

# Stoneburner, Kurt

- **DSC 650 - Week 06**
- **Assignment 6.3 - Load the ResNet50 model. Perform image classification on five to ten images of your choice.**
- **Use Selenium to download images of random animals for classification**

I went with choosing 30 random animal images to classify. The code below performs a duckduckgo.com image search for "random animals" and returns links to 100 images. 30 links are randomly selected and classified. Selenium is used for the web scraping since duckduckgo.com uses Javascript to draw results interactively. I've been recently acquainted with Selenium for a work project where I need to scrape our company's website for content posted over a given quarter. I asked for access to the website backend database and was told we don't have that. Actual management of our web content is handled by a 3rd party who won't provide access. So I'm left with scraping our own content. Welcome to the backwards world of broadcast television.

Keras Offical Reference: <https://keras.io/api/applications/#classify-imagenet-classes-with-resnet50> (<https://keras.io/api/applications/#classify-imagenet-classes-with-resnet50>)

Resnet Tutorial/Explainer: <https://am-nazerz.medium.com/transfer-learning-using-pre-trained-models-for-image-classification-resnet50-in-keras-e140892180d1> (<https://am-nazerz.medium.com/transfer-learning-using-pre-trained-models-for-image-classification-resnet50-in-keras-e140892180d1>)

Headless Selenium: <https://datarebellion.com/blog/using-headless-firefox-with-selenium-in-python/> (<https://datarebellion.com/blog/using-headless-firefox-with-selenium-in-python/>)

Select Random Numbers: <https://pynative.com/python-random-randrange/> (<https://pynative.com/python-random-randrange/>)

```
In [1]: 1 from tensorflow.keras.applications.resnet50 import ResNet50
2 from tensorflow.keras.preprocessing import image
3 from tensorflow.keras.applications.resnet50 import preprocess_input,
4 import numpy as np
5 import matplotlib.pyplot as plt
6
7 #//*** Display Images in Python
8 from IPython.display import Image,display
9 #Image(filename=img_path)
10
11 #//*** These are needed for Selenium web scraping
12 import requests
13 import time
14 import random
```

```

15 from selenium import webdriver
16 from selenium.webdriver.common.by import By
17 import urllib.request
18
19 #//*** Initialize the Default Pretrained res50 Model
20 model = ResNet50(weights='imagenet')
21
22
23 def classify(input_img="temp.jpg"):
24
25     #//*** Load Image From Disk and resize to 224x224
26     img = image.load_img(input_img, target_size=(224, 224))
27
28     #//*** Convert Image to array
29     x = image.img_to_array(img)
30     x = np.expand_dims(x, axis=0)
31     x = preprocess_input(x)
32
33     #//*** Display Image in Jupyter
34     display(Image(filename=input_img))
35
36     #//*** Perform prediction on image
37     preds = model.predict(x)
38     # decode the results into a list of tuples (class, description, p
39     # (one such list for each sample in the batch)
40     print('Predicted:', decode_predictions(preds, top=3)[0])
41

```

WARNING:tensorflow:From C:\Users\family\anaconda3\envs\directml\lib\site-packages\tensorflow\_core\python\ops\resource\_variable\_ops.py:1630: calling BaseResourceVariable.\_\_init\_\_ (from tensorflow.python.ops.resource\_variable\_ops) with constraint is deprecated and will be removed in a future version.

Instructions for updating:

If using Keras pass \*\_constraint arguments to layers.

In [2]:

```

1 #//*** URL to duckduckgo image search of random animals
2 urlpage = "https://duckduckgo.com/?q=random+animals&t=ffab&iar=images"
3
4 #//*** Initialize Headless Firefox options
5 options = webdriver.FirefoxOptions()
6 options.add_argument('-headless')
7
8 #//*** Full Browser Instance
9 driver = webdriver.Firefox()
10
11 #//*** Span Headless Instance
12 driver = webdriver.Firefox(options=options)
13
14
15 # get web page
16 driver.get(urlpage)
17 # execute script to scroll down the page
18 driver.execute_script("window.scrollTo(0, document.body.scrollHeight)")
19 # sleep for 10s, to let everything load
20 time.sleep(10)

