

## tf.contrib.layers.avg\_pool3d

```
avg_pool3d(  
    inputs,  
    kernel_size,  
    stride=2,  
    padding='VALID',  
    data_format=DATA_FORMAT_NDHWC,  
    outputs_collections=None,  
    scope=None  
)
```

Defined in [tensorflow/contrib/layers/python/layers/layers.py](#).

Adds a 3D average pooling op.

It is assumed that the pooling is done per image but not in batch or channels.

## Args:

- **inputs**: A 5-D tensor of shape `[batch_size, depth, height, width, channels]` if **data\_format** is `NDHWC`, and `[batch_size, channels, depth, height, width]` if **data\_format** is `NCDHW`.
- **kernel\_size**: A list of length 3: `[kernel_depth, kernel_height, kernel_width]` of the pooling kernel over which the op is computed. Can be an int if both values are the same.
- **stride**: A list of length 3: `[stride_depth, stride_height, stride_width]`. Can be an int if both strides are the same. Note that presently both strides must have the same value.
- **padding**: The padding method, either 'VALID' or 'SAME'.
- **data\_format**: A string. `NDHWC` (default) and `NCDHW` are supported.
- **outputs\_collections**: The collections to which the outputs are added.
- **scope**: Optional scope for name\_scope.

## Returns:

A **Tensor** representing the results of the pooling operation.

## Raises:

- **ValueError**: If **data\_format** is neither `NDHWC` nor `NCDHW`.

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