

New issue

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

🔒 Closed

kanghj 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])
try:
    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

 google-ml-butler  assigned sushreebarsa on Mar 17

 **sushreebarsa** added `comp:ops` `TF 2.8` labels on Mar 17

 **yongtang** mentioned this issue on Mar 17

**Add necessary check in fft ops to fix crash #55274**

 Merged

**yongtang** commented on Mar 17

Member

Added PR [#55274](#) for the fix.

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 **copybara-service** `bot` closed this as completed in [#55274](#) on Mar 23


**google-ml-butler** `bot` commented on Mar 23

Are you satisfied with the resolution of your issue?

[Yes](#)

[No](#)

#### Assignees

 **sushreebarsa**

#### Labels

`comp:ops` `TF 2.8` `type:bug`

#### Projects

None yet

#### Milestone

No milestone

#### Development

Successfully merging a pull request may close this issue.

 **Add necessary check in fft ops to fix crash**  
yongtang/tensorflow

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3 participants

