

Good afternoon, everyone here is literature review of our project!

## LITERATURE REVIEW

Author	Title of Paper	Remark
Kalpesh Shinde and Anand Khatri (2022)	“Crop Prediction and Plant Leaf Disease Prediction Using Deep Learning ”	This paper gives appropriate idea to identify plant leaf sickness.
Omkar Kurkute and Nikhil Raje (2020)	“Plant Diseases Detection Using Deep Learning”	Plant leaf images will be used to check for plant diseases in early stages.
Rajab Ali and Depali Nayak (2019)	“Crop Diseases Detection using Deep Convolutional Neural Networks”	This paper proposed Crop Disease Detection using CNN System based on Deep Learning.

The first paper we have studied is Crop prediction and plant leaf disease prediction using deep learning which was put forth by Kalpesh Shinde and Anand Katri in the year of 2022 this paper proposes on effective idea to identify plant sickness.

Second research paper we have studied is plant disease detection using deep learning the author Are Omkar Kurkute and Nikhil Raje in the year of 2020 this paper focuses on checking the plant leaf disease in early stages.

The third research paper have the title is crop disease detection using deep convolutional neural network written by Rajab Ali and Deepali Nayak in the year of 2019 with the main aim of detecting the crop Disease using CNN system based on deep learning.

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## TECHNOLOGIES

- **Hardware :** RAM 12 GB, Storage 100 GB SSD, GPU 15 GB, Strong Internet Connection

- **Software :** Operating System: Windows 10 /11

IDE: Jupyter Notebook or Google Collaboratory & Android Studio.

### Technologies

The Hardware technologies we are required is computer system with ram of 12GB, storage of 100GB SSD, and graphics card of 15GB with strong Internet connection.

The software technologies we required are Windows 10 or 11 Jupiter notebook or Google Collab and Android studio.

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## DATASET DESCRIPTION

Crops Types	Disease Class	Total Sample
Cauliflower	Cauliflower__Bacterial_spot_rot	510
	Cauliflower__Black_Rot	502
	Cauliflower__Downy_Mildew	582
	Cauliflower__Healthy	744
Corn	Corn__Cercospora_leaf_spot Gray_leaf_spot	500
	Corn__Common_rust	513
	Corn__Healthy	643
	Corn__Northern_Leaf_Blight	504
Potato	Potato__Early_blight	679
	Potato__Healthy	627
	Potato__Late_blight	551
Rice	Rice__Bacterial_leaf_blight	542
	Rice__Brown_spot	956

## Dataset Description

While working on the data science project it has several stages like discovery, data preprocessing and analysis, model building, model evaluation, and operationalization. from these all phases data discovery and data preprocessing is more time-consuming and important Stages.

For the completion of our requirement, we create our own dataset it contained total 6 crops divided into 28 different types of classes Which includes diseases as well as healthy crops.

First, we have a cauliflower included 3 diseases and 1 healthy count is given as.

Second is a corn, same as a cauliflower we have 3 diseases and 1 healthy crop.

Next is a potato in potato we have 2 diseases and 1 healthy.

Next is a rice we have total 3 Disease and 1 healthy.

Next is a tomato in tomato total we have a 9 Disease and 1 healthy crop.

And last wheat we have 2 diseases and 1 healthy crop.

So, total our Dataset Contents 17316 images.

DATASET DESCRIPTION		
Crops Types	Disease Class	Total Sample
Rice	Rice__Leaf_smut	564
	Rice__Healthy	633
Tomato	Tomato__Bacterial_spot	678
	Tomato__Early_blight	605
	Tomato__Healthy	599
	Tomato__Late_blight	619
	Tomato__Leaf_Mold	443
	Tomato__Septoria_leaf_spot	458
	Tomato__Spider_mites Two-spotted_spider_mite	696
	Tomato__Target_Spot	645
	Wheat__Healthy	607
Wheat	Wheat__septoria	550
	Wheat__stripe_rust	1097