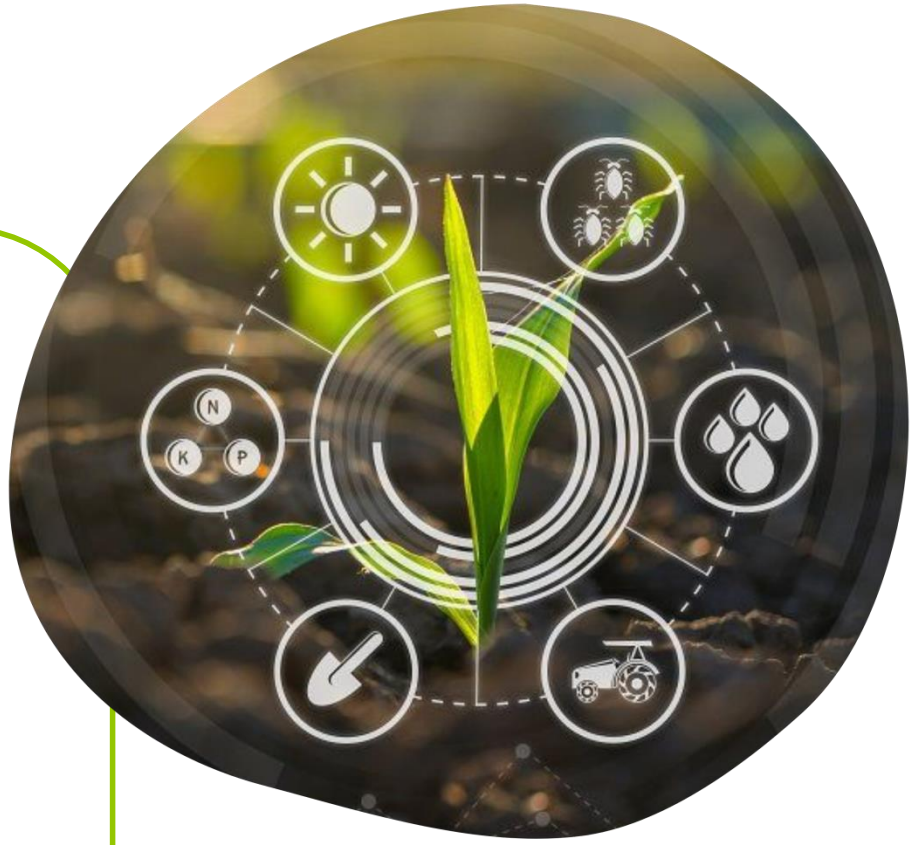
SMART AGRICULTURE

AGENDA

- Introduction
- Main idea
- AI
- IOT
- Flutter
- Cloud computing



Introduction

Smart Agriculture combines modern science and technology with agricultural cultivation, to achieve unmanned, automatic, intelligent management of agricultural production, such as intelligent fertilization.

It is the application of artificial intelligence (AI) and Internet of Things (IOTs) in the field of modern agriculture.

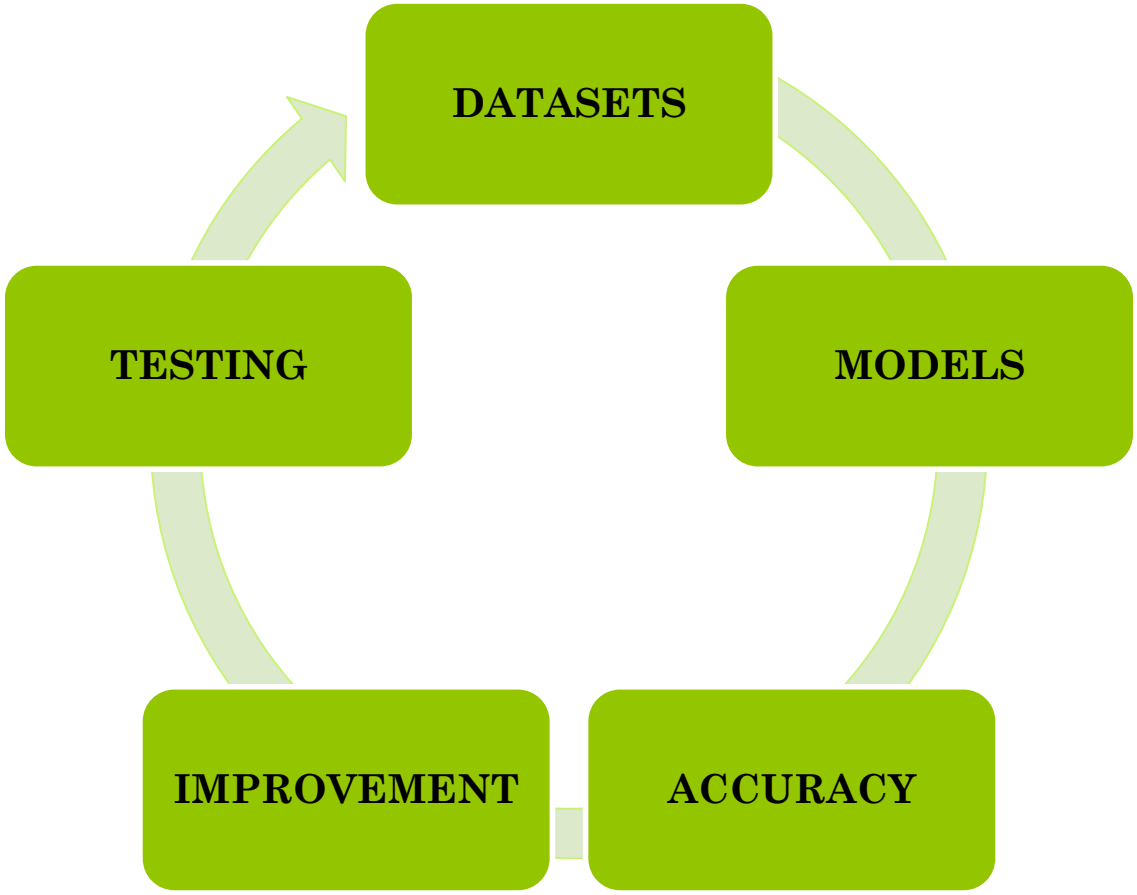
"SMART AGRICULTURE " is the project of various information technologies and their cross-application in the field of agriculture, including intelligent equipment, IOTs, intelligent perception, deep learning, machine learning, agricultural cognitive computing, etc.

