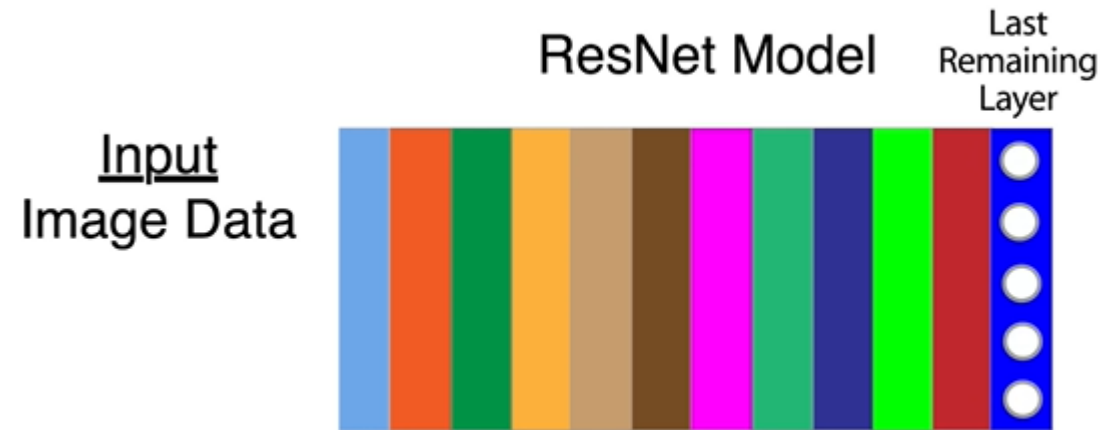
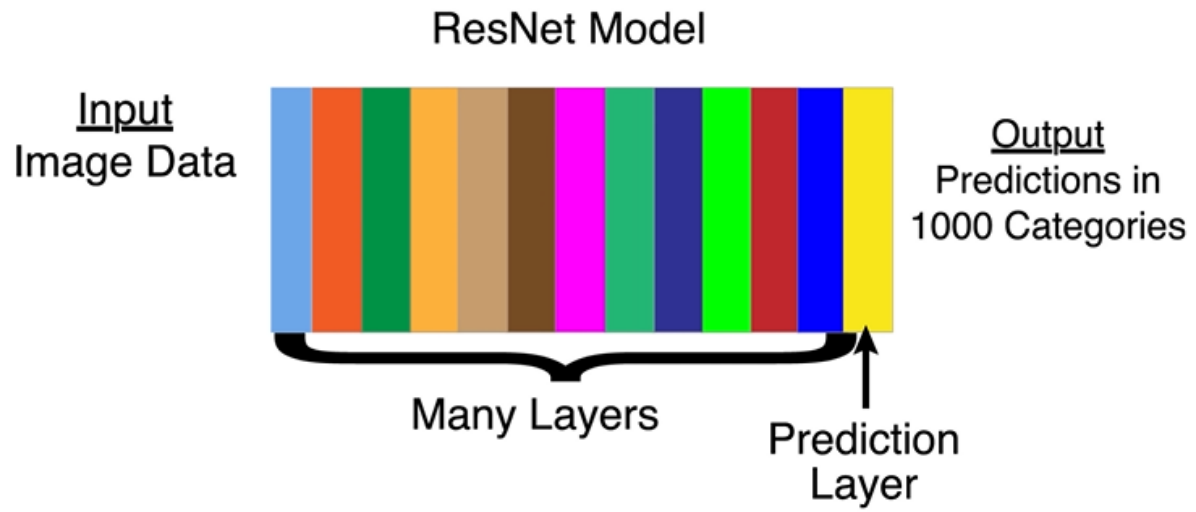