```

```
21
22 #/** Presumably the page has loaded Images are associated with clas
23 #/** Get all DOM objects of class "tile--img__img"
24 results = driver.find_elements(By.CLASS_NAME, "tile--img__img")
25
26
27
28 #/** Select image_count number of random images from the 100(ish) r
29 image_count = 30
30
31 #/** Initialize a dictionary to hold the results
32 image_dict = {}
33
34 #/** Generate random indexes and add links to the dictionary
35 while len(image_dict.keys()) <= image_count:
36
37     #/** Get a random value between 0 and 99
38     loop_random_value = random.randint(0, len(results)-1)
39
40     #/** Get the link associated with a random index in results
41     link = results[loop_random_value].get_property('src')
42
43     #/** Using the random value as a key, add link to dictionary
44     #/** This will automatically deal with duplicates
45     image_dict[loop_random_value] = link
46
47 #/** Image List populated, close selenium browser
48 driver.close()
49
```

In [3]:

```

1 //*** Download each link, write image to disk, then classify it.
2 //*** Download, then Classify, should provide plenty of time to not
3
4 for key,link in image_dict.items():
5     print(key,link)
6
7 //*** Grab the image with urllib
8 disp_img = urllib.request.urlopen(link).read()
9
10
11 //*** Write image to disk, the classifier is looking for UTF-8 e.
12 //*** This is a hack that works
13 with open("temp.jpg", "wb") as binary_file:
14
15     # Write bytes to file
16     binary_file.write(disp_img)
17
18     classify()
19
2 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.G-OJ62sOhr5UuQP5sJkX0gHaF7%26pid%3DApi&f=1 (https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.G-OJ62sOhr5UuQP5sJkX0gHaF7%26pid%3DApi&f=1)

```



Predicted: [('n02129165', 'lion', 0.9955848), ('n02112137', 'chow', 0.0024367948), ('n02115641', 'dingo', 0.0004229943)]  
62 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.YGpvSRSjaoJc0nZHeT8e5gHaJ4%26pid%3DApi&f=1 (https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.YGpvSRSjaoJc0nZHeT8e5gHaJ4%26pid%3DApi&f=1)



Predicted: [ ('n02132136', 'brown\_bear', 0.37842244), ('n02096051', 'Ai redale', 0.34660718), ('n02093991', 'Irish\_terrier', 0.122344024) ]  
51 <https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse1.mm.bing.net%2Fth%3Fid%3DOIP.UWseSaDSAqU0nRFwnMVMbQHaG4%26pid%3DApi&f=1>



Predicted: [ ('n02113186', 'Cardigan', 0.25185075), ('n02113023', 'Pemb roke', 0.15881422), ('n02109961', 'Eskimo\_dog', 0.117357954) ]  
6 <https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse1.mm.bing.net%2Fth%3Fid%3DOIP.nuwdJqacLwjBMPU82V5U5gHaHa%26pid%3DApi&f=1>



```
Predicted: [ ('n02123394', 'Persian_cat', 0.94403034), ('n09472597', 'volcano', 0.03822455), ('n03637318', 'lampshade', 0.0046584406) ]
95 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.mm.bing.net%2Fth%3Fid%3DOIP._oNqpOM1fwelMTPapKZnsQAAAA%26pid%3DApi&f=1
https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.mm.bing.net%2Fth%3Fid%3DOIP._oNqpOM1fwelMTPapKZnsQAAAA%26pid%3DApi&f=1)
```



```
Predicted: [ ('n02137549', 'mongoose', 0.4505842), ('n02138441', 'meerkat', 0.1255783), ('n02441942', 'weasel', 0.0669025) ]
93 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.KAwOT6Y13M3d7fXXXMRdVQHaF7%26pid%3DApi&f=1
https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.KAwOT6Y13M3d7fXXXMRdVQHaF7%26pid%3DApi&f=1)
```



```
Predicted: [ ('n06359193', 'web_site', 0.85246474), ('n02114367', 'timb
```

```
er_wolf', 0.0123024015), ('n02105056', 'groenendael', 0.010377805)]  
46 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.m  
m.bing.net%2Fth%3Fid%3DOIP.lX44CuArJU191Q0v8aaxwgHaE7%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.b  
ing.net%2Fth%3Fid%3DOIP.lX44CuArJU191Q0v8aaxwgHaE7%26pid%3DApi&f=1)
```



```
Predicted: [(['n02415577', 'bighorn', 0.5363388), ('n02412080', 'ram',  
0.3631934), ('n02437312', 'Arabian_camel', 0.03059867)]  
13 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.m  
m.bing.net%2Fth%3Fid%3DOIP.Uf5TG1c6gXP23zTXhdFVXAHaH1%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.b  
ing.net%2Fth%3Fid%3DOIP.Uf5TG1c6gXP23zTXhdFVXAHaH1%26pid%3DApi&f=1)
```