Main Idea

- The app “Smart agriculture” uses AI to help farmers to detect plant diseases .

  Then generates ideas to help fight these diseases.
- Also generates ideas that help maintain and preserve the environment and decrease dependence on chemical pesticides.
- Using IOT to monitor soil PH ,soil moisture, soil salinity, air temperature, air humidity.
- Management system viewing agriculture news, time of harvest and weather broadcasting news.

Artificial Intelligence



DATASETS

One shape of plant and different diseases

One shape of different plants and different diseases

Different shapes of different plants and one diseases

Different shapes of one plant and different diseases

Different shapes of different plants and different disease

WE FIND ONE

One shape -> different plants -> different disease

PLANT	DISEASE
Blueberry	Blueberry (Healthy)
Cherry	Apple (Scab)
Corn	(Black rot)
Orange	(Cedar apple rust)
Peach	(Healthy)
Pepper	Cherry (Powdery mildew)
Potato	(Healthy)
Raspberry	Peach (Bacterial_spot)
Soybean	(Healthy)
Strawberry	Pepper (Bell bacterial spot)
Tomato	(Bell healthy)
Grape	Potato (Early blight)
APPLE	(Late_blight)
	(Healthy)

MODELS

prediction

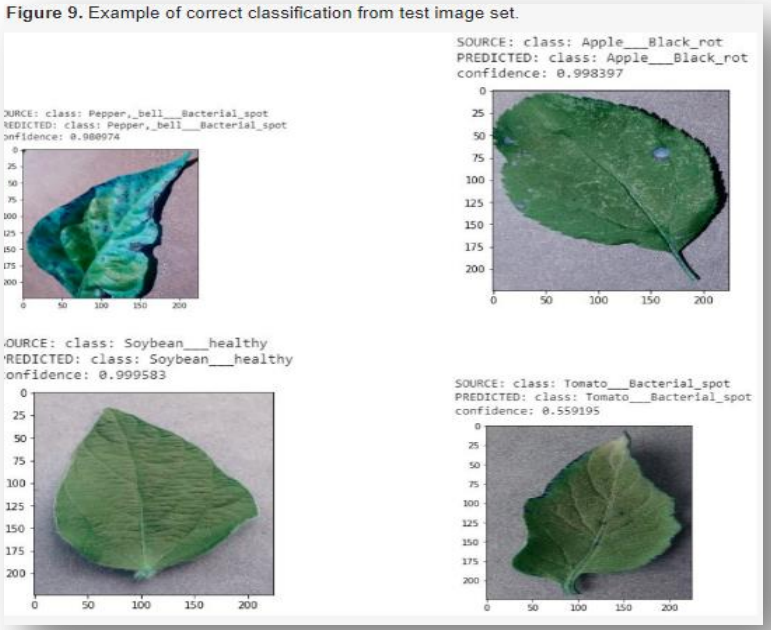
```
print("Head of the dataset:")
df.head()
```

Head of the dataset:

	N	P	K	temperature	humidity	ph	rainfall	label
0	90	42	43	20.879744	82.002744	6.502985	202.935536	rice
1	85	58	41	21.770462	80.319644	7.038096	226.655537	rice
2	60	55	44	23.004459	82.320763	7.840207	263.964248	rice
3	74	35	40	26.491096	80.158363	6.980401	242.864034	rice
4	78	42	42	20.130175	81.604873	7.628473	262.717340	rice

