```
# image preprocess and prediction with VGG19
```

In [7]:

```
import tensorflow as tf
import numpy as np
import cv2

```

In [2]:

```
# Load the pre-trained VGG19 model
model = tf.keras.applications.VGG19(weights='imagenet', include_top=True)
```

```
2023-07-29 16:53:23.502138: I tensorflow/core/platform/cpu_feature_gua
rd.cc:145] This TensorFlow binary is optimized with Intel(R) MKL-DNN t
o use the following CPU instructions in performance critical operation
s:  SSE4.1 SSE4.2 AVX AVX2 FMA
To enable them in non-MKL-DNN operations, rebuild TensorFlow with the
appropriate compiler flags.
2023-07-29 16:53:23.502331: I tensorflow/core/common_runtime/process_u
til.cc:115] Creating new thread pool with default inter op setting: 4.
Tune using inter_op_parallelism_threads for best performance.

Downloading data from https://github.com/fchollet/deep-learning-model
s/releases/download/v0.1/vgg19_weights_tf_dim_ordering_tf_kernels.h5
(https://github.com/fchollet/deep-learning-models/releases/download/v
0.1/vgg19_weights_tf_dim_ordering_tf_kernels.h5)
574717952/574710816 [==============================] - 25s 0us/step
```

In [8]:

```
image_path = '/Users/myyntiimac/Desktop/squirl.jpeg'
img = cv2.imread(image_path)  # Read the image using OpenCV
img = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)  # Convert from BGR to RGB
img = cv2.resize(img, (224, 224))  # Resize the image to (224, 224) for VGG19 ir
img = np.expand_dims(img, axis=0)  # Add batch dimension
img = tf.keras.applications.vgg19.preprocess_input(img)  # Preprocess the image
```

In [10]:

```
preds = model.predict(img)
```

In [13]:

```
# Decode the predictions (ImageNet class labels)
decode_predictions = tf.keras.applications.vgg19.decode_predictions(preds, top=5
decode_predictions
```

Out[13]:

```
[[('n02356798', 'fox_squirrel', 0.9987931),
  ('n02361337', 'marmot', 0.0004623475),
  ('n02326432', 'hare', 0.000319166),
  ('n02325366', 'wood_rabbit', 4.021573e-05),
  ('n02484975', 'guenon', 3.041473e-05)]]
```

In [ ]:

```
Insight:so our image contain picture of fox_squirrel
```