

User Guide

This guide will help you set up and run the **Plant Disease Detection System** after downloading the project folder. The system is built using **PyTorch** and features a **Flask-based web interface**.

Folder Structure Overview

After downloading the project, the folder structure should look like this:

- **Plant_Disease_Detection/**
 - requirements.txt: File listing all the dependencies needed to run the project.
 - **Flask Deployed App/**
 - **static/**: Contains images used on the web page and an upload/ folder for storing images uploaded during execution.
 - **templates/**: Contains HTML files for the web interface.
 - app.py: The main Flask application file.
 - cnn_model.pt: The pre-trained PyTorch CNN model.
 - disease_info.csv: A CSV file containing information about plant diseases and prevention steps.

Step 1: Setting Up the Environment

1. **Download and Extract the Folder:** After downloading the project folder (Plant_Disease_Detection), extract it to your desired location on your computer.
2. **Install Python (if not already installed):**
 - Make sure you have Python 3.x installed. You can download it from python.org.

3. **Install Required Libraries:** Open a terminal (or command prompt) and navigate to the project folder using the cd command:

```
cd path/to/Plant_Disease_Detection
```

Once in the folder, install all required Python packages by running:

```
pip install -r requirements.txt
```

This command installs all the dependencies listed in the requirements.txt file.

Step 2: Running the Application

1. **Navigate to the Flask Application Folder:** In the terminal (or command prompt), change the directory to the **Flask Deployed App** folder:

```
cd Flask\ Deployed\ App
```

2. **Start the Flask Server:** To launch the web application, run:

```
python app.py
```

This will start the Flask server on your local machine. By default, it will run on <http://127.0.0.1:5000/>.

3. **Access the Web Application:** Open a browser and navigate to <http://127.0.0.1:5000/>. You will see the homepage of the Plant Disease Detection System.

Step 3: Using the Application

1. **Upload an Image:**

- On the homepage, click on the "Upload Image" button.
- Select an image of a plant leaf from your device and upload it.

2. **Disease Prediction:**

- After uploading, the system processes the image using the pre-trained CNN model (cnn_model.pt).
- The web application will display the predicted disease and provide the following:
 - **Disease Description** (from disease_info.csv).
 - **Prevention Steps** (from disease_info.csv).

3. **Image Storage:**

- The uploaded images are temporarily saved in the static/uploads/ folder during the execution.

4. **View Results:** After processing, the result page will show:

- The predicted disease name.
- Description and possible prevention steps.

5. **Upload More Images:** You can clear the form and upload more images for testing by repeating the process.