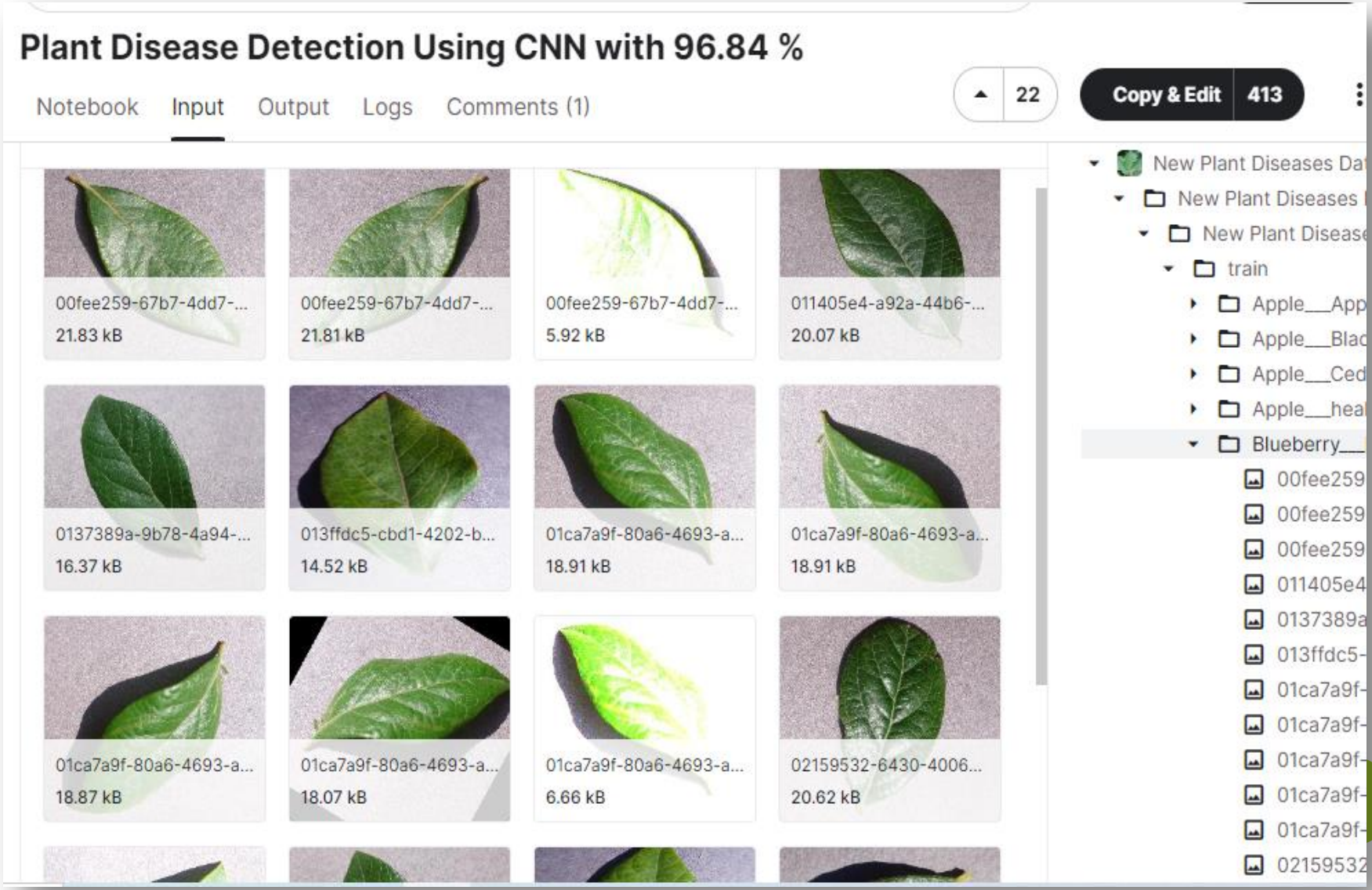
Using logistic Regression Model

Detection



Using CNN

Accuracy


Plant Disease Detection Using CNN with 96.84 %
Notebook
Input
Output
Logs
Comments (1)
22
Copy & Edit 413
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21.83 kB
00fee259-67b7-4dd7-...
21.81 kB
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6.66 kB
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20.62 kB
New Plant Diseases Dat
New Plant Diseases
New Plant Disease
train
Apple___App
Apple___Blac
Apple___Ced
Apple___heal
Blueberry___
00fee259
00fee259
00fee259
011405e4
0137389a
013ffdc5-
01ca7a9f-
01ca7a9f-
01ca7a9f-
01ca7a9f-
01ca7a9f-
02159532

IMPROVEMENT AND TESTING

MORE DATA

TRAIN and TRAIN

Show Accuracy

Detect Plots