jupyter Image Classification Last Checkpoint: 21 hours ago

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Code JupyterL

[5]:
```
pip install tensorflow
```

```
Collecting tensorflow
  Downloading tensorflow-2.18.0-cp312-cp312-win_amd64.whl.metadata (3.3 kB)
Collecting tensorflow-intel==2.18.0 (from tensorflow)
  Downloading tensorflow_intel-2.18.0-cp312-cp312-win_amd64.whl.metadata (4.9 kB)
Collecting absl-py>=1.0.0 (from tensorflow-intel==2.18.0->tensorflow)
  Downloading absl_py-2.1.0-py3-none-any.whl.metadata (2.3 kB)
Collecting astunparse>=1.6.0 (from tensorflow-intel==2.18.0->tensorflow)
  Downloading astunparse-1.6.3-py2.py3-none-any.whl.metadata (4.4 kB)
Collecting flatbuffers>=24.3.25 (from tensorflow-intel==2.18.0->tensorflow)
  Downloading flatbuffers-24.3.25-py2.py3-none-any.whl.metadata (850 bytes)
Collecting gast!=0.5.0,!=0.5.1,!=0.5.2,>=0.2.1 (from tensorflow-intel==2.18.0->tensorflow)
  Downloading gast-0.6.0-py3-none-any.whl.metadata (1.3 kB)
Collecting google-pasta>=0.1.1 (from tensorflow-intel==2.18.0->tensorflow)
  Downloading google_pasta-0.2.0-py3-none-any.whl.metadata (814 bytes)
Collecting libclang>=13.0.0 (from tensorflow-intel==2.18.0->tensorflow)
  Downloading libclang-18.1.1-py2.py3-none-win_amd64.whl.metadata (5.3 kB)
Collecting opt-einsum>=2.3.2 (from tensorflow-intel==2.18.0->tensorflow)
  Downloading opt_einsum-3.4.0-py3-none-any.whl.metadata (6.3 kB)
```

[51]:
```
import os
import numpy as np
from sklearn.model_selection import train_test_split
from tensorflow.keras.preprocessing.image import ImageDataGenerator, img_to_array, load_img
import matplotlib.pyplot as plt

# Example directory setup
defective_path = r"C:\Users\balra\Desktop\Image Classification'\casting_512x512\casting_512x
non_defective_path = r"C:\Users\balra\Desktop\Image Classification'\casting_512x512\casting_
```

•[53]:
```
def load_images(folder, defect_label, defect_type=None):
    images, labels, defect_types = [], [], []
    for filename in os.listdir(folder):
        img_path = os.path.join(folder, filename)
        if img_path.endswith(('.jpg', '.jpeg', '.png')):
            img = load_img(img_path, target_size=(224, 224))
            img_array = img_to_array(img) / 255.0
```