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Crop Disease Prediction Using Machine Learning

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Abstract: India, with a significant portion of its population dependent on agriculture for livelihood, faces increasing challenges in meeting food demands due to crop losses caused by diseases and natural climates. Annually, these issues result in substantial reductions in agricultural productivity. Traditional methods of diagnosing plant diseases through visual inspection are often inaccurate, as many diseases exhibit similar symptoms, making it difficult to identify the correct ailment and treatment. To address this issue, a deep learning-based application has been designed to detect plant diseases from leaf images. Utilizing advanced neural network models, the system accurately identifies the type of disease and recommends appropriate treatments, such as antifungal agents for fungal infections or targeted pesticides for bacterial and viral conditions. This innovative solution enhances diagnostic precision and provides actionable guidance to farmers, helping to minimize crop losses and contribute to food security in a densely populated country

Keywords: Plant Diagnosis, Deep Learning, Neural Networks, Agriculture



