Abstract

FarmSathi: AI-Driven Farming Assistant for Crop Selection, Nutrient Management, and Disease Control

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Introduction:

Agriculture is the foundation of the Indian economy, yet many farmers struggle to choose the correct crops, manage soil nutrients, and control plant diseases. FarmSathi: AI-Driven Farming Assistant is an intelligent system that uses Machine Learning (ML) and Deep Learning (DL) to give farmers with tailored advice for crop selection, fertilizer use, and disease control. The system evaluates soil properties, climatic circumstances, and user inputs to recommend the best crops and fertilizers. It also includes a crop disease detection algorithm that diagnoses plant illnesses using provided photos and recommends relevant herbicides.

Farmers may schedule tests, receive reports, and upload them for AI-based analysis using FarmSathi's soil testing slot booking system. To guarantee accessibility and scalability, the project incorporates HTML, CSS, and JavaScript for the frontend, FastAPI for the backend, and cloud-based deployment. FarmSathi wants to empower farmers with data-driven insights, increase crop yields, and lower losses from plant diseases and poor nutrient management by fusing AI with agricultural knowledge.