BVRIT HYDERABAD
College of Engineering for Women
(UGC Autonomous)
Department of Information Technology

01 | ## An Expert System for Disease Prediction and Fertilizer Recommendation using Deep Learning

Proposed System

ABSTRACT

Tomato farming faces critical challenges from diseases and imprecise fertilizer use, leading to poor harvests. An expert system integrating deep learning (MobileNetV2, DenseNet201) for disease recognition and rule-based classification for fertilizer advice aims to revolutionize tomato cultivation. This solution promises enhanced yields, environmental sustainability, and agricultural. This innovative expert system addresses tomato farming challenges with solutions.

UNIQUENESS

- Disease Detection
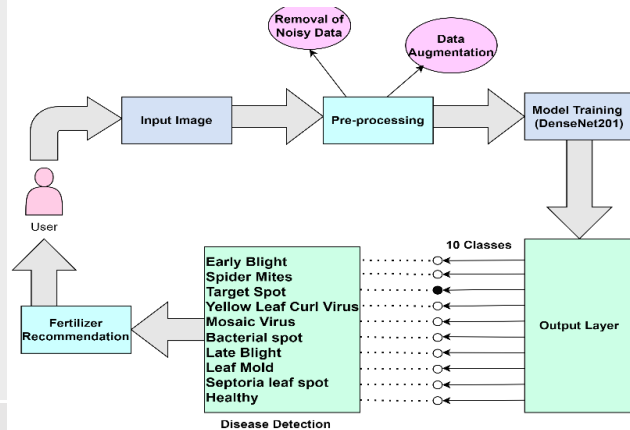- Fertilizer Recommendation & GUI

METHODOLOGY

The methodology entails dataset collection, split into training/testing subsets. It employs DenseNet201& MobileNetV2 for disease detection, while rule-based systems assist in fertilizer recommendation. Integrated, modules form expert system for tomato cultivation, ensuring adaptability & effectiveness.

Results & Analysis

SOCIETAL USE

The proposed system for tomato disease detection and fertilizer recommendation contributes to **SDG-2 (Zero Hunger) and SDG-12 (Responsible Consumption and Production)**. By enhancing food security, reducing economic losses for farmers, and promoting sustainable agriculture, it fosters resilient communities. Through technology-driven solutions, it addresses crop diseases and optimizes fertilizer usage, empowering farmers to make informed, sustainable choices for a greener future.
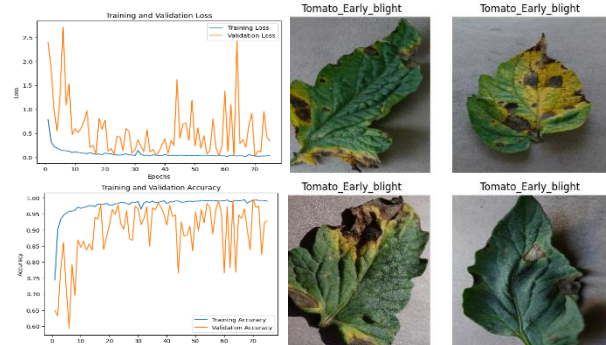
REFERENCES

[1] Prof.Suhas Chavan, "Vegetable Plant Disease Detection And Fertilizer Recommender System," IJCSPUB,2023

[2] Mahmoud BAKR,"Tomato Disease Detection Model Based on DenseNet and Transfer Learning," Applied Computer Science, 2022

GITHUB LINK

https://github.com/geethikareddyk9/Expert-System-DD-FR-DL

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