AI CROP DISEASE DETECTION SYSTEM

Project Report

Submitted By: UB-1105

Institution: TCE

Department: ECE

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1. Introduction

Agriculture plays a vital role in the economy. Early detection of crop diseases is crucial for improving productivity and reducing losses. Farmers often struggle to identify diseases at early stages due to lack of expert knowledge.

This project proposes an AI-based Crop Disease Detection System where farmers can upload crop images and receive instant disease predictions along with treatment and fertilizer recommendations.

2. Problem Statement

Farmers cannot easily identify crop diseases in early stages, which leads to reduced yield and financial losses.

3. Objectives

- Develop an AI-based web application for crop disease detection.
- Provide treatment suggestions.
- Recommend fertilizers.
- Support multi-language (English & Kannada).
- Generate downloadable PDF reports.
- Maintain prediction history.

4. System Architecture

The system consists of the following components:

1. Image Upload Module

2. AI Prediction Module

3. Treatment & Fertilizer Mapping Database

4. Multi-language Support Module

5. PDF Report Generator

6. History Storage using Local Storage

5. Technologies Used

- HTML - Structure of the web application
- CSS - Styling and attractive UI design
- JavaScript - Logic and AI simulation
- jsPDF Library - PDF generation
- Local Storage - Save prediction history

6. Conclusion

The AI Crop Disease Detection System helps farmers identify diseases quickly and take appropriate action. By providing treatment suggestions, fertilizer recommendations, and multi-language support, the system becomes farmer-friendly and practical. Future improvements can include integration with real AI models such as TensorFlow and cloud-based disease databases.