Predicted: [ ('n02356798', 'fox\_squirrel', 0.35890138), ('n02325366', 'wood\_rabbit', 0.1254828), ('n02326432', 'hare', 0.0714032) ]  
31 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.m.bing.net%2Fth%3Fid%3DOIP.YLpxJRzRRCoF8U-qd4G57gHaFj%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.m.bing.net%2Fth%3Fid%3DOIP.YLpxJRzRRCoF8U-qd4G57gHaFj%26pid%3DApi&f=1)



Predicted: [ ('n02111889', 'Samoyed', 0.53536), ('n02134084', 'ice\_bear', 0.23472789), ('n02104029', 'kuvasz', 0.1057359) ]  
91 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.m.bing.net%2Fth%3Fid%3DOIP.wwyq664DAhdPXkTpbsVOXwHaD5%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.m.bing.net%2Fth%3Fid%3DOIP.wwyq664DAhdPXkTpbsVOXwHaD5%26pid%3DApi&f=1)



Predicted: [ ('n01882714', 'koala', 0.6319226), ('n02356798', 'fox\_squirrel', 0.13771974), ('n01877812', 'wallaby', 0.12131584) ]  
14 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.m.bing.net%2Fth%3Fid%3DOIP.fqu3C85Hf39hZApFr00P2QHaD4%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.m.b

ing.net%2Fth%3Fid%3DOIP.fqu3C85Hf39hZApFr00P2QHaD4%26pid%3DApi&f=1)



Predicted: [ ('n02346627', 'porcupine', 0.7363164), ('n02443484', 'black-footed\_ferret', 0.039305497), ('n02442845', 'mink', 0.029366972) ]  
38 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.m.bing.net%2Fth%3Fid%3DOIP.rmbIhHFW8jkhFRZrJDGlPgHaF\_%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.rmbIhHFW8jkhFRZrJDGlPgHaF\_%26pid%3DApi&f=1)



Predicted: [ ('n02129604', 'tiger', 0.9061147), ('n02123159', 'tiger\_cat', 0.08988117), ('n02127052', 'lynx', 0.001530001) ]  
11 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.m.bing.net%2Fth%3Fid%3DOIP.MYocoqSlwpjiC\_Rvhc5XTgHaFS%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.MYocoqSlwpjiC\_Rvhc5XTgHaFS%26pid%3DApi&f=1)



Predicted: [ ('n02114855', 'coyote', 0.9013533), ('n02115641', 'dingo', 0.03466273), ('n02114712', 'red\_wolf', 0.021592606)]  
24 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.0b6hmtx1mPBQw81eZBRUOQHaE8%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.0b6hmtx1mPBQw81eZBRUOQHaE8%26pid%3DApi&f=1)



Predicted: [ ('n01882714', 'koala', 0.98254836), ('n02127052', 'lynx', 0.0051531885), ('n02497673', 'Madagascar\_cat', 0.0020260247)]  
68 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.5NZCBszDt1VdaFFPuEtaOAHaJ4%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.5NZCBszDt1VdaFFPuEtaOAHaJ4%26pid%3DApi&f=1)

