Please make sure that this is a bug. As per our [GitHub Policy](https://github.com/tensorflow/tensorflow/blob/master/ISSUES.md), we only address code/doc bugs, performance issues, feature requests and build/installation issues on GitHub. tag:bug\_template

****System information****

* Have I written custom code (as opposed to using a stock example script provided in TensorFlow):Y
* OS Platform and Distribution (e.g., Linux Ubuntu 16.04):Windows 10 1903
* Mobile device (e.g. iPhone 8, Pixel 2, Samsung Galaxy) if the issue happens on mobile device:N
* TensorFlow installed from (source or binary):Pip
* TensorFlow version (use command below):1.14
* Python version:3.6.8
* Bazel version (if compiling from source):
* GCC/Compiler version (if compiling from source):
* CUDA/cuDNN version:10.0.130
* GPU model and memory:7.5.0

****Describe the current behavior****  
VarianceScaling throws an warning  
****Describe the expected behavior****  
No warning  
****Code to reproduce the issue****

import tensorflow as tf

config = tf.ConfigProto()

config.gpu\_options.allow\_growth = True

sess = tf.Session(config=config)

from tensorflow.python.keras import backend as K

from tensorflow.python.keras import datasets as ds

from tensorflow.python.keras.models import Model

from tensorflow.python.keras.layers import \*

from tensorflow.python.keras.initializers import GlorotUniformV2

BATCH\_SIZE = 128

EPOCHS = 5

INPUT\_SHAPE = (28, 28, 1)

NUM\_TRAIN = 60000

NUM\_TEST = 10000

KERNEL\_INIT = GlorotUniformV2()

(train\_x, train\_y), (val\_x, val\_y) = ds.mnist.load\_data()

train\_x, val\_x = train\_x / 255.0, val\_x / 255.0

train\_x = train\_x.reshape((NUM\_TRAIN, \*INPUT\_SHAPE))

val\_x = val\_x.reshape((NUM\_TEST, \*INPUT\_SHAPE))

x\_in = Input(shape=INPUT\_SHAPE)

x = x\_in

x = DepthwiseConv2D(3, 2, depthwise\_initializer=KERNEL\_INIT)(x)

x = Flatten()(x)

x = Dense(128, activation='relu', kernel\_initializer=KERNEL\_INIT)(x)

x = Dropout(0.5)(x)

x = Dense(10, activation='softmax', kernel\_initializer=KERNEL\_INIT)(x)

model = Model(x\_in, x)

model.compile(

optimizer='adam',

loss='sparse\_categorical\_crossentropy',

metrics=['accuracy']

)

model.fit(

train\_x,

train\_y,

batch\_size=BATCH\_SIZE,

epochs=EPOCHS,

)

model.evaluate(

val\_x,

val\_y

)

****logs****  
First Log:

WARNING: Logging before flag parsing goes to stderr.

W0728 12:30:00.214958 16060 deprecation\_wrapper.py:119] From x:\Suger\hat\unpush\dwconv.py:4: The name tf.ConfigProto is deprecated. Please use tf.compat.v1.ConfigProto instead.

W0728 12:30:00.216953 16060 deprecation\_wrapper.py:119] From x:\Suger\hat\unpush\dwconv.py:6: The name tf.Session is deprecated. Please use tf.compat.v1.Session instead.

2019-07-28 12:30:00.238369: I tensorflow/core/platform/cpu\_feature\_guard.cc:142] Your CPU supports instructions that this TensorFlow binary was not compiled to use: AVX2

2019-07-28 12:30:00.257704: I tensorflow/stream\_executor/platform/default/dso\_loader.cc:42] Successfully opened dynamic library nvcuda.dll

2019-07-28 12:30:01.156168: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1640] Found device 0 with properties:

name: GeForce GTX 1050 Ti major: 6 minor: 1 memoryClockRate(GHz): 1.62

pciBusID: 0000:01:00.0

2019-07-28 12:30:01.172584: I tensorflow/stream\_executor/platform/default/dlopen\_checker\_stub.cc:25] GPU libraries are statically linked, skip dlopen check.

2019-07-28 12:30:01.190335: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1763] Adding visible gpu devices: 0

2019-07-28 12:30:01.966452: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1181] Device interconnect StreamExecutor with strength 1 edge matrix:

2019-07-28 12:30:01.975391: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1187] 0

2019-07-28 12:30:01.982825: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1200] 0: N

2019-07-28 12:30:01.987863: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1326] Created TensorFlow device (/job:localhost/replica:0/task:0/device:GPU:0 with 3000 MB memory) -> physical GPU (device: 0, name: GeForce GTX 1050 Ti, pci bus id: 0000:01:00.0, compute capability: 6.1)

W0728 12:30:02.522783 16060 deprecation.py:506] From X:\Anaconda3\envs\tf\lib\site-packages\tensorflow\python\ops\init\_ops.py:1251: calling VarianceScaling.\_\_init\_\_ (from tensorflow.python.ops.init\_ops) with dtype is deprecated and will be removed in a future version.

