



AI-Based Crop Disease Detection System



Smart Agriculture Using Image Processing





Introduction

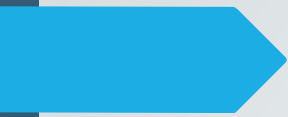


- Agriculture is the backbone of India
- Crop diseases reduce yield and profit
- Farmers struggle to identify diseases early
- Need for smart technology solution




Problem Statement

- Farmers cannot detect diseases at early stage
- Lack of expert guidance in rural areas
- Incorrect fertilizer usage
- Financial losses due to crop damage



Proposed Solution



- Farmer uploads crop image
- AI detects disease
- Suggests treatment
- Recommends fertilizer
- Generates PDF report
- Saves prediction history



Objectives

- Early disease detection
- Reduce crop loss
- Provide treatment guidance
- Support Kannada language
- Digital report generation



System Architecture

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1. Image Upload
 2. Disease Detection
 3. Treatment Mapping
 4. Fertilizer Recommendation
 5. PDF Report Generation
 6. History Storage



Technologies Used

- HTML
 - CSS
 - JavaScript
 - jsPDF Library
 - Local Storage
- 



Multi-Language Support

- English
- Kannada
- Language Toggle Option
- Easy for local farmers



Image Upload Module

- Upload crop image
- Preview image
- Detect disease button
- Attractive UI design




Disease Detection

- ▶ • Leaf Spot
- ▶ • Rust
- ▶ • Blight
- ▶ • Confidence percentage displayed




Treatment Suggestion Mapping

- English treatment suggestions
 - Kannada treatment suggestions
 - Disease-based recommendations
- 



Fertilizer Recommendation

- Balanced NPK
 - Potassium-rich fertilizer
 - Nitrogen control
 - Based on disease detected
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PDF Report Generation

- Auto-generated report
- Includes disease name
- Confidence percentage
- Treatment & fertilizer
- Download option




Prediction History

- Stores previous results
 - Displays disease & confidence
 - Helps farmer track issues
- 



Advantages

- Early detection
 - Reduces crop loss
 - Easy to use
 - Supports regional language
 - Digital documentation
- 




Future Enhancements

- Real AI model (TensorFlow)
- Live camera detection
- Cloud database storage
- SMS alert system
- Government integration



Impact on Farmers

- Improves productivity
 - Saves money
 - Increases awareness
 - Promotes smart agriculture
- 



Conclusion

AI-based crop disease detection helps farmers:

- ✓ Identify diseases early
- ✓ Apply correct treatment
- ✓ Use proper fertilizer
- ✓ Increase crop yield

Thank You