CHAPTER 6

FINDINGS AND DISCUSSION

6.1 FINDINGS OF THIS THESIS

The findings of the research are listed below.

- WBC composition of the blood provides important information to Doctors and plays an important role in the diagnosis of different diseases.

- FCM clustering with some modifications was performed in order to segment nucleus region and cytoplasm region of white blood cell.

- The new adaptive fuzzy clustering algorithm is capable of utilizing local contextual information to impose local spatial continuity, thus allowing the suppression of noise and helping to resolve classification ambiguity.

- A Modified fuzzy possibilistic clustering algorithm was developed based on the conventional fuzzy possibilistic C-Means (FPCM) to obtain better quality segmentation results.

- Experiments show that the MFPCM clustering algorithm gives more accurate clustering results than the traditional FCM and FPCM methods.
• The main goal of the FRVM, that successful identification of attacks in reduced false alarm rate.

6.2 DISCUSSION

The RGB images of WBC cells are changed into HSV. Filtering process are followed by HSV, here median filter are placed because it preserves the edge of the images. Following this filtering process image enhancement are placed, here bright stretching methods are used. The WBC cells are taken for segmentation and efficient segmentation is achieved by using fuzzy based techniques. The methods are provided for WBC segmentation into nucleus and cytoplasm. This is particularly important for differential counting, which helps in the diagnosis of several diseases. This work successfully segments WBC images into nucleus, cytoplasm and background. This WBC is well used for medical field.

White Blood Cell images are segmented by using different clustering techniques such as K-Means, Fuzzy K-Means, Moving K-Means and Adaptive Fuzzy Moving K-Means. The processing time of Adaptive Fuzzy Moving K-Means algorithm is little small than K-Means and fuzzy K-Means, but the segmentation performance remains high by using this algorithm and hence this can be mainly used in medical images. The geometric and texture features were extracted for cancer and non-cancer WBC cells and the best features were selected using Minimum - Redundancy and Maximum - Relevance (MRMR) algorithm.

This research proposed an Efficient Intrusion detection system that is formed by using Modified Classification process of SVM, ELM and RVM. RVM Classification is for good generalization performance.
6.3 SUMMARY

The segmentation of white blood cells (WBC), also called leukocytes. The K-Means Clustering Algorithm is adopted and it is capable of initial segmentation of the structures characterized by spatially varying intensity distribution. Although it is able to overcome the difficulties, it is originated from image acquisition noise with Adaptive K-Means clustering. Modified fuzzy possibilistic clustering algorithm, which is developed to obtain WBC using segmentation the noisy in the AFKM is solved by using MFPCM algorithm. Finally, the segmentation of the proposed FRVM method is used and proves to offer better result.