Instructions for updating:

Call initializer instance with the dtype argument instead of passing it to the constructor

2019-07-28 12:30:03.177402: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1640] Found device 0 with properties:

name: GeForce GTX 1050 Ti major: 6 minor: 1 memoryClockRate(GHz): 1.62

pciBusID: 0000:01:00.0

2019-07-28 12:30:03.197705: I tensorflow/stream\_executor/platform/default/dlopen\_checker\_stub.cc:25] GPU libraries are statically linked, skip dlopen check.

2019-07-28 12:30:03.217384: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1763] Adding visible gpu devices: 0

2019-07-28 12:30:03.222728: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1181] Device interconnect StreamExecutor with strength 1 edge matrix:

2019-07-28 12:30:03.232990: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1187] 0

2019-07-28 12:30:03.237410: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1200] 0: N

2019-07-28 12:30:03.249019: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1326] Created TensorFlow device (/job:localhost/replica:0/task:0/device:GPU:0 with 3000 MB memory) -> physical GPU (device: 0, name: GeForce GTX 1050 Ti, pci bus id: 0000:01:00.0, compute capability: 6.1)

Epoch 1/5

60000/60000 [==============================] - 3s 54us/sample - loss: 0.6449 - acc: 0.8029

Epoch 2/5

60000/60000 [==============================] - 2s 31us/sample - loss: 0.2886 - acc: 0.9142

Epoch 3/5

60000/60000 [==============================] - 2s 31us/sample - loss: 0.2315 - acc: 0.9330

Epoch 4/5

60000/60000 [==============================] - 2s 38us/sample - loss: 0.2015 - acc: 0.9410

Epoch 5/5

60000/60000 [==============================] - 2s 34us/sample - loss: 0.1849 - acc: 0.9455

10000/10000 [==============================] - 1s 78us/sample - loss: 0.1072 - acc: 0.9671

Notice:

W0728 12:30:02.522783 16060 deprecation.py:506] From X:\Anaconda3\envs\tf\lib\site-packages\tensorflow\python\ops\init\_ops.py:1251: calling VarianceScaling.\_\_init\_\_ (from tensorflow.python.ops.init\_ops) with dtype is deprecated and will be removed in a future version.

Instructions for updating:

Call initializer instance with the dtype argument instead of passing it to the constructor

And then I read the its source code and found that DepthwiseConv2D inherits Conv2D.

class DepthwiseConv2D(Conv2D):

def \_\_init\_\_(self,

kernel\_size,

strides=(1, 1),

padding='valid',

depth\_multiplier=1,

data\_format=None,

activation=None,

use\_bias=True,

depthwise\_initializer='glorot\_uniform',

bias\_initializer='zeros',

depthwise\_regularizer=None,

bias\_regularizer=None,

activity\_regularizer=None,

depthwise\_constraint=None,

bias\_constraint=None,

\*\*kwargs):

super(DepthwiseConv2D, self).\_\_init\_\_(

filters=None,

kernel\_size=kernel\_size,

strides=strides,

padding=padding,

data\_format=data\_format,

activation=activation,

use\_bias=use\_bias,

bias\_regularizer=bias\_regularizer,

activity\_regularizer=activity\_regularizer,

bias\_constraint=bias\_constraint,

\*\*kwargs)

self.depth\_multiplier = depth\_multiplier

self.depthwise\_initializer = initializers.get(depthwise\_initializer)

self.depthwise\_regularizer = regularizers.get(depthwise\_regularizer)

self.depthwise\_constraint = constraints.get(depthwise\_constraint)

self.bias\_initializer = initializers.get(bias\_initializer)

########

class Conv2D(Conv):

def \_\_init\_\_(self,

filters,

kernel\_size,

strides=(1, 1),

padding='valid',

data\_format=None,

dilation\_rate=(1, 1),

activation=None,

use\_bias=True,

kernel\_initializer='glorot\_uniform',

bias\_initializer='zeros',

kernel\_regularizer=None,

bias\_regularizer=None,

activity\_regularizer=None,

kernel\_constraint=None,

bias\_constraint=None,

\*\*kwargs):

super(Conv2D, self).\_\_init\_\_(

rank=2,

filters=filters,

kernel\_size=kernel\_size,

strides=strides,

padding=padding,

data\_format=data\_format,

dilation\_rate=dilation\_rate,

activation=activations.get(activation),

use\_bias=use\_bias,

kernel\_initializer=initializers.get(kernel\_initializer),

bias\_initializer=initializers.get(bias\_initializer),

kernel\_regularizer=regularizers.get(kernel\_regularizer),

bias\_regularizer=regularizers.get(bias\_regularizer),

activity\_regularizer=regularizers.get(activity\_regularizer),

kernel\_constraint=constraints.get(kernel\_constraint),

bias\_constraint=constraints.get(bias\_constraint),

\*\*kwargs)

Obviously, when DepthwiseConv2D inherits Conv2D, there is no kernel\_initializer parameter incoming, so Conv2D uses the default parameter 'glorot\_uniform', resulting in a warning.

