

## Task 1

**Paper Title:** Diseases and Pests Identification of Lycium Barbarum Using SE-MobileNet V2 Algorithm

**Paper Link:** <https://ieeexplore.ieee.org/document/9098279>

**1 Summary:** This research paper combines the advantages of MobileNet V2 and SENet to image recognition of diseases and insect pests is significant in agriculture production.

**1.1 Motivation:** Lycium barbarum is a plant in the Solanaceae family that is commonly referred to as "red treasure" and has valuable medicinal properties. In Ningxia, diseases and pests can quickly reduce the productivity of lycium barbarum. It is easy to be attacked by a variety of diseases and pests. It has a serious impact on the yield and quality of the lycium barbarum. And also impact on farmer's life, economic growth. That's why author solve this problem with the help of algorithm so that farmers no longer need to master a lot of professional knowledge, they can identify pests by taking pictures to improve the control efficiency

**1.2 Contribution:** In this research paper author reduce the loss of economy growth and proposed of new algorithm MobileNet V2 and SENet. The suggested approach has significance for identifying Lycium barbarum diseases and pests since it enables real-time, precise, low-manpower identification. In other fields, the techniques presented in this research can also be used as references for picture recognition scenarios. A total of 1,955 images (including 11 kinds of medlar diseases and pests) were collected in this study, and the samples 18,720.

**1.3 Methodology:** For identifying the diseases and pests, 'a lightweight and high-precision use MobileNet. To improve CNN performance SE-MobileNet V2 for comparing use four model.

**1.4 Conclusion:** The improved algorithm has the highest recognition accuracy and strong robustness. And comparing with other it gives 97.40% accuracy.

## 2 Limitations

**2.1 First Limitation:** In my opinion there is no issue in this model because it is the latest and give high accuracy for identification diseases.

**2.2 Second Limitation:** This project what they use as a algorithm, it is not costly and also lightweight.

## 3 Synthesis:

This algorithm not only help detect diseases but also in other field it helps to image recognition. It changes farmer's life and effect on economy. Overall all the sector benefits in this algorithm.