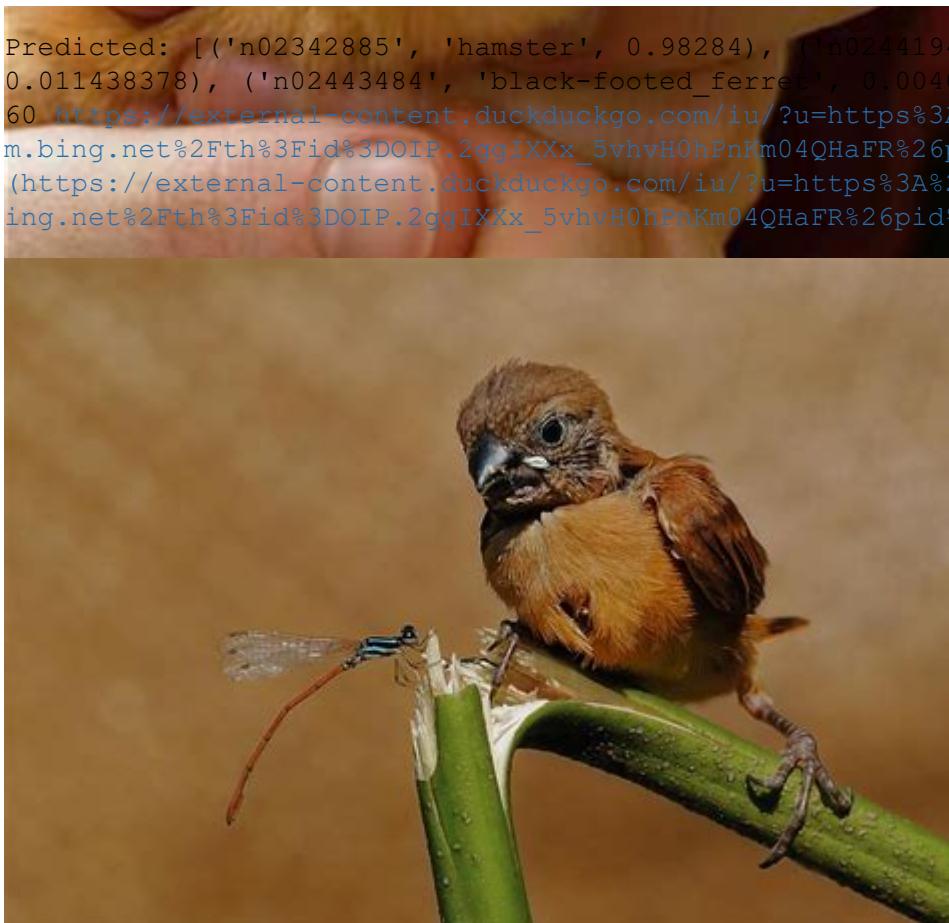


```
Predicted: [('n01694178', 'African_chameleon', 0.9940673), ('n01687978', 'agama', 0.0022742953), ('n01688243', 'frilled_lizard', 0.0020007796)]  
58 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.j1xtfstpu6h00_Uf6xtQQwHaGv%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.j1xtfstpu6h00_Uf6xtQQwHaGv%26pid%3DApi&f=1)
```



