test_original

February 12, 2021

Script fot testing the trained models with AlexNet Architecture on a chosen picture
Written by C.Joachim January 2021

[ ]:
```
import tensorflow as tf
import numpy as np
import time
from PIL import Image
```

[ ]:
```
# choose model parameters
Dataset = 2
Model   = 2 # must not be changed
Epochs  = 100
Batch   = 32
```

[ ]:
```
# load trained model
model = tf.keras.models.load_model("saved_model/"+"Dataset %s Model %s Epochs␣
 ↪%s Batch Size %s" %(Dataset, Model, Epochs, Batch))
```

[ ]:
```
# choose image
file_in = "bottle3.jpg"
```

[ ]:
```
# prepare imgage - adjust size and normalize
img = tf.io.read_file("images/"+file_in)
img = tf.image.decode_jpeg(img, channels=3)
img = tf.reshape(img,(1,img.shape[0],img.shape[1],3))
img = tf.image.per_image_standardization(img)
img = tf.image.resize(img, (227,227))
```

[ ]:
```
# evaluate image with model
prob = model.predict(img)
```

[ ]:
```
# find class with maximum confidence
conf  = np.amax(prob)
index = np.argmax(prob)
```

[ ]:
```
print(prob)
print(conf)
print(index)
```

[ ]:
```
# find according class description
if Dataset==2:
    category = ['airplane', 'automobile', 'bird', 'cat', 'deer', 'dog', 'frog',␣
 ↪'horse', 'ship', 'truck', 'bottle']
else:
    category = ['airplane', 'automobile', 'bird', 'cat', 'deer', 'dog', 'frog',␣
 ↪'horse', 'ship', 'truck']
```

[ ]:
```
class_desc = category[index]
print(class_desc)
```

[ ]:
```

```