

tf.nn.depthwise_conv2d_native_backprop_filter

```
depthwise_conv2d_native_backprop_filter(  
    input,  
    filter_sizes,  
    out_backprop,  
    strides,  
    padding,  
    data_format='NHWC',  
    name=None  
)
```

Defined in `tensorflow/python/ops/gen_nn_ops.py`.

See the guide: [Neural Network > Convolution](#)

Computes the gradients of depthwise convolution with respect to the filter.

Args:

- `input`: A **Tensor**. Must be one of the following types: `float32`, `float64`. 4-D with shape based on `data_format`. For example, if `data_format` is 'NHWC' then `input` is a 4-D `[batch, in_height, in_width, in_channels]` tensor.
- `filter_sizes`: A **Tensor** of type `int32`. An integer vector representing the tensor shape of `filter`, where `filter` is a 4-D `[filter_height, filter_width, in_channels, depthwise_multiplier]` tensor.
- `out_backprop`: A **Tensor**. Must have the same type as `input`. 4-D with shape based on `data_format`. For example, if `data_format` is 'NHWC' then `out_backprop` shape is `[batch, out_height, out_width, out_channels]`. Gradients w.r.t. the output of the convolution.
- `strides`: A list of `ints`. The stride of the sliding window for each dimension of the input of the convolution.
- `padding`: A **string** from: `"SAME"`, `"VALID"`. The type of padding algorithm to use.
- `data_format`: An optional **string** from: `"NHWC"`, `"NCHW"`. Defaults to `"NHWC"`. Specify the data format of the input and output data. With the default format "NHWC", the data is stored in the order of: [batch, height, width, channels]. Alternatively, the format could be "NCHW", the data storage order of: [batch, channels, height, width].
- `name`: A name for the operation (optional).

Returns:

A **Tensor**. Has the same type as `input`. 4-D with shape `[filter_height, filter_width, in_channels, out_channels]`. Gradient w.r.t. the `filter` input of the convolution.

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