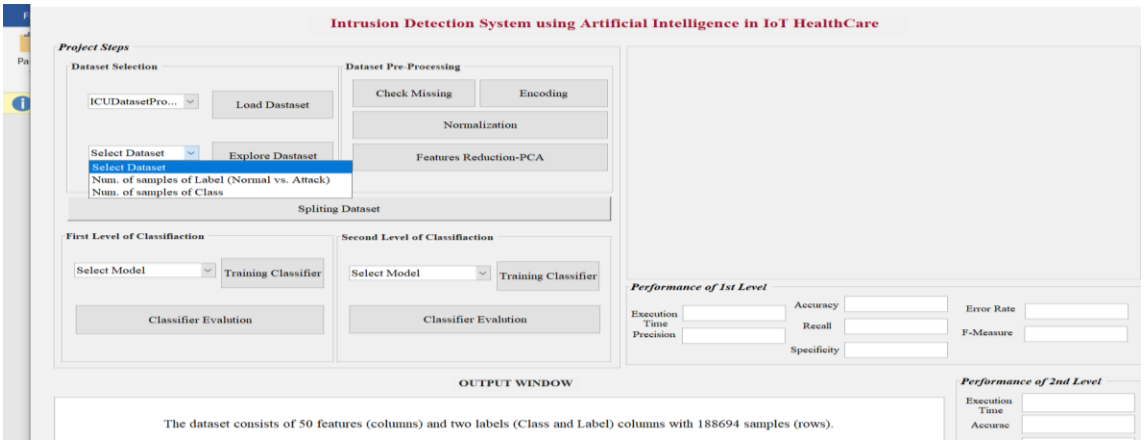
Full GUI



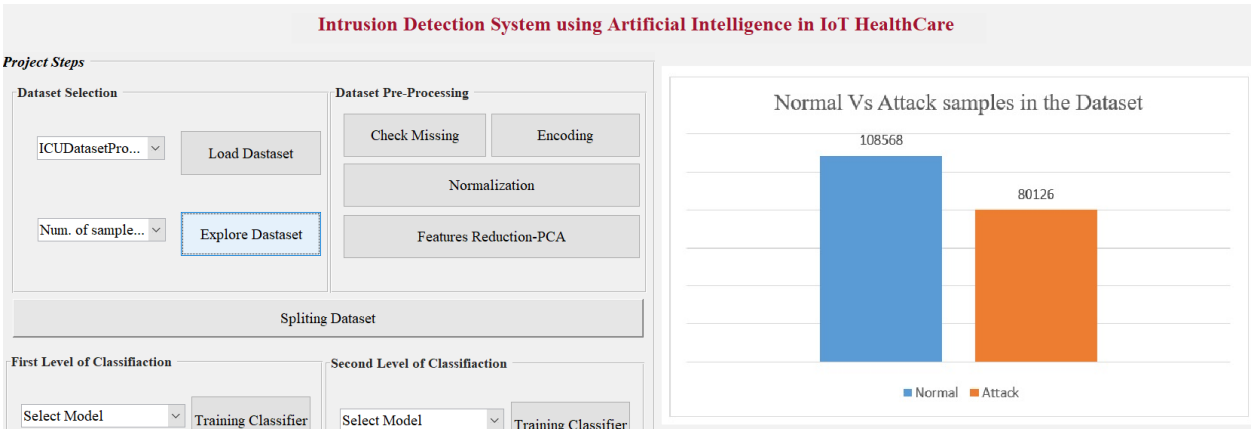
Loading the data



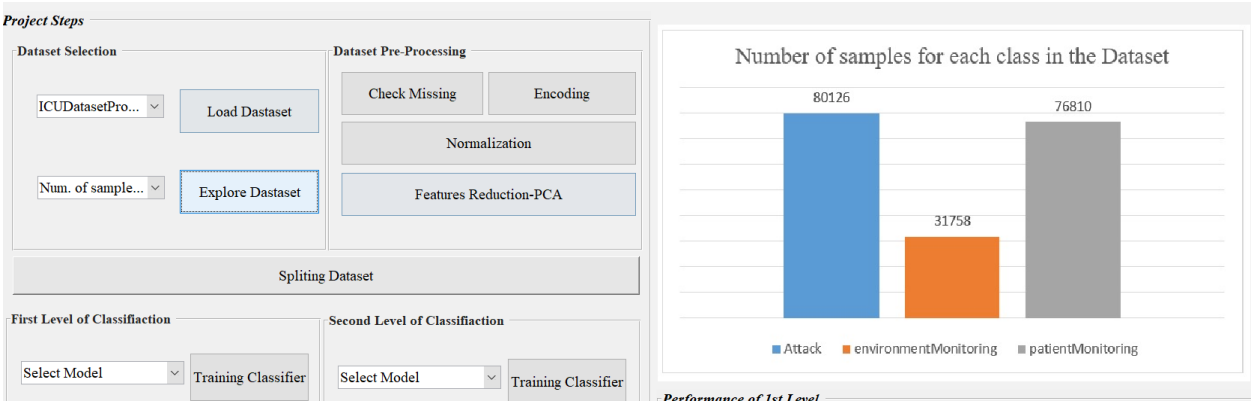
