



SIMATS ENGINEERING

Saveetha Institute of Medical and Technical Sciences
Chennai- 602105



Student Name: Challa Sravya

Reg.No.: 192424372

Course Code: DSA0216

Slot: B

Course Name: Computer Vision with OpenCV for Modern AI

Course Faculty: Dr. Senthilvadivu S & Dr. Kumaragurubaran T

Project Title: REALTIME PLANT LEAF DISEASE CLASSIFICATION WITH OPENCV

Module Photographs:



Modules of the System

Module 2: Disease identification and declaring audio results

- **Disease Detection with AI Model :**
 - Process images through a fine-tuned CNN (MobileNetV2) for accurate disease classification
 - Generate confidence scores and visual markers (e.g., bounding boxes) for detected symptoms
- **Multi-Language Audio Alerts :**
 - Integrate TTS engines (e.g., Google TTS, AWS Polly) for real-time spoken diagnoses
 - Support multiple languages for farmers' accessibility with adjustable speech rate
- **Visual Dashboard Display :**
 - Show live camera feed with overlaid disease info (class, confidence %, treatment tips)
 - Include historical data graphs to track disease progression over time

Select a Crop Leaf Image

Choose Image

Detect Disease

Result: Brown spot

Explanation:
The plant is affected by Brown Spot. This fungal disease thrives in poorly drained or waterlogged soil. Improve drainage and use fungicide sprays to manage it.

Project Description: Result Interpretation and Reporting

This module is responsible for detecting plant leaf diseases using a trained deep learning model. The captured leaf image is processed through a fine-tuned CNN model such as MobileNetV2 to accurately classify the disease. The model generates prediction results along with confidence scores to ensure reliable identification.

After classification, the detected disease information is displayed on a visual dashboard. The system shows the disease name, confidence percentage, and possible treatment suggestions. It may also highlight affected areas on the leaf image using visual markers for better understanding.

In addition to visual output, the module provides multi-language audio alerts using text-to-speech technology. The system converts the diagnosis into spoken output, helping farmers easily understand the results. This makes the solution user-friendly, accessible, and effective for real-time field usage.

Student Signature

Guide Signature