

# PLANT LEAF HEALTH ASSESSMENT USING MACHINE LEARNING

## SOURCE CODE:

### app.py

```
import numpy as np import pandas as pd import os from
tensorflow.keras.models import load_model from
tensorflow.keras.preprocessing import image from flask import
Flask, render_template, request, url_for, redirect, jsonify app =
Flask(name) model = load_model("fruit") model1 =
load_model("vegetable")
@app.route('/', methods=['GET','POST']) def index(): mytext
=[] text = [] plant =[] mypath=[] file_path=[] if request.method
=="POST": f = request.files['image'] basepath =
os.path.dirname(file) file_path = os.path.join(basepath,
'uploads',f.filename) f.save(file_path) img =
image.load_img(file_path, target_size = (128,128)) x =
image.img_to_array(img) x = np.expand_dim(x,axis=0)
plant=request.form['plant'] if(plant=="fruit"): y =
```

```

np.argmax(model.predict(x),axis=1) index = ['Apple
____Black_rot','Applehealthy','Corn_(maize)
Northern_Leaf_Blight', 'Corn_(maize)
_healthy','PeachBacterial_spot','Peachhealthy']
df=pd.read_excel('precautions — fruits.xlsx') text =
df.iloc[y[0]]['caution'] print(df.iloc[y[0]]['caution']) else:
y = np.argmin(model1.predict(x),axis=1) index =
['Pepper,_bellBacterial_spot','Pepper,_bellhealthy','Potato
Early_blight', 'Potato____healthy','Potato
Late_blight','TomatoBacterial_spot','Tomato
_Late_blight','TomatoLeaf_Mold','TomatoSeptoria_leaf_spot']
df=pd.read_excel('precautions — veg.xlsx') text =
df.iloc[y[0]]['caution'] return
render_template('index.html',mytext=text, mypath=file_path)

ifname _____ == 'main': app.run(debug=True)

```

## index.html

```

<!doctype html>

<html lang="en">

```

<head>

<meta charset="utf-8">

<meta name="viewport" content="width=device-width, initial-scale=1">

<title>Fertilizer Recommendation</title>

ink

href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.0/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-

gH2yIJqKdNHPEq0n4Mqa/HGKIhSkIHeL5AyhkY

V8i59U5AR6csBvApHHNl/vI1Bx" crossorigin="anonymous">

<script

src="https://ajax.googleapis.com/ajax/libs/jquery/1.9.1/jquery.min.js"

>

</script>

<style>body { background-color:

#E3E5E7; background-image:

url("https://i.pinimg.com/originals/22/a5/a7/22a5a7b9dbc0e29ccef006dea598

1367.png");

```
background-repeat: no-repeat; background-  
attachment: fixed; background-size: cover;  
}
```

```
</style>
```

```
</head>
```

```
<body style="font-family:Montserrat;overflow:scroll;">
```

```
<div class="header">
```

```
<nav nav class="navbar navbar-dark bg-dark">
```

```
<div class="container-fluid">
```

```
<a class="navbar-brand" href="#"><h2>Plant Disease  
Prediction</h2></a>
```

```
<a href="subsidy.html"><h2>Subsidy Info</h2></a>
```

```
<!--a class="active" href="{ { url_for('index') }}">Home</a-->
```

```
</div>
```

```
</nav>
```

```
</div>
```

```
</div>
```

```
<div class="container">
```

```
<div class="row">
```

```
<div class="col-sm-6 bd" >
```

```
<p class="text-dark"><b><h7>Agriculture is one of the major sector  
worldwide. Over the years it has developed and the use of new  
technologies and the use of new technologies and equipment replaced  
almost all the traditional methods of farming. </h7></b></p>
```

```
<!--div class="holder">
```

```
<imgsrc="https://i0.wp.com/savvygardening.com/wp-  
content/uploads/2021/02/Natural_fertilizer_featured.jpg?w=657&ssl=1  
" height="300" width="630">
```

```
</div->
```

```
</div>
```

```
</h4>
```

```
<div class="col-sm-6">
```

```
<h4>Select the category of plant to get the prediction
```

```
<form action = "" id="upload-file" method="post"  
enctype="multipart/formdata"><br>
```

```
<select name="plant">
```

```
<option value="select" selected><h4>Select plant  
type</h4></option>
```

```
<option value="fruit">Fruit</option>
```

```
<option value="vegetable">Vegetable</option>

</select><br><br>

<h4>Image Preview</h4>

<br>

<form action = "http://localhost:5000/" id="upload-file" method=""

enctype="multipart/form-data">

<div class="holder">

<img id="imgPreview" src="" alt="" Height=150>

</form>

<script>

</div>

<input type="file" name="image" id="imageUpload"

accept=".png, .jpg,

.jpeg">

<br>

<br>

<input type="submit" name="button" value="Predict"

class="btn btn primary" >

<br><br>
```

```
<p style="color:black"><b> {{mytext}} </b></p>
```

```
</div>      </div>
```

```
$(document).ready(() =>
```

```
{
```

```
$("#imageUpload").change(function () { const file = this.files[0];
```

```
if (file) { let reader = new FileReader();
```

```
reader.onload = function (event)
```

```
{
```

```
$("#imgPreview")
```

```
.attr("src", event.target.result);
```

```
};
```

```
reader.readAsDataURL(file);
```

```
}
```

```
}
```

```
);
```

```
}
```

```
);
```

```
</script>
```

```
</body>
```

```
<script src="https://code.jquery.com/jquery-3.6.0.js">
```

```
</script>
```

```
</html>
```