Selection Dataset for Explore



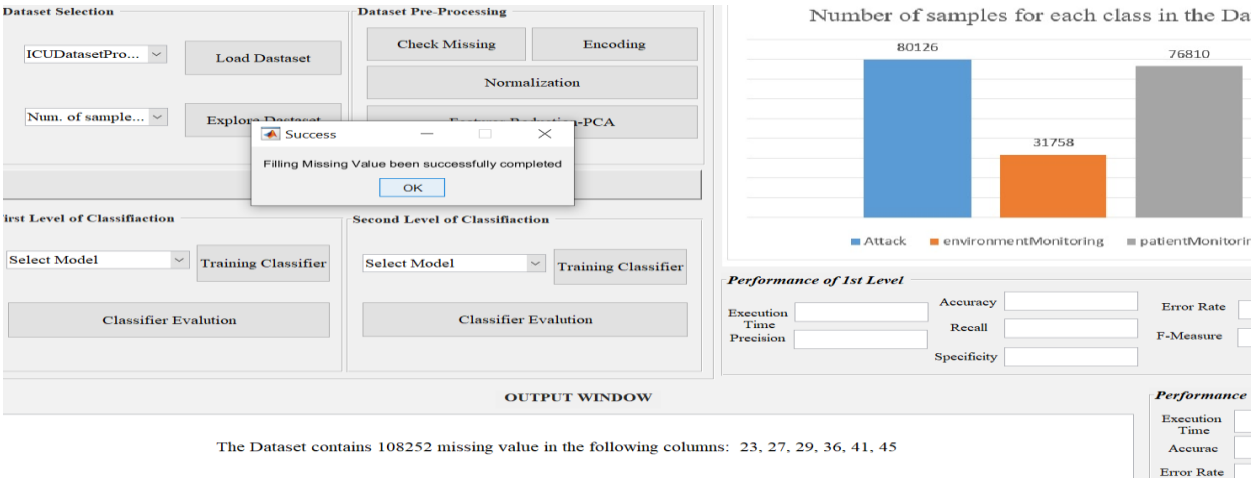
Exploring the data no of sample of label



