

## CHAPTER 6

### CONCLUSIONS AND FUTURESCOPE

#### 6.1 CONCLUSION

Machine learning tools and techniques play a vital role in the business field and real-time applications. Most of the traditional machine learning models use static metrics, limited data size and limited feature space due to high computational processing time. In this work, a hybrid data transformation, outlier detection, feature ranking and classification models are implemented on the different databases. The proposed models gives the better recognition of diabetes, correct type of glass, better identification of network attacks, cancer decease and credit risks in the credit dataset. Proposed data filtering module is applicable to high dimensional data size and feature space for classification problem. In the classification problem, an advanced boosting classifier is implemented on the filtered data in order to improve the true positive and error rate.

The main contributions of the research work include

1. In the first contribution, a hybrid statistical anomaly detection-based classification problem is proposed on the continuous attributes. In this work, a hybrid control limits-based anomaly detection and classification algorithm are proposed on the different datasets.
2. In the second contribution of the work, a hybrid feature ranking based classification model is proposed on the mixed type of attributes for robust decision making process. In this contribution, a hybrid attribute ranking based decision tree classifier is proposed to optimize the pruning problem on mixed type of attributes.
3. In the third contribution, a hybrid ensemble learning model is implemented on the high dimensional and large databases to improve the true positive accuracy of the classification problem.

Experimental results show that the proposed model has a high computational accuracy rate(~98.8%) and error rate of (~0.15%) compared to traditional feature selection and classification models.

## **6.2 FUTURE SCOPE**

In the Future Scope, real-time disease prediction is one of the main problems in IOT-based applications due to noise in medical sensor data or the problem of feature selection. To improve the disease classification rate and test the new type of disease patterns for real-time patient disease prediction using the IOT framework, a novel online feature selection-based classification model is required.