TensorFlow Intermediate Interview Questions

1. What is a graph explorer in TensorFlow?

A graph explorer is used to visualize a graph on TensorBoard. It is also used for the inspection operations of a model in TensorFlow. To easily understand the flow in a graph, it is recommended to use a graph visualizer in TensorBoard.

Next up on these TensorFlow coding interview questions, let us check out variables and their lifetimes.

2. How is variable lifetime tracked in TensorFlow?

The lifetime of a variable is automatically tracked after its initialization, using the **tf.Variable.initializer** operation.

Later, after the usage, the session can be closed and the variable can be destroyed, using the **tf.Session.close** operation.

3. What are the types of dashboards supported by TensorFlow?

TensorFlow supports a variety of dashboards that are used to perform numerous tasks on TensorBoard easily:

- Scalar dashboard
- Image dashboard
- Graph dashboard
- Text dashboard
- Distributer dashboard
- Histogram dashboard

4. Can TensorFlow be deployed onto a container architecture?

Yes, TensorFlow can be easily used with containerization tools like Docker. The containerization tools alongside TensorFlow are mostly used to deploy various models that require text classification using

5. Is word embedding supported in TensorFlow?

Yes, word embedding is supported in TensorFlow. It is widely used in the field of When TensorFlow is being used, it is called Word2vec.

Two models are used for word embedding in TensorFlow:

- The Continuous Bag of Words model
- The Skip-Gram model

Next, it is vital that you understand the use of estimators and that is exactly what we will look at in these TensorFlow coding interview questions.

6. What is the use of estimators in TensorFlow?

Estimators in TensorFlow are high-level APIs used to provide a high amount of code reusability when training a model. They can also override the default behavior of any aspect of the model.

There are two ways of the model building using estimators:

- Premade estimator: Used to create a specific model like DNNClassifier
- Base class estimator: Used to control a model using a model_fn function

7. What statistical distribution functions are provided by TensorFlow?

Numerous statistical distribution functions are offered by TensorFlow. They are all located inside the tf.contrib.distributions package.

The distributions supported are:

- Beta
- Bernoulli
- Chi2
- Dirichlet
- Gamma
- Uniform

8. Can you use TensorBoard without installing TensorFlow?

If TensorFlow is not installed, users can still make use of TensorBoard (versions above 1.14) in a standalone mode with redacted features.

Following plugins are supported:

- Scalars
- Image
- Audio
- Graph
- Projector
- Histograms
- Mesh

9. What is the meaning of the embedding projector in TensorFlow?

Embedding projector is an entity in TensorFlow that is used to easily visualize high-dimensional data.

It is used to read the data from the model checkpoint file prior to visualization and to view the input data after it has been embedded into a high-dimensional space by the model.

10. What is the difference between Type 1 and Type 2 errors?

In simple terms, Type 1 errors refer to the occurrence of a false positive outcome, and Type 2 errors denote the occurrence of a false negative value when performing complex computations.

11. When using TensorFlow, is performance always preferred over accuracy?

No, performance is not always preferred over accuracy when you use TensorFlow. This completely depends on the type of requirement and what the model is trying to achieve. The general rule of thumb is to provide equal weightage to model accuracy and performance.

The next set of TensorFlow interview questions will show the importance of using an example along with concepts to explain.

12. Can you give an example to create a tensor using the constant() function in TensorFlow?

Tensors are most commonly created using the constant() function. The values to be input into the tensor are given as arguments as shown below:

import tensorflow as tf

```
t1 = tf.constant([[1, 2, 3], [4, 5, 6], [7, 8, 9]])
t2 = tf.constant(["String One", "String Two", "String Three"])
sess = tf.Session()
print(t1)
print(sess.run(t1))
print("\n")
print(t2)
print(sess.run(t2))
```