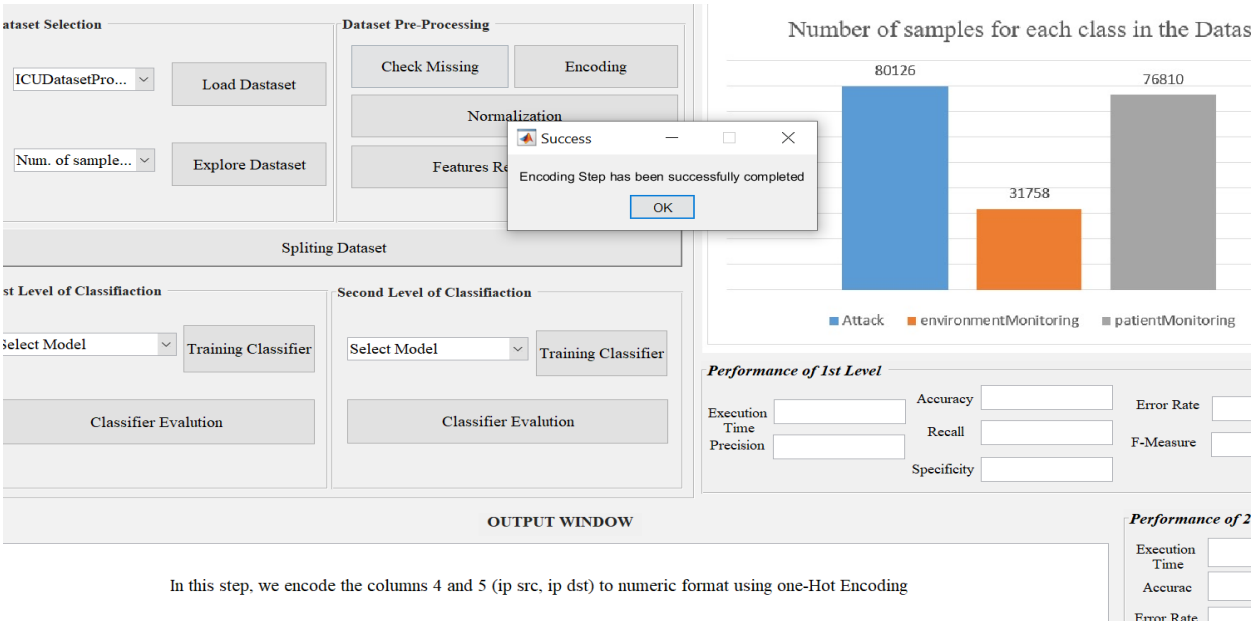
No of each sample Class



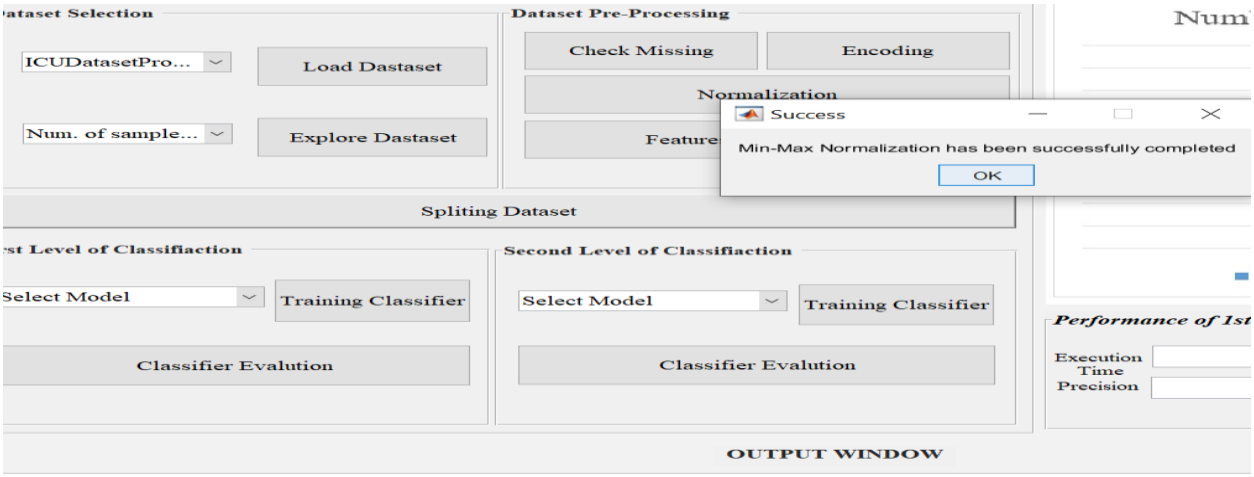
Check Missing values



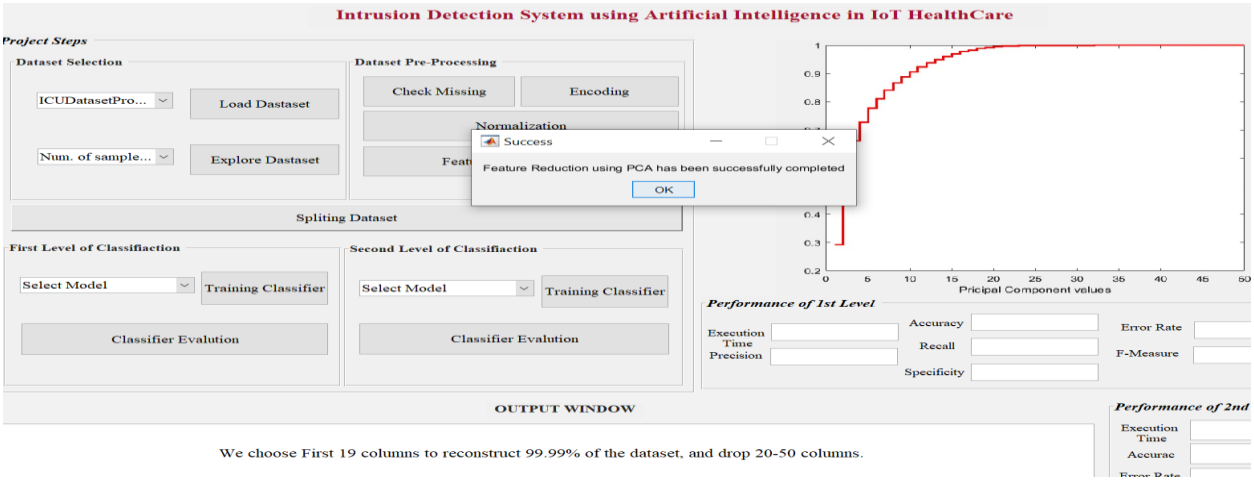
Apply Encoding



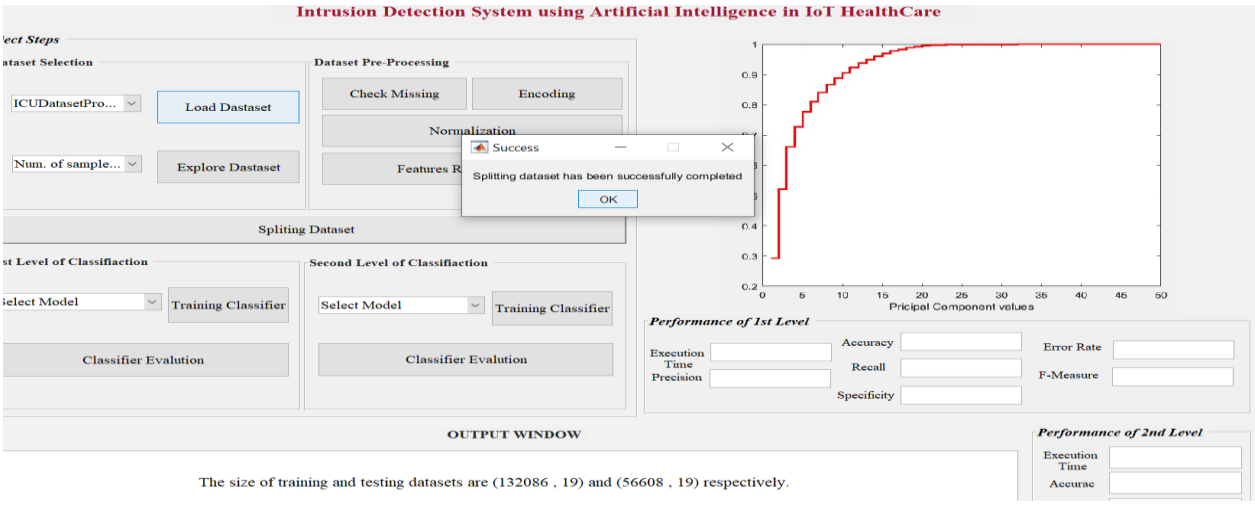
Apply Normalization



