**ABSTRACT**

Crop maintenance is one of the crucial factors that determine the quantity and quality of the agricultural products. Protecting crops from plant diseases is an important aspect that increases the profit of the farmer. This study aims at developing a computational model that will facilitate crop production by accurately identifying diseases that affect productivity of turmeric plants. The turmeric leaf is highly exposed to diseases like rhizome rot, leaf spot, and leaf blotch. This system uses technologies such as feature selection and machine learning techniques for the identification and classification of diseases in turmeric leaf. Principal component analysis, Information gain and Relief-f attribute evaluator methods were investigated in combination with machine learning algorithms like Support Vector Machine, Decision Tree and Naïve Bayes. The performance of the models were evaluated using 10 fold cross validation and the results were reported. Comparatively, the model using SVM applied to features selected using Information gain performed well with an accuracy of 93.75.