**ABSTRACT**

In this paper, new modified techniques are being used to choose the most relevant feature which is weighed against the typical techniques and offered to the classifier for exact and appropriate prediction of the diseases. The improved techniques CBMPSO, MBFO, BB-BAT are used for feature selection. These techniques determine best features which are provided to the ESVM, IELM and SADE ELM classifier and the effect are weighed against the standard algorithm. It has been proved that the improved method provides better accuracy in comparison to standard SVM and ELM algorithm.