

## tf.contrib.layers.bias\_add

```
def bias_add(
    inputs,
    activation_fn=None,
    initializer=tf.zeros_initializer(),
    regularizer=None,
    reuse=None,
    variables_collections=None,
    outputs_collections=None,
    trainable=True,
    data_format=DATA_FORMAT_NHWC,
    scope=None
)
```

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

Adds a bias to the inputs.

Can be used as a normalizer function for conv2d and fully\_connected.

### Args:

- inputs**: A tensor of with at least rank 2 and value for the last dimension, e.g. `[batch_size, depth]`, `[None, None, None, depth]`.
- activation\_fn**: Activation function, default set to None to skip it and maintain a linear activation.
- initializer**: An initializer for the bias, defaults to 0.
- regularizer**: A regularizer like the result of `l1_regularizer` or `l2_regularizer`.
- reuse**: Whether or not the layer and its variables should be reused. To be able to reuse the layer scope must be given.
- variables\_collections**: Optional collections for the variables.
- outputs\_collections**: Collections to add the outputs.
- trainable**: If `True` also add variables to the graph collection `GraphKeys.TRAINABLE_VARIABLES` (see `tf.Variable`).
- data\_format**: A string. 'NHWC' and 'NCHW' are supported.
- scope**: Optional scope for variable\_scope.

### Returns:

A tensor representing the result of adding biases to the inputs.

### Raises:

- ValueError**: If **data\_format** is neither `NHWC` nor `NCHW`.
- ValueError**: If **data\_format** is `NCHW` and rank of **inputs** is not 4.
- ValueError**: If the rank of **inputs** is undefined.
- ValueError**: If rank or `C` dimension of **inputs** is undefined.

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