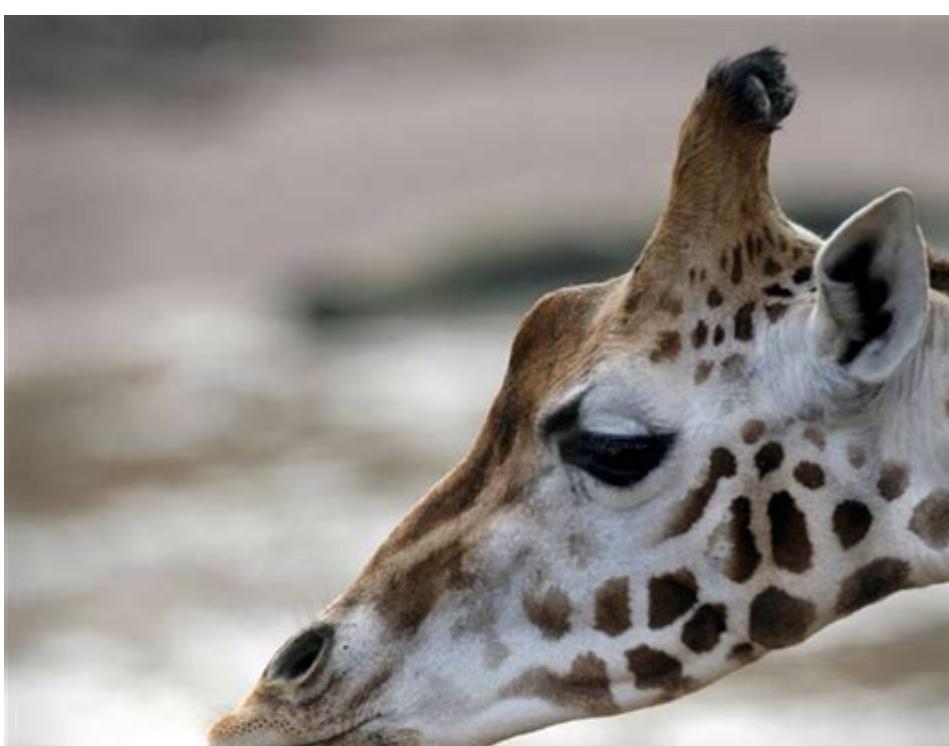
```
Predicted: [('n02356798', 'fox_squirrel', 0.60847485), ('n02326432', 'hare', 0.06756596), ('n02342885', 'hamster', 0.047325045)]  
27 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse1.mm.bing.net%2Fth%3Fid%3DOIP.Vt6DXn-9mdT2fmV40M2RdQHaIr%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse1.mm.bing.net%2Fth%3Fid%3DOIP.Vt6DXn-9mdT2fmV40M2RdQHaIr%26pid%3DApi&f=1)
```





Predicted: [ ('n02177972', 'weevil', 0.5162185), ('n02259212', 'leafhopper', 0.12878722), ('n02206856', 'bee', 0.09496862) ]

72 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse1.m.bing.net%2Fth%3Fid%3DOIP.mGdVqkt6LtB6NHzhunNvFgHaKp%26pid%3DApi&f=1 (https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse1.m.bing.net%2Fth%3Fid%3DOIP.mGdVqkt6LtB6NHzhunNvFgHaKp%26pid%3DApi&f=1)



```
Predicted: [('n02027492', 'red-backed_sandpiper', 0.6217391), ('n02128925', 'jaguar', 0.120329216), ('n02025239', 'ruddy_turnstone', 0.09710668)]  
45 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse1.mm.bing.net%2Fth%3Fid%3DOIP.g1X4GA0PDKWdMMlt49OJmAHaFj%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse1.mm.bing.net%2Fth%3Fid%3DOIP.g1X4GA0PDKWdMMlt49OJmAHaFj%26pid%3DApi&f=1)
```



```
Predicted: [('n02129604', 'tiger', 0.9456286), ('n02123159', 'tiger_cat', 0.0428642), ('n02128925', 'jaguar', 0.009371509)]  
66 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.s2_btIRXIsX4ZozY2h-qwHaFR%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.s2_btIRXIsX4ZozY2h-qwHaFR%26pid%3DApi&f=1)
```



```
Predicted: [('n02113799', 'standard_poodle', 0.90532565), ('n02113712', 'miniature_poodle', 0.027295224), ('n01855672', 'goose', 0.016945565)]  
35 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.whWKIgMBDqtWSESJ5hOuDQHaE8%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.whWKIgMBDqtWSESJ5hOuDQHaE8%26pid%3DApi&f=1)
```



```
Predicted: [('n02422699', 'impala', 0.40252846), ('n02423022', 'gazelle', 0.20020951), ('n02115913', 'dhole', 0.1313775)]  
94 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.Vdf46v7We9rDLunKvRwbFAHaEK%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.Vdf46v7We9rDLunKvRwbFAHaEK%26pid%3DApi&f=1)
```



```
Predicted: [('n02487347', 'macaque', 0.91804904), ('n03404251', 'fur_c oat', 0.015760032), ('n03045698', 'cloak', 0.010672248)]  
19 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.mm.bing.net%2Fth%3Fid%3DOIP.oHCmzdeb5NU3FEz4g9SdygHaFA%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.mm.b
```

ina.net%2Fth%3Fid%3DOIP.oHCmzdeb5NU3FEz4q9SdvqHaFA%26pid%3DApi&f=1)



