

Project Introduction

Introduction

Potato crops are susceptible to various diseases, with **Early Blight** (caused by the fungus *Alternaria solani*) and **Late Blight** (caused by the microorganism *Phytophthora infestans*) being among the most destructive. Early detection and accurate classification of these diseases can help farmers take timely action, reducing crop loss and economic damage.

This project leverages **Convolutional Neural Networks (CNN)** to classify potato leaves into three categories:

- **Healthy**
- **Early Blight**
- **Late Blight**

Farmers can simply upload an image of a potato leaf, and the model will predict the disease (if any), enabling quick and effective treatment.

Sample Images

Here are examples of the three classes:

Early Blight:



Late Blight:



Healthy Potato Leaf:



Project Steps

1. Data Cleaning & Pre-processing

- Extract only potato leaf images (Early Blight, Late Blight, Healthy).
- Resize, normalize, and augment images for better model training.

2. Model Building (CNN)

- Design and train a CNN model for disease classification.
- Evaluate performance using accuracy, precision, and recall.

3. Model Deployment

- Deploy the trained model