Then, I changed my code:

x = DepthwiseConv2D(3, 2, depthwise\_initializer=KERNEL\_INIT, kernel\_initializer=KERNEL\_INIT)(x)

****Log****  
Second log:

WARNING: Logging before flag parsing goes to stderr.

W0728 12:39:05.557960 7540 deprecation\_wrapper.py:119] From x:\Suger\hat\unpush\dwconv.py:4: The name tf.ConfigProto is deprecated. Please use tf.compat.v1.ConfigProto instead.

W0728 12:39:05.568932 7540 deprecation\_wrapper.py:119] From x:\Suger\hat\unpush\dwconv.py:6: The name tf.Session is deprecated. Please use tf.compat.v1.Session instead.

2019-07-28 12:39:05.586014: I tensorflow/core/platform/cpu\_feature\_guard.cc:142] Your CPU supports instructions that this TensorFlow binary was not compiled to use: AVX2

2019-07-28 12:39:05.601795: I tensorflow/stream\_executor/platform/default/dso\_loader.cc:42] Successfully opened dynamic library nvcuda.dll

2019-07-28 12:39:06.511195: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1640] Found device 0 with properties:

name: GeForce GTX 1050 Ti major: 6 minor: 1 memoryClockRate(GHz): 1.62

pciBusID: 0000:01:00.0

2019-07-28 12:39:06.537446: I tensorflow/stream\_executor/platform/default/dlopen\_checker\_stub.cc:25] GPU libraries are statically linked, skip dlopen check.

2019-07-28 12:39:06.565361: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1763] Adding visible gpu devices: 0

2019-07-28 12:39:07.398542: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1181] Device interconnect StreamExecutor with strength 1 edge matrix:

2019-07-28 12:39:07.412458: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1187] 0

2019-07-28 12:39:07.420821: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1200] 0: N

2019-07-28 12:39:07.435578: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1326] Created TensorFlow device (/job:localhost/replica:0/task:0/device:GPU:0 with 3000 MB memory) -> physical GPU (device: 0, name: GeForce GTX 1050 Ti, pci bus id: 0000:01:00.0, compute capability: 6.1)

2019-07-28 12:39:08.630786: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1640] Found device 0 with properties:

name: GeForce GTX 1050 Ti major: 6 minor: 1 memoryClockRate(GHz): 1.62

pciBusID: 0000:01:00.0

2019-07-28 12:39:08.651080: I tensorflow/stream\_executor/platform/default/dlopen\_checker\_stub.cc:25] GPU libraries are statically linked, skip dlopen check.

2019-07-28 12:39:08.666536: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1763] Adding visible gpu devices: 0

2019-07-28 12:39:08.680031: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1181] Device interconnect StreamExecutor with strength 1 edge matrix:

2019-07-28 12:39:08.687696: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1187] 0

2019-07-28 12:39:08.702410: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1200] 0: N

2019-07-28 12:39:08.718322: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1326] Created TensorFlow device (/job:localhost/replica:0/task:0/device:GPU:0 with 3000 MB memory) -> physical GPU (device: 0, name: GeForce GTX 1050 Ti, pci bus id: 0000:01:00.0, compute capability: 6.1)

Epoch 1/5

60000/60000 [==============================] - 3s 52us/sample - loss: 0.6964 - acc: 0.7821

Epoch 2/5

60000/60000 [==============================] - 2s 32us/sample - loss: 0.2977 - acc: 0.9111

Epoch 3/5

60000/60000 [==============================] - 2s 31us/sample - loss: 0.2382 - acc: 0.9298

Epoch 4/5

60000/60000 [==============================] - 2s 33us/sample - loss: 0.2097 - acc: 0.9378

Epoch 5/5

60000/60000 [==============================] - 2s 33us/sample - loss: 0.1888 - acc: 0.9438

10000/10000 [==============================] - 1s 79us/sample - loss: 0.1104 - acc: 0.9666

There's no warning.

以上为提交到tensorflow issue的内容

#####################################

中文说明

Tensorflow 1.14版本Bug

由于1.14增加了不少tf2.0的特性，有一些tf1的东西不能再用或者最好是改写成v2的形式。比如这个bug中的初始化器的问题。

原本可以通过某些特定的str来指定特定的初始化器，比如'glorot\_uniform'。但是1.14更新之后，初始化器更新为使用v2的版本。v1和v2的区别是v1可以传入数据类型，v2不能。而版本更新之后这些str仍然指向v1的优化器，因此造成这一bug。

Dense层和Conv系列的层，都可以通过手动指定kernel\_initializer来修复。而DepthwiseConv在手动指定了depthwise\_initializer之后仍然提出警告。

通过查看源码发现，DepthwiseConv继承Conv层，而继承之后调用的super函数里面并没有传入kernel\_initializer参数，Conv类便使用默认值'glorot\_uniform'。而'glorot\_uniform'对应的是v1的初始化器。因此即便指定了depthwise\_initializer还是会提出警告。

解决办法是在创建DepthwiseConv层的时候也传入kernel\_initializer参数，即便该层根本不使用该参数。