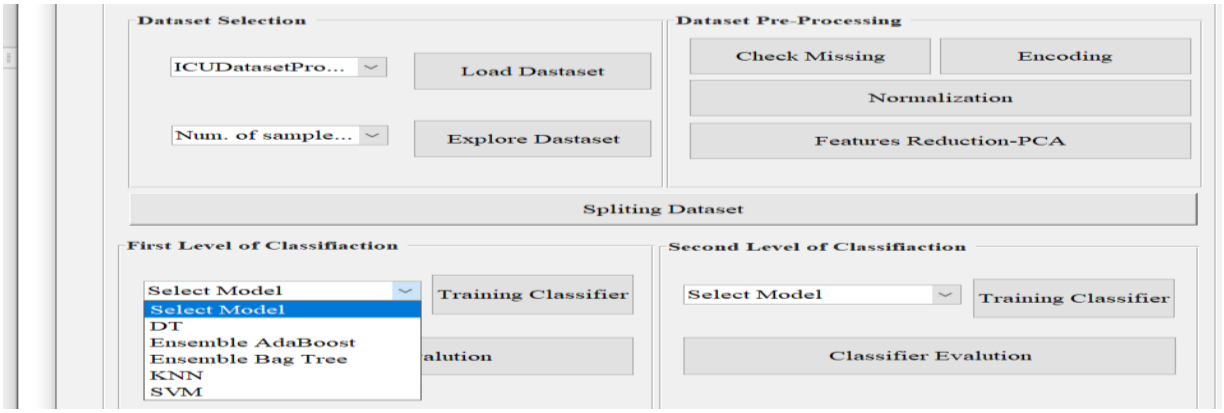
Apply PCA



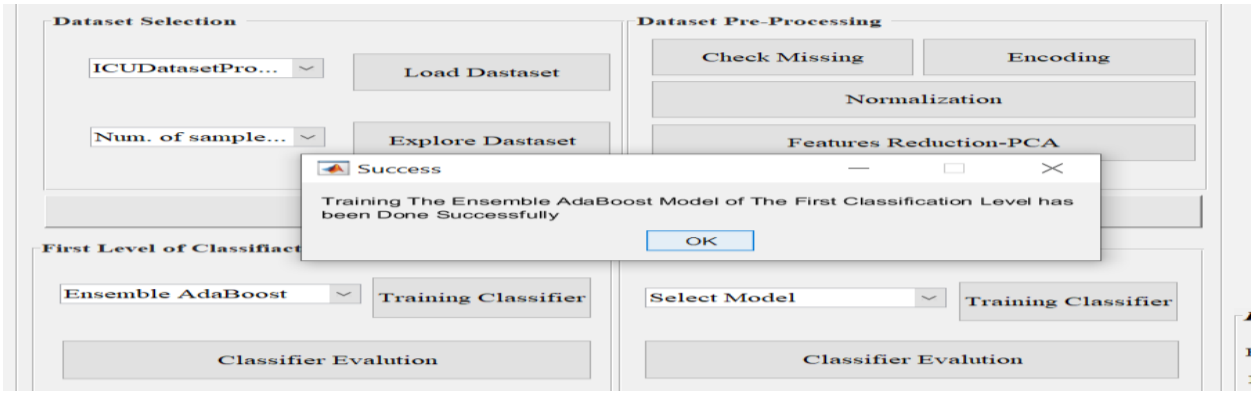
Splitting the data



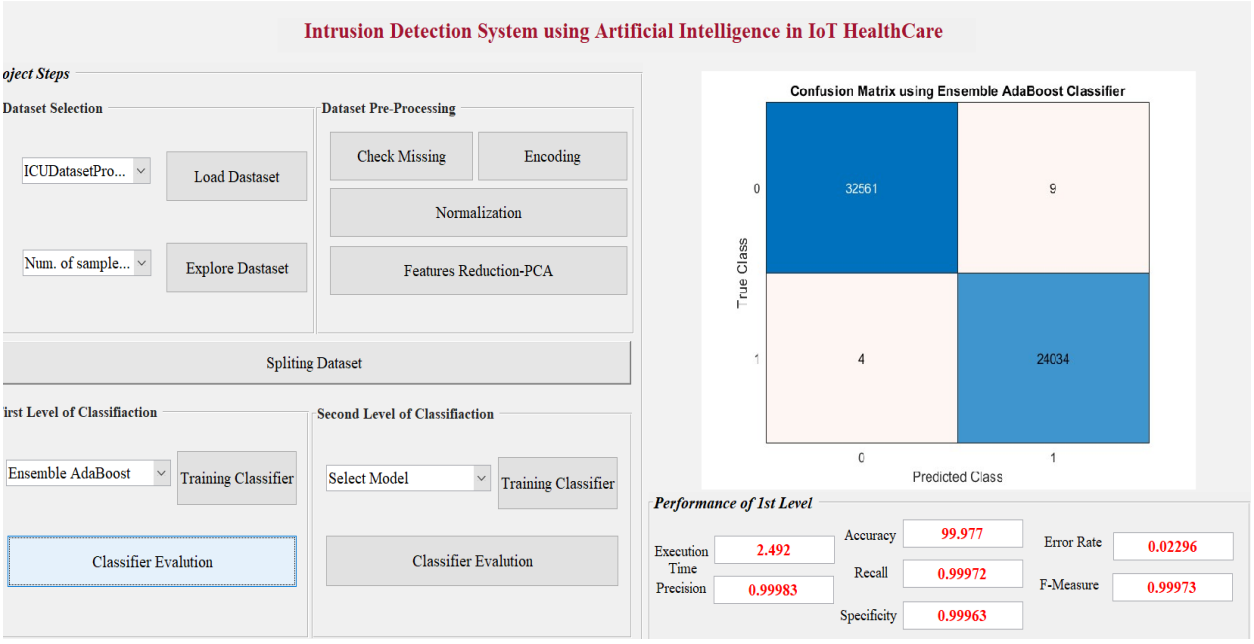
Model classification first Level



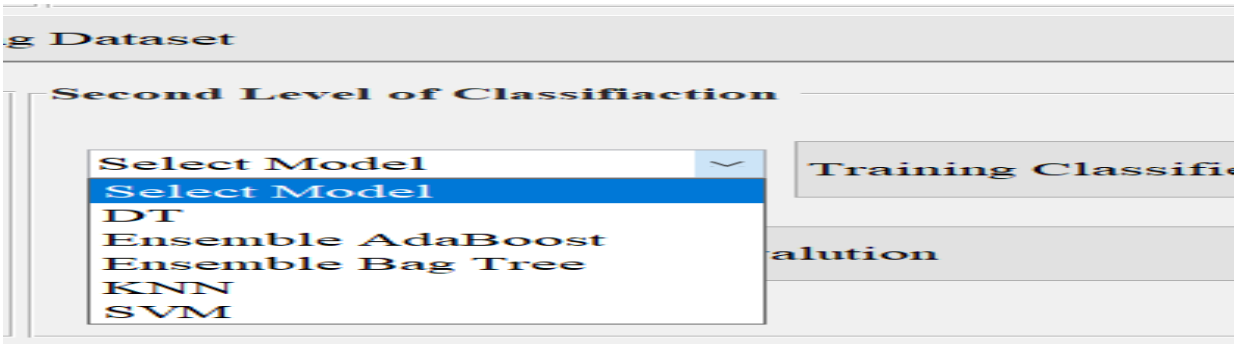
Train First Level classifications



