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**Topic: Plant Disease Detection**

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# Presentation Outline

- Problem Statement.
- System Architecture.
- Features of designed system.
- Result.
- Conclusion.
- References.

# Problem Statement :

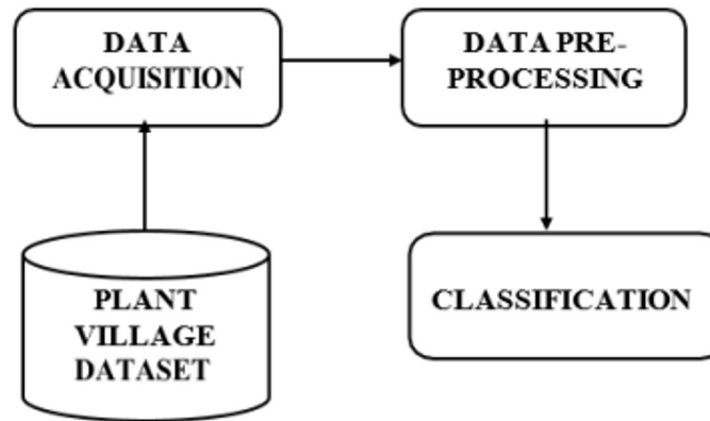
Crop diseases are a major threat to food security, but their rapid identification remains difficult in many parts of the world due to the lack of the necessary infrastructure. There are several diseases that affect plants with the potential to cause devastating economical, social and ecological losses.

In this context, diagnosing diseases in an accurate and timely way is of the utmost importance. We need a system to recognize plant leaf diseases focusing on various varieties of plants which will help farmers detect diseases and identify appropriate treatment for the same.

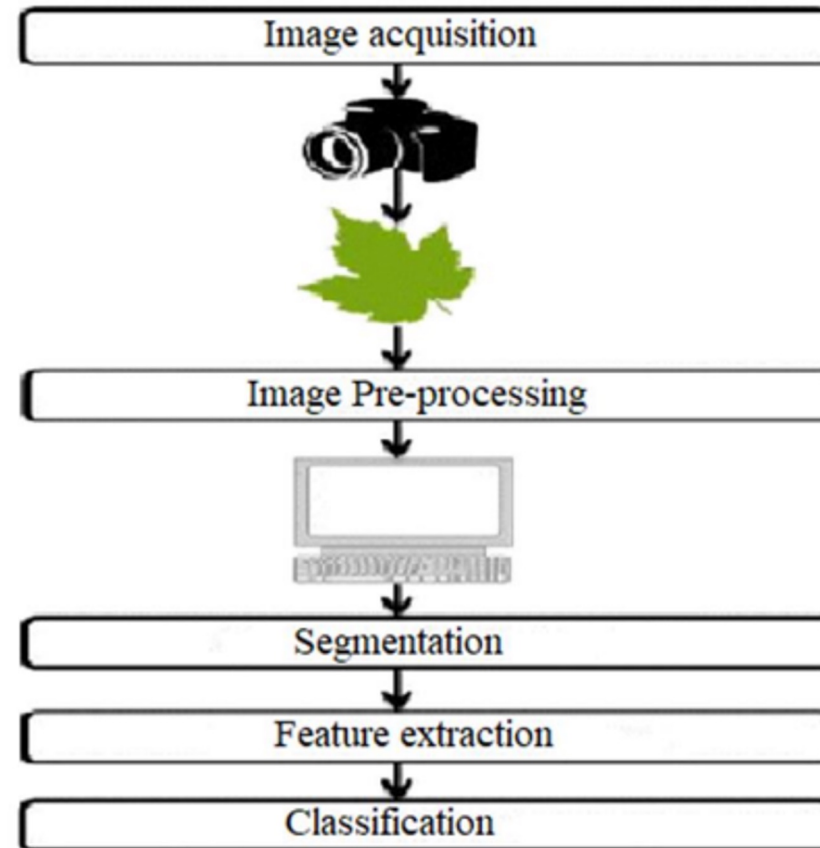


# System Architecture

The proposed System architecture comprises of data acquisition from a huge dataset, processing at different convolutional layers and then the classification of plant diseases which declares if the plant image is of a healthy class or diseased class.



# System Architecture



# Features of designed system

1. The System is user friendly and user interactive
2. Can select any amount of images from any place in the computer storage
3. Identifies diseased plants and provides cure for the same
4. 80 - 85% accuracy
5. We used modules and concepts like:
  - a) Tkinter
  - b) PIL – Python Imaging library
  - c) OpenCV
  - d) YOLO – Object detection algorithm

# Result

The selected images were processed through machine learning . This output was modified according to our needs and displayed for the user.

We used labeling, yolo, machine learning and achieved an accuracy of about **80-85%**.

Output:

- Classification between healthy and diseased plants
- Identification of diseased parts of the plant
- Definition of the Disease and cure for the same

# Conclusion

Recognizing the disease accurately and efficiently is mainly the purpose of the proposed approach. Image processing is a technique of high accuracy and least time consumption.

OpenCV and Tkinter implementation provides easy usage for farmers in the form of an application. The farmers need an efficient crop management system and we can provide that service through software.

If the diseases are not correctly identified, they affect the crop yield and ultimately result in long-term issues, such as global warming, famine and economical losses.

The combination of increasing global smartphone penetration and recent advances in computer vision made possible by deep learning, has paved the way for smartphone-assisted disease diagnosis.



# References:

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# THANK YOU.