



Plant Leaf Disease Classification | Using CNN





Welcome To Our Project

Plant diseases are a major concern in agriculture, affecting crop yield and food security. Early detection of these diseases is crucial for effective disease management. In this project, we developed a deep learning model using Convolutional Neural Networks (CNN) to detect plant leaf diseases based on images of the leaves.





Background

This section provides an overview of existing research on plant disease detection methods. It contrasts traditional approaches, relying on visual inspection and manual diagnosis, with modern techniques such as deep learning, particularly Convolutional Neural Networks (CNNs), which automate the detection process. The slide discusses the advantages of deep learning methods over traditional ones and acknowledges challenges such as limited data availability and variability in image quality.





Methodology



Data Collection and Data Preprocessing

Gathering a diverse dataset of plant leaf images, including healthy and diseased samples.



Model Development and User Interface Design:

Designing and training a CNN architecture for disease classification, utilizing transfer learning for enhanced performance.



Integration & Testing

Integrating the model with the user interface and conducting rigorous testing to ensure accuracy and reliability.



Deployment

Deploying the system for practical use in agriculture, with considerations for scalability and usability.



Test Cases/Test Results Summary

Summarizes test case outcomes, including accuracy metrics, user interface functionality, and system integration.



Discussion on Achievements

Highlights successful implementation of the CNN model, user interface development, and system integration.



Findings and Rectifications Suggested/Applied

Discusses challenges encountered during the project and the solutions implemented to address them.



Thank You !

Our project on "Plant Disease Classification Using Deep Learning" has successfully developed a robust Convolutional Neural Network (CNN) model and a user-friendly interface for real-time disease diagnosis in agriculture. Through innovative solutions and collaborative efforts, we have addressed challenges and demonstrated the potential of technology to revolutionize disease management. Future endeavors will focus on optimization and expansion to further enhance the system's effectiveness in agricultural practices.