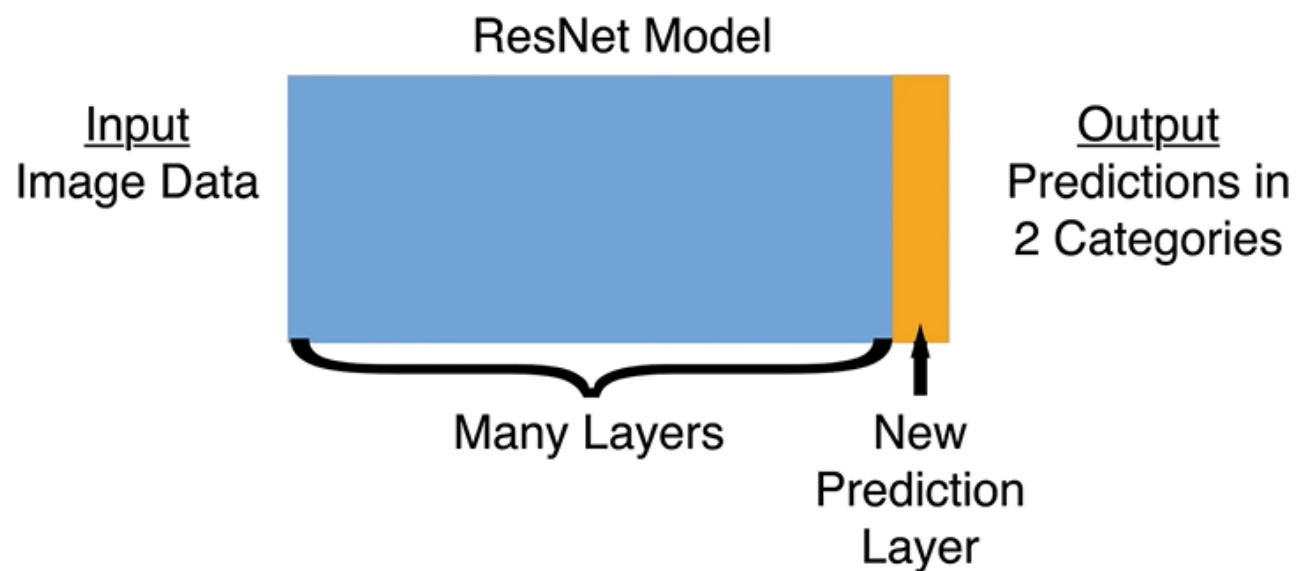
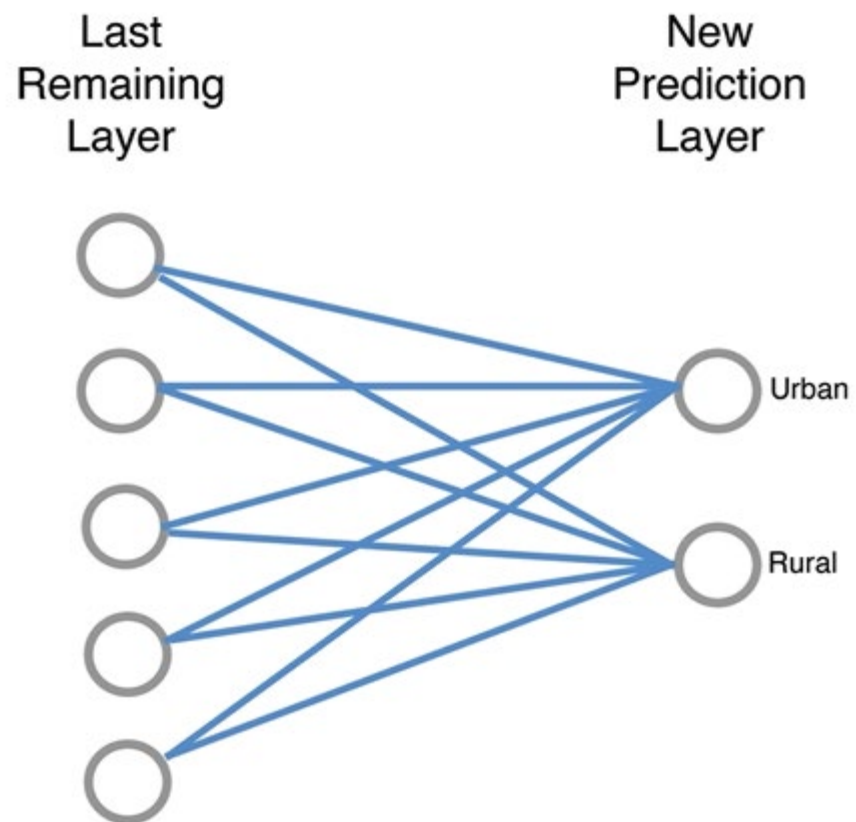


Tunisian Space Association

الجمعية التونسية للفضاء

# Transfer Learning







```
weights_path = '../input/resnet50/resnet50_weights_tf_dim_ordering_tf_kernels_notop.h5'
num_classes = 2

my_new_model = Sequential()
my_new_model.add(ResNet50(include_top=False,
                          weights=weights_path,
                          pooling='avg'))
my_new_model.add(Dense(num_classes, activation='softmax'))

my_new_model.layers[0].trainable = False
```

```
my_new_model.compile(optimizer='sgd',
                    loss='categorical_crossentropy',
                    metrics=['accuracy'])
```

```
from tensorflow.python.keras.preprocessing.image import ImageDataGenerator

data_generator = ImageDataGenerator(preprocessing_function=preprocess_input)
```

```
train_generator = data_generator.flow_from_directory(  
    '../input/urban-and-rural-photos/rural_and_urban_photos/train'  
    target_size=(image_size, image_size),  
    batch_size=12,  
    class_mode='categorical')
```

```
validation_generator = data_generator.flow_from_directory(  
    '../input/urban-and-rural-photos/rural_and_urban_photos/val',  
    target_size=(image_size, image_size),  
    batch_size=20,  
    class_mode='categorical')
```

```
my_new_model.fit_generator(train_generator,  
                           steps_per_epoch=6,  
                           validation_data=validation_generator,  
                           validation_steps=1)
```

The background of the slide features a photograph of the Space Shuttle Discovery during its final landing. The shuttle is white with "United States" and the American flag on its side, and "Discovery" on the nose. It is on a runway with a large red and white parachute deployed from its tail. The scene is set against a clear blue sky with a line of green trees in the background.

**Thank you for  
your Attention!**

- Any questions?