**Results**

|  |  |
| --- | --- |
| Metric | Value |
| Accuracy | 95.86971 |
| RRSE | 28.60379 |

**Random Forest**

Confusion Matrix:

A chart with blue squares and white text

Description automatically generated

Fig.3.1. Confusion matrix of IoT device classification using random forest (accuracy: 95.86971 percent, RRSE: 28.60379 percent)

**Gradient Boosting Machine**

|  |  |
| --- | --- |
| Metric | Value |
| Accuracy | 95.02049 |
| RRSE | 31.57934 |

Confusion Matrix:

A chart with blue squares and white text

Description automatically generated

Fig.3.2. Confusion matrix of IoT device classification using Gradient Boosting (accuracy: 95.020 percent, RRSE: 31.579 percent)

|  |  |
| --- | --- |
| Metric | Value |
| Accuracy | 96.26165 |
| RRSE | 25.76584 |

**eXtreme Gradient Boosting (XGBOOST)**

A chart with blue squares and white text

Description automatically generated

Fig.3.3. Confusion matrix of IoT device classification using XGBoost (accuracy: 96.261 percent, RRSE: 25.765 percent)

A graph with a green line

Description automatically generated A graph of a graph

Description automatically generated

4(a) XGBoost 4(b) Gradient Boosting

A graph of a graph

Description automatically generated A graph with red and blue lines

Description automatically generated

4(c) Random Forest 4(d) base line (random forest)

Fig.4. Confidence Level comparison between baseline paper and 3 different models implemented in this paper.

A graph of a number of blue and green bars

Description automatically generated A graph of a bar graph

Description automatically generated with medium confidence

5(a) Random Forest 5(b) Gradient Boosting

A graph of a bar graph

Description automatically generated with medium confidence A graph of a graph with a red line

Description automatically generated with medium confidence

5(c) XGBoost 5(d) base line(Random Forest

Fig.5. Attribute importance comparison between baseline paper and 3 different models implemented in this paper.