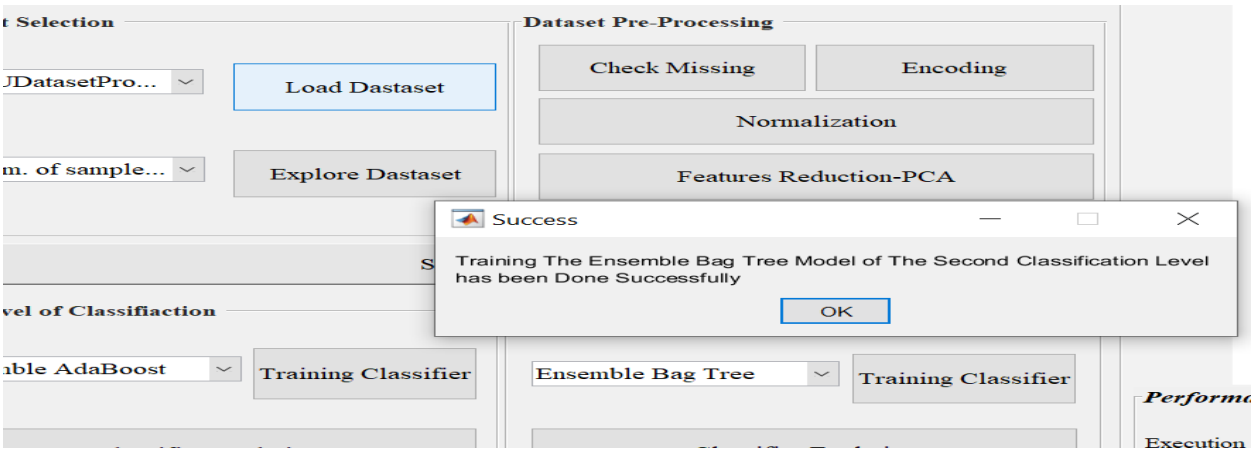
Evaluation first level classification



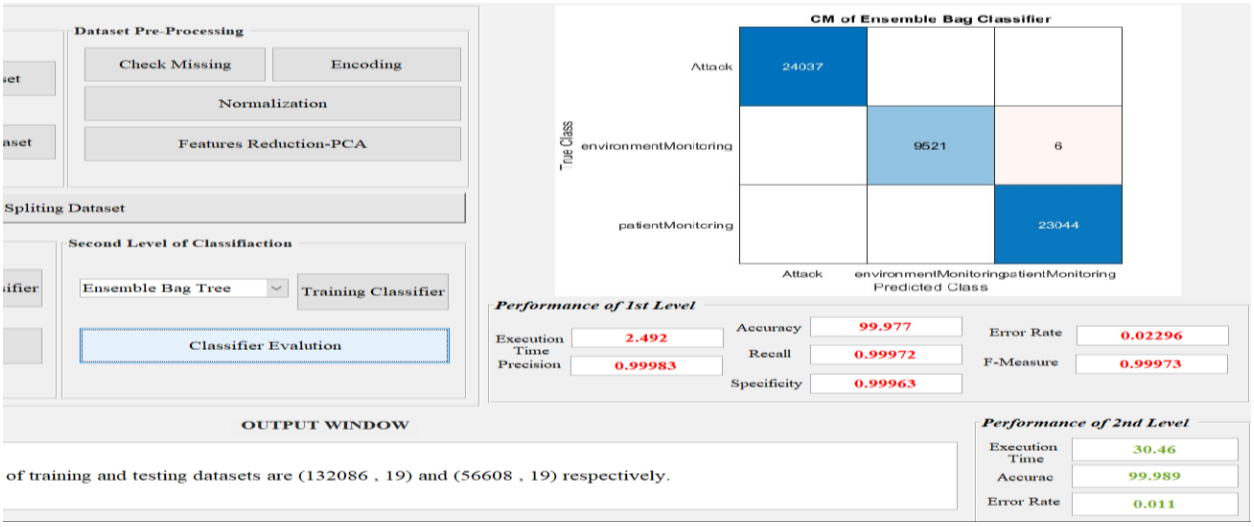
Second Level of classfication



Train second level



Evaluation



Intrusion Detection System using Artificial Intelligence in IoT HealthCare

Dataset Pre-Processing

