Introduction and Concepts of Computer Vision

LATEST SUBMISSION GRADE

100%

1.
Question 1
In a *Multi-Class* classification scenario, your model can identify all the different items and people that are present in a given input image.

1 / 1 point

True

False

Correct

Correct! The above statement is true for a *Multi-Label* classification.

2.
Question 2
Which of the following statements correctly describes the difference between *object detection* and *object localization*?

1 / 1 point

Object detection refers to detecting the object within an image, while *object localization* gives us the bounding box around that object.

*Object detection*is where you get a bounding box around the *main* subject of the image, while in *object localization* you get a bounding box around *all* of the objects within an image.

They both are the same.

Object localization is where you get a bounding box around the *main* subject of the image, while in *object detection* you get a bounding box around *all* of the objects within an image.

Correct

Correct!

3.
Question 3
What is the method that locates an object(s) by *labelling the pixels*, where *each similar object(s) is assigned to the same class*? Type your response here (two words, all lower case).

1 / 1 point

semantic segmentation

Correct

Correct!

4.
Question 4
In the context of *Transfer Learning*, the initial training task where the model learns reusable patterns is called a *downstream task.*

1 / 1 point

False

True

Correct

Correct! The above statement is true for a *pre-training task*. The task for which the model is borrowed is called *downstream task*.

5.
Question 5
Check all the scenarios in which Transfer Learning could be beneficial.

1 / 1 point

To reduce computation and processing cost

Correct

Correct!

When you don’t have enough data for the task you want to perform, which resembles another same or similar, already trained task.

Correct

Correct!

When the task you want to perform is a sub-task of an already trained, larger, model.

Correct

Correct!

To ensure better performance

6.
Question 6
What is the name of the built-in TensorFlow layer-type which you can use to increase the dimensions of a 2D image ?

1 / 1 point

UpSampling

SampleIncrease

UpSampling2D

SampleUp2D

Correct

Correct!

7.
Question 7
You have an image of dimensions 48 x 48, and you want to upscale it to 240 x 240 using the built-in TensorFlow layer-type which is used to perform such a task (mentioned in Question 6). What will you pass in as *size*=____?

1 / 1 point

(5,5)

Correct

Correct!

8.

Question 8

Consider the following code:

```
my_layer = tf.keras.applications.resnet.ResNet50(
      input_shape=(224, 224, 3),
      include_top=False,
      weights='imagenet')(inputs)
```

What does “include_top=False” mean ?

1 / 1 point

It randomly sets up the weights, instead of using that of ImageNet, for the top most dense layers of ResNet50 when initializing *my_layer* using it.

It discards the first layer of ResNet50 when initializing *my_layer* using it.

It sets the top most layers as untrainable of ResNet50 when initializing *my_layer* using it.

It discards the top most layers of ResNet50 when initializing *my_layer* using ResNet50.

Correct

Correct!

9.

Question 9

What is the name of the technique used in the output dense layer that is used to predict Bounding Boxes ? (Hint: It is a one word answer)

1 / 1 point

regression

Correct

Correct!

10.
Question 10
Check all the statements that are true regarding Intersection Over Union (IoU), with regards to Bounding Boxes.

1 / 1 point

☐ The closer the value of IoU is to 0 the better is the prediction of the bounding box.

☐ IoU is the area of intersection of the two boxes (true and predicted) divided by the total union area of the two boxes.

Correct

Correct!

☐ The closer the value of IoU is to 0 the poorer is the prediction of the bounding box.

Correct

Correct! The lesser the area of intersection the closer to 0 will be the value of IoU

☐ The values of IoU range from 0 to *all* possible *positive* values.