afd-detector

September 21, 2023

Apple Foliar Disease Detector

[ ]:
```
"Welcome to my Kaggle Notebook for my DIP Project AFD Detector"
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0.1 Paths Veriables

- Train Images
- Test Images
- Train Labels CSV
- Sample Submission CSV
- Output Path

[ ]:
```
train_images_path = "/kaggle/input/plant-pathology-2021-fgvc8/train_images"
test_images_path = "/kaggle/input/plant-pathology-2021-fgvc8/test_images"
train_labels_path = "/kaggle/input/plant-pathology-2021-fgvc8/train.csv"
submission_csv_path = "/kaggle/input/plant-pathology-2021-fgvc8/
 ↪sample_submission.csv"
output_path = "/kaggle/working/"
```

0.2 Imports

[ ]:
```
import os
import pandas as pd
import matplotlib.pyplot as plt
import cv2
%matplotlib inline
```

0.3 Number of Train and Test Images

[ ]:
```
number_of_train_images = os.listdir(train_images_path)
print("Train Images Count: ", len(number_of_train_images))

number_of_test_images = os.listdir(test_images_path)
print("Test Images Count: ", len(number_of_test_images))
```

```
Train Images Count:  18632
Test Images Count:  3
```

0.4 CSV Files Lookup

- **Train Labels CSV**

[ ]:
```
train_label_df = pd.read_csv(train_labels_path)
train_label_df
```

[ ]:
```
                    image                            labels
0      800113bb65efe69e.jpg                           healthy
1      8002cb321f8bfcdf.jpg  scab frog_eye_leaf_spot complex
2      80070f7fb5e2ccaa.jpg                              scab
3      80077517781fb94f.jpg                              scab
4      800cbf0ff87721f8.jpg                           complex
…                      …                                …
18627  fffb900a92289a33.jpg                           healthy
18628  fffc488fa4c0e80c.jpg                              scab
18629  fffc94e092a59086.jpg                              rust
18630  fffe105cf6808292.jpg         scab frog_eye_leaf_spot
18631  fffe472a0001bd25.jpg                           healthy

[18632 rows x 2 columns]
```

- **Sample Submission CSV**

[ ]:
```
sample_submission_df = pd.read_csv(submission_csv_path)
sample_submission_df
```

[ ]:
```
                  image   labels
0  85f8cb619c66b863.jpg  healthy
1  ad8770db05586b59.jpg  healthy
2  c7b03e718489f3ca.jpg  healthy
```

0.5 Display Test Images Sample

[ ]:
```
def display_train_sample(sample_size):
    train_samples_path_list = os.listdir(train_images_path)

    rows = (sample_size // 3) + 1
    columns = 3

    plt.figure(figsize=(22, 20))

    for i in range(sample_size):
        train_sample_path = os.path.join(train_images_path,␣
 ↪train_samples_path_list[i])

        train_sample = cv2.imread(train_sample_path)
        train_sample = cv2.cvtColor(train_sample, cv2.COLOR_BGR2RGB)
```

```
        plt.subplot(rows, columns, i + 1)

        plt.imshow(train_sample)
        plt.axis("off")

    plt.show()
```

[ ]:
```
display_train_sample(10)
```