Predicted: [('n02504458', 'African\_elephant', 0.8473944), ('n02504013', 'Indian\_elephant', 0.14151447), ('n01871265', 'tusker', 0.011068763)]

30 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.m.bing.net%2Fth%3Fid%3DOIP.QDpnsMU-myEi0NWUseYTlwHaHM%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.mm.bing.net%2Fth%3Fid%3DOIP.QDpnsMU-myEi0NWUseYTlwHaHM%26pid%3DApi&f=1)



```
in', 0.08824503), ('n01616318', 'vulture', 0.08526346)]  
69 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.m  
m.bing.net%2Fth%3Fid%3DOIP.ECTdVXm6_cEW37kdiEbiDAHaHQ%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.b  
ing.net%2Fth%3Fid%3DOIP.ECTdVXm6_cEW37kdiEbiDAHaHQ%26pid%3DApi&f=1)
```



```
Predicted: [('n02112018', 'Pomeranian', 0.21891944), ('n02119022', 're  
d_fox', 0.19156507), ('n02342885', 'hamster', 0.10990433)]  
81 https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.m  
m.bing.net%2Fth%3Fid%3DOIP.JYyJYzplowX51YkdgQXh3gHaGp%26pid%3DApi&f=1  
(https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.b  
ing.net%2Fth%3Fid%3DOIP.JYyJYzplowX51YkdgQXh3gHaGp%26pid%3DApi&f=1)
```



Predicted: [('n02128385', 'leopard', 0.3783161), ('n02128925', 'jaguar', 0.33610734), ('n02130308', 'cheetah', 0.07792824)]  
7 [https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.ILY\\_MP1Iurd\\_CCjU9u7JcgHaEK%26pid%3DApi&f=1](https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse2.mm.bing.net%2Fth%3Fid%3DOIP.ILY_MP1Iurd_CCjU9u7JcgHaEK%26pid%3DApi&f=1)



Predicted: [('n02457408', 'three-toed\_sloth', 0.9999919), ('n02480495', 'orangutan', 4.5141846e-06), ('n02077923', 'sea\_lion', 5.0567394e-07)]  
12 [https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.k\\_Fsj\\_8Xw\\_EDf2yi3ejNWQHaFT%26pid%3DApi&f=1](https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse3.mm.bing.net%2Fth%3Fid%3DOIP.k_Fsj_8Xw_EDf2yi3ejNWQHaFT%26pid%3DApi&f=1)



Predicted: [('n01855672', 'goose', 0.5497324), ('n02013706', 'limpkin', 0.055023566), ('n02018207', 'American\_coot', 0.047573805)]  
20 <https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse1.mm.bing.net%2Fth%3Fid%3DOIP.omByhapg5DUuQj4eyqJuuQHaJ4%26pid%3DApi&f=1>

(<https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse1.mm.bing.net%2Fth%3Fid%3DOIP.omByhapg5DUuQj4eyqJuuQHaJ4%26pid%3DApi&f=1>)



Predicted: [('n01847000', 'drake', 0.99143654), ('n01855672', 'goose', 0.0065209204), ('n02018207', 'American\_coot', 0.0013205013)]  
89 [https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.mm.bing.net%2Fth%3Fid%3DOIP.3K2JbslR\\_qBysYebKiwk7gHaE8%26pid%3DApi&f=1](https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.mm.bing.net%2Fth%3Fid%3DOIP.3K2JbslR_qBysYebKiwk7gHaE8%26pid%3DApi&f=1)  
[https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.mm.bing.net%2Fth%3Fid%3DOIP.3K2JbslR\\_qBysYebKiwk7gHaE8%26pid%3DApi&f=1](https://external-content.duckduckgo.com/iu/?u=https%3A%2F%2Ftse4.mm.bing.net%2Fth%3Fid%3DOIP.3K2JbslR_qBysYebKiwk7gHaE8%26pid%3DApi&f=1)



```
Predicted: [('n02119022', 'red_fox', 0.72474694), ('n02119789', 'kit_f  
ox', 0.22774747), ('n02120505', 'grey_fox', 0.01409086)]
```

In [ ]:

1