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tf.compat.v1.signal.rfft2d and rfft3d lacks input validation leading to crashes #55263



New issue

kanghi opened this issue on Mar 17 · 2 comments · Fixed by #55274

Assignees



Labels

comp:ops TF 2.8 type:bug

kanghj commented on Mar 17 • edited •

System information

- Have I written custom code (as opposed to using a stock example script provided in TensorFlow): Yes
- OS Platform and Distribution (e.g., Linux Ubuntu 16.04): N/A
- Mobile device (e.g. iPhone 8, Pixel 2, Samsung Galaxy) if the issue happens on mobile device:
- TensorFlow installed from (source or binary): binary
- TensorFlow version (use command below): 2.8.0
- Python version:3.7.12
- Bazel version (if compiling from source):
- GCC/Compiler version (if compiling from source):
- CUDA/cuDNN version: 11.2 (based on a colab notebook)
- GPU model and memory: Tesla T4, 15109MiB (based on a colab notebook)

Describe the current behavior

The following code snippets lead to crashes when executed:

```
import numpy as np
import tensorflow as tf
a = np.empty([6, 0])
b = np.array([1, -1])
  tf.compat.v1.signal.rfft2d(input_tensor=a,fft_length=b)
  # on a different machine: Check failed: size >= 0 (-9223372036854775808 vs. 0)
```

```
# Aborted (core dumped)
  except:
    pass
  print('execution does not reach this line')
and
  import numpy as np
  import tensorflow as tf
  a = np.empty([6, 1, 1])
  b = np.array([1, 2, 0])
  try:
    tf.compat.v1.signal.irfft3d(input_tensor=a,fft_length=b)
    # on a different machine: failed to initialize batched cufft plan with customized allocator:
  Failed to make cuFFT batched plan.
    # Aborted (core dumped)
  except:
    pass
  print('execution does not reach this line')
```

In either case, the inputs do not quite make sense, and tensorflow should throw.

Describe the expected behavior

Tensorflow should throw exceptions instead of crashing.

Contributing

- Do you want to contribute a PR? (yes/no):
- Briefly describe your candidate solution(if contributing):

Standalone code to reproduce the issue

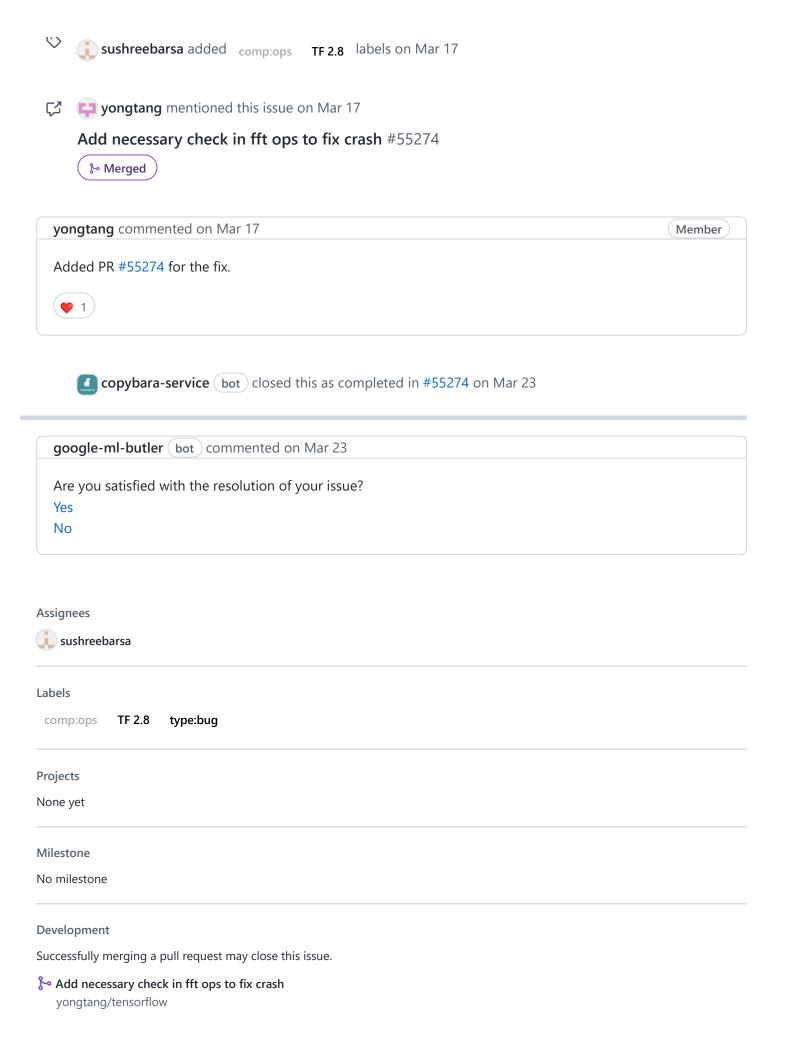
Here is a colab notebook:

https://colab.research.google.com/drive/168jYG6MqnW4jpJdIXFMUBkyiaweA43aP?usp=sharing

Edit: the notebook has to be run with GPU

The code snippets above should also reproduce the issue.

- 🟷 🌓 kanghj added the 🛮 type:bug 🗀 label on Mar 17
- A google-ml-butler bot assigned sushreebarsa on Mar 17



3 participants





