**ABSTRACT**

Production of crops plays a significant role in the agricultural sector as well as Nation’s Economy . The loss of food is mainly due to contaminated crops, which decreases the revenue of farmers . This is the one of the reasons that disease detection in plants plays an important role in agriculture field. In detection of plant diseases, the traditional method of visual inspection is no longer feasible. The development of computer vision models with image segmentation offers a quick and accurate solution to this issue. Disease detection involves the steps like image acquisition, image pre-processing, image segmentation and classification. This model captures the image of the plant which has to be analysed will be separated from the surroundings. The affected part of the plant can be detected by difference in colour between affected part and the persisting part. Further, the percentage of affected part can be calculated with the extend of affected part. The convolution neural network(CNN) is used to recognise the affected part of the plants and with the help of K-Mean algorithm(Used for colour segmentation) the maximum similarity of data points within the affected clusters can be identified. Random Forest Classifier is used to classify plant disease.