

TEAM 8 : CROP DISEASE DETECTION PROJECT

Team Members :

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Title of the project :

- Crop Disease Detection.

Why we choose this project:

- Impact on Agriculture: By providing a platform for early disease identification.
- Real-time Web Application: This means users (farmers, agronomists, etc.) can upload images of their crops, and within minutes, they receive feedback on whether a disease is present.
- Accessibility: Platform independent.
- Cost Effective.

Abstract:

The project aims to create a system that helps farmers identify diseases in crops through images. By using machine learning, the platform analyzes pictures of plants to detect potential diseases and provides accurate predictions. The system allows farmers to upload images of their crops, and within seconds, they receive feedback about the

presence of any diseases. This enables early intervention, reducing crop loss and the unnecessary use of pesticides. The project serves as a cost-effective and accessible tool to improve crop health management, ultimately contributing to more sustainable agricultural practices.

Technologies:

1. Bootstrap: A front-end framework for developing responsive, mobile-first web applications.
2. Flask: Flask is used to create a user-friendly interface for farmers, where they can upload crop images using an API and receive disease predictions.
3. TensorFlow: A powerful open-source machine learning framework used for building and training the deep learning models. In this project, TensorFlow is used for image classification, enabling the detection of crop diseases from plant images.
4. Scikit-learn: A Python library that provides simple and efficient tools for data analysis and machine learning. It is used in this project for implementing traditional machine learning algorithms, such as classification models, to complement the deep learning approach.
5. OpenCV: A python library which helps for the easy process of Image resizing, enhancement and noise removal.
6. Convolutional Neural Network (CNN): A deep learning model which is highly used for the image classification. It is mainly used to achieve the precise accuracy based on the dataset taken.

Input of the project:

1. Visual Images
2. Environmental Data
3. Crop Information
4. Data Sets from Kaggle

Process of the project:

- Data Collection & Preprocessing
- Model Development
- Web Application Development
- Deployment & Testing

Output of the project:

The output of the project "crop disease detection" project is typically the identification of a specific crop disease based on an image of a plant leaf, usually indicating whether the plant is healthy or diseased, and sometimes even specifying the type of disease present, allowing farmers to take appropriate treatment action.

Thank You