Submission Summary

Conference Name

International Conference on Advances in Computer Engineering and Communication Systems

Track Name

ICACECS2024

Paper ID

674

Paper Title

An Expert System for Disease Prediction and Fertilizer Recommendation using Transfer Learning

Abstract

The agricultural production of tomatoes is vulnerable to a range of diseases. To make the matters worse, imprecise fertilizers application also aggravates diseases that results in poor harvests for farmers. It however does not only connote but also exists a tomato plant disease detection system with different advanced deep learning models. Their only problem is that they always give disease detection but not fertilizer recommendations. This paper will try to fill this gap by coming up with a hybrid expert system for disease detection and user-friendly efficient fertilizer recommendations for tomato plants. The proposed expert system will employ advanced deep learning techniques such as MobileNetV2 and DenseNet121, DenseNet201 for disease recognition and feature extraction. Moreover, fertilization recommendation for detected disease based on rules. Dataset of "tomato village" is used for training and validation. The expert system proposed for disease diagnosis and fertilizer recommendation aims to transform tomato cultivation, enhancing crop yield, reducing environmental impact, and promoting agricultural sustainability. Its implementation promises a brighter future for tomato production, offering holistic solutions to farmers' challenges and advancing the agricultural industry.

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Submission Files

Springer format - An Expert System for Tomato Disease Prediction and Fertilizer Recommendation.pdf (547.6 Kb, 5/1/2024, 4:10:45 PM)