

## ABSTRACT

The proposed system presents a deep learning-based solution for detecting and classifying leaf diseases in domestic plants. The proposed system employs a convolutional neural network (CNN) to automatically extract features from leaf images and classify them into different disease categories. The dataset used in the study consists of images of healthy leaves and leaves affected by bacterial spots, early blight, and late blight. The CNN model is trained on the dataset to learn the features and patterns that differentiate between healthy leaves and diseased leaves. The model is then used to classify new images of leaves as healthy or diseased and to identify the specific disease if the leaf is diseased. The experiments conducted to evaluate the proposed system show that it achieves high accuracy in detecting and classifying leaf diseases. The application is designed to be user-friendly and easy to use, as it is implemented as a mobile application that can be installed on a smartphone or tablet. The user can take a picture of a leaf using the camera of the device, and the application automatically processes the image and displays the name of the disease, as well as methods to cure the disease. This feature can help gardeners and farmers identify the disease and take appropriate measures to prevent the spread of the disease.