IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 4, June 2025
Impact Factor: 7.67

# Machine Learning for the Prediction of Pomegranate Fruit and Leaf Diseases

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**Abstract**: *Economic losses for farmers are further exacerbated by agricultural plant diseases. Any portion of the plant, from roots to fruits to leaves to stems, can be damaged by these diseases. In order to increase agricultural output, early disease detection is essential. In conventional farming methods, disease detection is left to the knowledge and experience of seasoned farmers and agricultural experts. However, this approach frequently yields subpar results, causing farmers to incur financial losses. Many scientists have been looking into ways to improve plant disease detection using soft computing and expert systems. Some plant diseases may not have obvious signs, or their symptoms may not appear until late in the growing season, close to harvest, making visual detection of these diseases less trustworthy. The good news is that technological advancements may one day greatly improve agricultural output and longevity. A thorough overview of methods for disease detection in pomegranate plants is provided in this publication. This research delves into the several steps involved in illness detection, from pre-processing to segmentation, feature extraction, and classification. Also included in the study are the strengths and weaknesses of current approaches, as well as a comparison of them..*

**Keywords:** Disease prediction, segmentation, ML, leaf, pomegranate, fruit illnesses



DOI: 10.48175/568