Check Missing | Encoding

Normalization

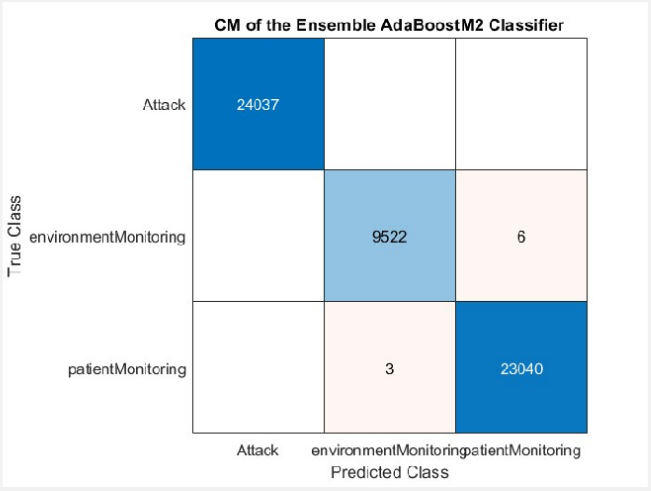
Features Reduction-PCA

ing Dataset

Second Level of Classifiaction

Ensemble AdaBoost | Training Classifier

Classifier Evalution



Performance of 1st Level

Execution Time	2.492	Accuracy	99.977	Error Rate	0.02296
Precision	0.99983	Recall	0.99972	F-Measure	0.99973
		Specificity	0.99963		

OUTPUT WINDOW

aining and testing datasets are (132086 , 19) and (56608 , 19) respectively.

Performance of 2nd Level

Execution Time	39.142
Accurac	99.984
Error Rate	0.016