**1.**

Question 1

What is the difference between traditional programming and Machine Learning?

1 point

Machine learning identifies complex activities such as golf, while traditional programming is better suited to simpler activities such as walking.

In traditional programming, a programmer has to formulate or code rules manually, whereas, in Machine Learning, the algorithm automatically formulates the rules from the data.

**2.**

Question 2

What do we call the process of telling the computer what the data represents (i.e. this data is for walking, this data is for running)?

1 point

Programming the Data

Categorizing the Data

Labelling the Data

Learning the Data

**3.**

Question 3

What is a Dense layer?

1 point

A single neuron

An amount of mass occupying a volume

A layer of neurons fully connected to its adjacent layers

A layer of disconnected neurons

**4.**

Question 4

How do you measure how good the current ‘guess’ is?

1 point

Figuring out if you win or lose

Using the Loss function

Training a neural network

**5.**

Question 5

What does the optimizer do?

1 point

Generates a new and improved guess

Decides to stop training a neural network

Measures how good the current guess is

Figures out how to efficiently compile your code

**6.**

Question 6

What is Convergence?

1 point

The process of getting very close to the correct answer

A programming API for AI

A dramatic increase in loss

An analysis that corresponds too closely or exactly to a particular set of data.

**7.**

Question 7

What does model.fit do?

1 point

It makes a model fit available memory

It trains the neural network to fit one set of values to another

It optimizes an existing model

It determines if your activity is good for your body

**1.**

Question 1

What is the resolution of o the 70,000 images from the Fashion MNIST dataset?

1 point

28x28 Greyscale

100x100 Color

82x82 Greyscale

28x28 Color

**2.**

Question 2

Why are there 10 output neurons in the Neural Network used as an example for the Computer Vision Problem?

1 point

To make it classify 10x faster

There are 10 different labels

Purely arbitrary

To make it train 10x faster

**3.**

Question 3

What does Relu do?

1 point

For a value x, it returns 1/x

It only returns x if x is greater than zero

It only returns x if x is less than zero

It returns the negative of x

**4.**

Question 4

Why do you split data into training and test sets?

1 point

To train a network with previously unseen data

To make testing quicker

To make training quicker

To test a network with previously unseen data

**5.**

Question 5

True or False: The on\_epoch\_end function sends a logs object with lots of great information about the current state of training at the start of every epoch

1 point

True

False

**6.**

Question 6

Why do you set the callbacks= parameter in your fit function?

1 point

So that the training loops performs all epochs

Because it accelerates the training

So, on every epoch you can call back to a code function

**1.**

Question 1

How do Convolutions improve image recognition?

1 point

They make the image smaller

They isolate features in images

They make the image clearer

They make processing of images faster

**2.**

Question 2

What does the Pooling technique do to the images?

1 point

Combines them

Makes them sharper

Isolates features in them

Reduces information in them while maintaining some features

**3.**

Question 3

True or False. If you pass a 28x28 image through a 3x3 filter the output will be 26x26

1 point

False

True

**4.**

Question 4

After max pooling a 26x26 image with a 2x2 filter, the output will be 56x56

1 point

False

True

**5.**

Question 5

How does using Convolutions in our Deep neural network impact training?

1 point

It makes it slower

It makes it faster

It does not affect training

Its impact will depend on other factors.

**1.**

Question 1

Using Image Generator, how do you label images?

1 point

It’s based on the file name

TensorFlow figures it out from the contents

It’s based on the directory the image is contained in

You have to manually do it

**2.**

Question 2

What method on the Image Generator is used to normalize the image?

1 point

rescale

normalize

Rescale\_image

normalize\_image

**3.**

Question 3

How did we specify the training size for the images?

1 point

The training\_size parameter on the training generator

The training\_size parameter on the validation generator

The target\_size parameter on the validation generator

The target\_size parameter on the training generator

**4.**

Question 4

When we specify the input\_shape to be (300, 300, 3), what does that mean?

1 point

There will be 300 horses and 300 humans, loaded in batches of 3

There will be 300 images, each size 300, loaded in batches of 3

Every Image will be 300x300 pixels, and there should be 3 Convolutional Layers

Every Image will be 300x300 pixels, with 3 bytes to define color

**5.**

Question 5

If your training data is close to 1.000 accuracy, but your validation data isn’t, what’s the risk here?

1 point

You’re underfitting on your validation data

You’re overfitting on your validation data

You’re overfitting on your training data

No risk, that’s a great result

**6.**

Question 6

Convolutional Neural Networks are better for classifying images like horses and humans because:

1 point

In these images, the features may be in different parts of the frame

There’s a wide variety of horses

There’s a wide variety of humans

**7.**

Question 7

After reducing the size of the images, the training results were different. Why?

1 point

There was less information in the images

We removed some convolutions to handle the smaller images

There was more condensed information in the images

The training was faster