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| **ABSTRACT**  **LEAF DISEASE DETECTION USING IMAGE PROCESSING**  Plant diseases are the major problems in the agricultural field. The severity of the disease in the leaves can be detected using image processing which is utilized for automatic categorization of leaf diseases.  Abstract:  1.Introduction  2.Objective  3.Conclusion  Introduction:  Nowadays technology plays vital role in all the fields but till this day we are using some old methodologies in agriculture. Identifying plant disease wrongly leads to huge loss of yield, time, money and quality of product. In olden days identification is done manually but due to so many environmental changes the prediction is becoming tough. So, we can use image processing techniques for identification of plant disease. Generally, we can observe the symptoms of disease on leaves, stems, and flowers etc. Here we use leaves for identification of disease affected plants.  Objective:  The main objective is to design a CNN model- **Convolutional neural network** that can detect crop disease and pest to be used accurately. It correctly identifies the disease, suggest on the name of pesticide to be used. After creating the CNN model, we have to create the database of the insecticide for the respective pest and disease to detect the problem in the plant.  Conclusion:  In this project, a pre-trained Convolutional Neural Network was finetuned to classify the leaf diseases. As per categorization of dataset into segmented and unsegmented, this model achieves a training accuracy of about **98%** for data. Resulted validation accuracy is **84.75%** which is more accurate and less complex. |