tf.nn.conv3d

```
conv3d(
    input,
    filter,
    strides,
    padding,
    data_format='NDHWC',
    name=None
)
```

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

See the guide: Neural Network > Convolution

Computes a 3-D convolution given 5-D `input` and `filter` tensors.

In signal processing, cross-correlation is a measure of similarity of two waveforms as a function of a time-lag applied to one of them. This is also known as a sliding dot product or sliding inner-product.

Our Conv3D implements a form of cross-correlation.

Args:

- `input`: A `Tensor`. Must be one of the following types: `float32`, `float64`. Shape `[batch, in_depth, in_height, in_width, in_channels]`.
- `filter`: A `Tensor`. Must have the same type as `input`. Shape `[filter_depth, filter_height, filter_width, in_channels, out_channels]`. `in_channels` must match between `input` and `filter`.
- `strides`: A list of `ints` that has length `>= 5`. 1-D tensor of length 5. The stride of the sliding window for each dimension of `input`. Must have `strides[0] = strides[4] = 1`.
- `padding`: A `string` from: `"SAME", "VALID"`. The type of padding algorithm to use.
- `data_format`: An optional `string` from: `"NDHWC", "NCDHW"`. Defaults to `"NDHWC"`. The data format of the input and output data. With the default format "NDHWC", the data is stored in the order of: [batch, in_depth, in_height, in_width, in_channels]. Alternatively, the format could be "NCDHW", the data storage order is: [batch, in_channels, in_depth, in_height, in_width].
- `name`: A name for the operation (optional).

Returns:

A `Tensor`. Has the same type as `input`.

Last updated November 2, 2017.