jbond1007
Contributor

10-17-2019 11:12 PM

730 Views
Registered: 08-02-2019

DNNC error: [out_type && in_type]

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Hi,

I am trying to run a fully connected network by converting some of the dense layers to conv2D layers as DNNC requires a convolution layer.

otherwise I get this error:

[DNNC][Fatal] Check failed for condition [infer_shape_handler != nullptr] in [/tmp/DNNDK_Pipeline_dnnc/dnnc/dnnc_impl/core/layer.cc:163] :Infer shape handler for [Convolution] is missing.

I am using DNNDK-v3.1. and tensorflow.

According to this post: https://forums.xilinx.com/t5/Machine-Learning/Compiling-a-Non-Convolutional-Network/m-p/971434#M856

I converted this model:

Layer (type)	Output Shape	Param #
reshape_1 (Reshape)	(None, 50, 512)	0
flatten_1 (Flatten)	(None, 25600)	0
dense_1 (Dense)	(None, 512)	13107712
dense_2 (Dense)	(None, 1024)	525312
dense_3 (Dense)	(None, 512)	524800
dense_4 (Dense)	(None, 2)	1026

to this one:

Layer (type)	Output Shape	Param #
reshape_1 (Reshape)	(None, 50, 512, 1)	0
conv2d_1 (Conv2D)	(None, 1, 1, 512)	13107712
conv2d_2 (Conv2D)	(None, 1, 1, 512)	262656
conv2d_3 (Conv2D)	(None, 1, 1, 512)	262656
flatten_2 (Flatten)	(None, 512)	0
dense_4 (Dense)	(None, 512)	262656
dense_5 (Dense)	(None, 2)	1026

Now when I run the deploy.pb of the above model I am getting the following error:

[DNNC][Fatal] Check failed for condition [out_type && in_type] in [/tmp/DNNDK_Pipeline_dnnc/dnnc/dnnc_impl/transform/transformer.cc:784] :

I don't understand what should be done now! Please help me.

0 Kudos

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1 Solution

gguasti
Xilinx Employee

10-21-2019 12:50 AM

666 Views
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hello,

your problem comes from the fact that DPU does not directly support Flatten+FC layers, but it converts them with a 2D conv layer with 1x1 kernel.

The combination with next FC layer (this also replaced with CONV2D layer) causes a violation of the max input size (16x16) of the CONV layer.

Could you try to keep your data shape more squared (replace 1x512 with 23x22 for example) or to replace the Flatten-FC-FC sequence with a mix of 2D convolutional and max pooling layers?

thanks

View solution in original post

1 Kudo

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