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Running own TensorFlow model on Android gives native inference error: "Session was not created with a graph before Run()!"

I was able to run the Inception-v3 model on Android just fine, and I now want to run my own trained TensorFlow model on Android. I'm following the approach from [TensorFlow's image recognition tutorial](#) and the Android TensorFlow demo, and adapting as necessary. From Android logcat, running into this when running the app:

```
E/native: tensorflow_inference_jni.cc:202 Error during inference: Invalid argument:  
Session was not created with a graph before Run()  
...  
E/native: tensorflow_inference_jni.cc:159 Output [output/Softmax:0] not found,  
aborting!
```

Environment info: OS X Yosemite (10.10.5), LGE Nexus 5 (Android 6.0.1), Android SDK 23, Android OpenCV SDK 23, Bazel 0.4.0.

These are the steps I've taken so far:

1. Saved own model's checkpoint (.ckpt) and graph definition (.pb) files separately using `tf.train.Saver()` then `tf.train.write_graph()`
2. Froze graph using `freeze_graph.py` (using bazel), gives 227.5 MB file
3. Optimized the graph using `optimize_for_inference.py` (additionally tried `strip_unused.py`)
4. Copied frozen, optimized, or stripped graph to android/assets
5. Doubled the total byte limit using `coded_stream.SetTotalBytesLimit()` in `jni_utils.cc` to handle my large model size
6. Built the tensorflow android app using bazel
7. Installed on android device using adb and bazel

As a sanity check, I have tested my model in C++ built with bazel following the tutorial here [label_image](#), and my model correctly outputs a prediction. I have also tried playing with the order by which I save my graph def and checkpoint files before freezing, but no change.

Any help would be great.

 [android](#) [python](#) [c++](#) [tensorflow](#)

edited Nov 11 '16 at 20:52

asked Nov 11 '16 at 20:32

 [abd0](#)
6 3

To be clear, you've got the basic demo working, but when you tried to use your own models, it failed? – [drpng](#)
Nov 11 '16 at 20:45

Yes, I've gotten the Inception model trained on ImageNet to run just fine on Android. Will make this clearer – [abd0](#)
Nov 11 '16 at 20:49

Could you cross-post on our [github issues](#) page? Assuming that you used the exact same code, modulo model file names, it might be a bug. Please CC [drpngx](#) and [andrewharp](#) there. – [drpng](#)
Nov 11 '16 at 20:58

Yes, the only differences were in the model and label file (and adjusting parameters to reflect this), and of course including Android OpenCV as part of the build. Will cross-post then. – [abd0](#)
Nov 11 '16 at 21:07

1 Answer

This has been resolved (GitHub issue link [here](#)).

Steps taken: full sync with then latest tf build (last commit: [798ae42](#)) and built using `bazel -v 0.4.3-homebrew`. Android SDK v23 and NDK v23. Stripped off all preprocessing (i.e., removing OpenCV from build), and just replaced out of box tf inception demo with own model and label file. Logcat now shows:

```
01-06 10:27:39.048 26344-26344/? I/TensorFlowImageClassifier: Reading labels from:
mylabels.txt
01-06 10:27:39.049 26344-26344/? I/TensorFlowImageClassifier: Read 7, 7 specified
01-06 10:27:39.049 26344-26344/? I/native: tensorflow_inference_jni.cc:97 Native TF
methods loaded.
01-06 10:27:39.049 26344-26344/? I/TensorFlowInferenceInterface: Native methods
already loaded.
01-06 10:27:39.049 26344-26344/? I/native: tensorflow_inference_jni.cc:85 Creating
new session variables for 25a68072eeb0d05
01-06 10:27:39.049 26344-26344/? I/native: tensorflow_inference_jni.cc:113 Loading
Tensorflow.
01-06 10:27:39.053 26344-26344/? I/native: tensorflow_inference_jni.cc:120 Session
created.
01-06 10:27:39.053 26344-26344/? I/native: tensorflow_inference_jni.cc:126 Acquired
AssetManager.
01-06 10:27:39.053 26344-26344/? I/native: tensorflow_inference_jni.cc:128 Reading
file to proto: file:///android_asset/cnn_frozen_graph.pb
01-06 10:27:39.680 26344-26344/? I/native: tensorflow_inference_jni.cc:132 GraphDef
loaded from file:///android_asset/cnn_frozen_graph.pb with 40 nodes.
01-06 10:27:39.680 26344-26344/? I/native: stat_summarizer.cc:38 StatSummarizer
found 40 nodes
01-06 10:27:39.680 26344-26344/? I/native: tensorflow_inference_jni.cc:139 Creating
TensorFlow graph from GraphDef.
01-06 10:27:39.713 26344-26344/org.tensorflow.demo I/native:
tensorflow_inference_jni.cc:151 Initialization done in 664.038ms
01-06 10:27:39.714 26344-26344/org.tensorflow.demo I/tensorflow:
ClassifierActivity: Sensor orientation: 90, Screen orientation: 0
01-06 10:27:39.714 26344-26344/org.tensorflow.demo I/tensorflow:
ClassifierActivity: Initializing at size 640x480
```

answered Jan 25 at 9:42

[abd0](#)



6 3

