**ABSTRACT**

High dimensional data seen in a practical issue imposes a hurdle for large data analysis. Attribute reduction or feature selection aids the learning algorithm to work with efficiency by eliminating unnecessary and repetitive information in the big data. The existing system like Acceleration Particle Swarm Optimization–Support Vector Machine (APSO-SVM) is proposed in order to deal with the above challenge. But the already existing technique has issues in addition to the pre-processing technique and optimal feature selection for scalable dataset. Therefore the system’s overall performance is decreased significantly. With the aim of eliminating these problems, in the proposed system, Acceleration Artificial Bee Colony –Improved Transductive SVM (AABC-ITSVM) is introduced so as to improve the system performance in a more efficient manner. The proposed system comprises of three important modules like preprocessing, feature selection and classification. The preprocessing is carried out by making use of min-max normalization algorithm that assists in increasing the classification accuracy more. Thereafter the feature selection is carried out by employing AABC optimization algorithm that is utilized for selecting the significant and necessary features from the data that is preprocessed. The selected features are classified by employing ITSVM algorithm. The ITSVMs gets the labeling of the test features, which increases the margin conjoined on the training and the test data. It yields classification results with more accuracy for the datasets specified. The proposed system offers great performance with regard to superior accuracy, recall, sensitivity, specificity, precision, f-measure, gmean, and lesser selected features, time complexity by utilizing the AABCITSVM technique.