

## assignment 6.3

October 10, 2022

```
[1]: 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 os, fnmatch

      # Define the model
      model = ResNet50(weights='imagenet')
```

```
[2]: # Get jpg files from images folder
      directory='images'
      files=fnmatch.filter(os.listdir(directory), '*.jpg')

      for filename in files:
          f = os.path.join(directory, filename)
          img = image.load_img(f, 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)

          print('\nfile name:', filename)

          # decode the results
          print('Predicted:', decode_predictions(preds, top=3)[0])
```

file name: cheetah.jpg

Predicted: [('n02130308', 'cheetah', 0.9991037), ('n02128385', 'leopard', 0.0006122108), ('n02128925', 'jaguar', 0.00022983666)]

file name: rhino.jpg

Predicted: [('n02410509', 'bison', 0.7648524), ('n01871265', 'tusker', 0.070963055), ('n02504458', 'African\_elephant', 0.06272725)]

file name: aeroplane.jpg

Predicted: [('n04552348', 'warplane', 0.553166), ('n02690373', 'airliner',

0.36771986), ('n04592741', 'wing', 0.049022816)]

file name: penguin.jpg

Predicted: [('n02056570', 'king\_penguin', 0.9939778), ('n01798484', 'prairie\_chicken', 0.0009789576), ('n01560419', 'bulbul', 0.00042768737)]

file name: tiger.jpg

Predicted: [('n02129604', 'tiger', 0.7316371), ('n02123159', 'tiger\_cat', 0.26740324), ('n02127052', 'lynx', 0.00044956472)]

file name: dolphin.jpg

Predicted: [('n02071294', 'killer\_whale', 0.85244876), ('n01484850', 'great\_white\_shark', 0.13392311), ('n01491361', 'tiger\_shark', 0.0040633143)]

file name: mangoes.jpg

Predicted: [('n07753113', 'fig', 0.22532187), ('n07768694', 'pomegranate', 0.21831135), ('n07753592', 'banana', 0.105647236)]

file name: giraffe.jpg

Predicted: [('n02117135', 'hyena', 0.577325), ('n02128385', 'leopard', 0.1027543), ('n02124075', 'Egyptian\_cat', 0.03580881)]

file name: panda.jpg

Predicted: [('n02510455', 'giant\_panda', 0.99977154), ('n02509815', 'lesser\_panda', 0.00013952024), ('n02447366', 'badger', 4.1933465e-05)]

file name: redpanda.jpg

Predicted: [('n02509815', 'lesser\_panda', 0.81102943), ('n02132136', 'brown\_bear', 0.085500054), ('n02114712', 'red\_wolf', 0.06245083)]

[ ]: