

assignment6_3

July 19, 2021

```
[15]: from tensorflow.keras.applications.resnet50 import ResNet50
      from tensorflow.keras.preprocessing import image
      from tensorflow.keras.applications.resnet50 import preprocess_input, \
      ↪ decode_predictions
      import numpy as np
      import matplotlib.pyplot as plt
```

```
[2]: model = ResNet50(weights='imagenet')
```

```
[3]: img_path1 = 'mickey.jpg'
```

```
[4]: img = image.load_img(img_path1, target_size=(224, 224))
      x = image.img_to_array(img)
      x = np.expand_dims(x, axis=0)
      x = preprocess_input(x)
```

```
[5]: preds = model.predict(x)
      # decode the results into a list of tuples (class, description, probability)
      # (one such list for each sample in the batch)
      print('Predicted:', decode_predictions(preds, top=3)[0])
```

Downloading data from https://storage.googleapis.com/download.tensorflow.org/data/imagenet_class_index.json

40960/35363 [=====] - 0s 0us/step

Predicted: [('n06596364', 'comic_book', 0.985174), ('n03291819', 'envelope', 0.0017842385), ('n03598930', 'jigsaw_puzzle', 0.001491316)]

```
[11]: c = ['mickey.jpg', 'donald.jpg', 'minnie.jpg', 'piglet.jpg', 'pluto.jpg', 'pooh.
      ↪ jpg']
```

```
[12]: list_of_pred = {}
      for a in c:
          img_path = a
          img = image.load_img(img_path, target_size=(224, 224))
          x = image.img_to_array(img)
          x = np.expand_dims(x, axis=0)
          x = preprocess_input(x)
```

```

    preds = model.predict(x)
    # decode the results into a list of tuples (class, description, probability)
    # (one such list for each sample in the batch)

    list_of_pred[a]=decode_predictions(preds, top=3)[0]

```

```
[13]: list_of_pred
```

```

[13]: {'mickey.jpg': [('n06596364', 'comic_book', 0.985174),
 ('n03291819', 'envelope', 0.0017842385),
 ('n03598930', 'jigsaw_puzzle', 0.001491316)],
 'donald.jpg': [('n04482393', 'tricycle', 0.5285613),
 ('n03627232', 'knot', 0.08075481),
 ('n03065424', 'coil', 0.028070271)],
 'minnie.jpg': [('n03532672', 'hook', 0.7883779),
 ('n02999410', 'chain', 0.043953445),
 ('n03627232', 'knot', 0.024524322)],
 'piglet.jpg': [('n03476684', 'hair_slide', 0.15721765),
 ('n03825788', 'nipple', 0.15092966),
 ('n04254120', 'soap_dispenser', 0.13961148)],
 'pluto.jpg': [('n02951585', 'can_opener', 0.14563036),
 ('n02879718', 'bow', 0.09941665),
 ('n04254120', 'soap_dispenser', 0.043298855)],
 'pooh.jpg': [('n04399382', 'teddy', 0.278087),
 ('n03825788', 'nipple', 0.08331462),
 ('n03908618', 'pencil_box', 0.077497885)]]

```

```

[17]: img = image.load_img('piglet.jpg', target_size = (224, 224))
img1 = image.load_img('donald.jpg', target_size = (224, 224))
img2 = image.load_img('minnie.jpg', target_size = (224, 224))
img3 = image.load_img('pluto.jpg', target_size = (224, 224))
img4 = image.load_img('pooh.jpg', target_size = (224, 224))
img5 = image.load_img('mickey.jpg', target_size = (224, 224))
print(list_of_pred['piglet.jpg'])
plt.imshow(img)

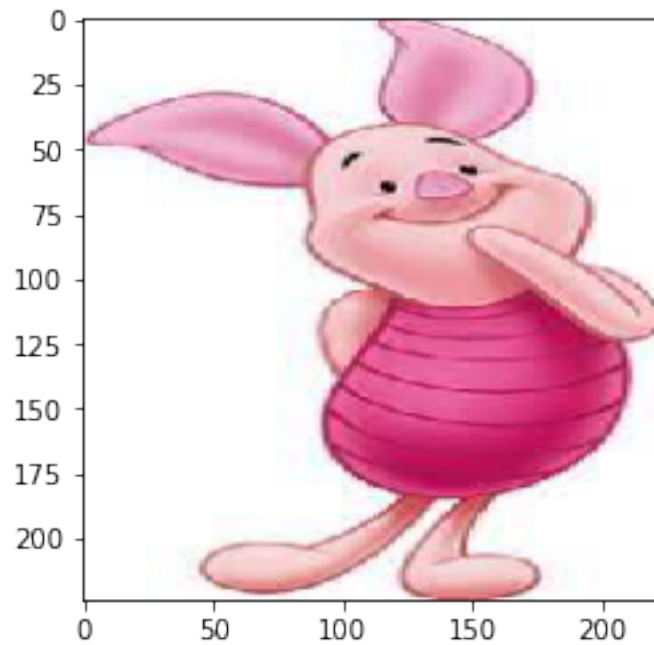
```

```

[('n03476684', 'hair_slide', 0.15721765), ('n03825788', 'nipple', 0.15092966),
 ('n04254120', 'soap_dispenser', 0.13961148)]

```

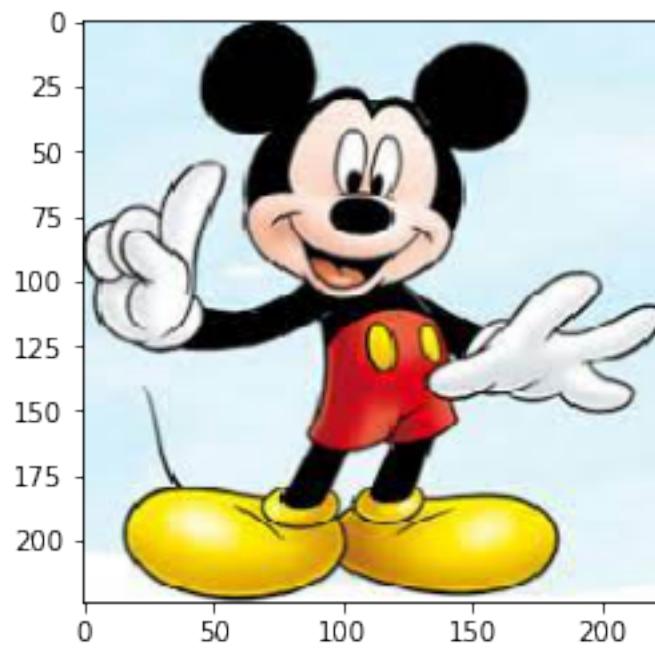
```
[17]: <matplotlib.image.AxesImage at 0x7f10bc6b0f40>
```



```
[18]: print(list_of_pred['mickey.jpg'])  
plt.imshow(ime5)
```

```
[('n06596364', 'comic_book', 0.985174), ('n03291819', 'envelope', 0.0017842385),  
(('n03598930', 'jigsaw_puzzle', 0.001491316)]
```

```
[18]: <matplotlib.image.AxesImage at 0x7f10bc615dc0>
```



[]: