

## tf.layers.dropout

```
dropout(  
    inputs,  
    rate=0.5,  
    noise_shape=None,  
    seed=None,  
    training=False,  
    name=None  
)
```

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

See the guide: [Reading data > Multiple input pipelines](#)

Applies Dropout to the input.

Dropout consists in randomly setting a fraction **rate** of input units to 0 at each update during training time, which helps prevent overfitting. The units that are kept are scaled by  $1 / (1 - \text{rate})$ , so that their sum is unchanged at training time and inference time.

## Arguments:

- **inputs**: Tensor input.
- **rate**: The dropout rate, between 0 and 1. E.g. "rate=0.1" would drop out 10% of input units.
- **noise\_shape**: 1D tensor of type **int32** representing the shape of the binary dropout mask that will be multiplied with the input. For instance, if your inputs have shape **(batch\_size, timesteps, features)**, and you want the dropout mask to be the same for all timesteps, you can use **noise\_shape=[batch\_size, 1, features]**.
- **seed**: A Python integer. Used to create random seeds. See [tf.set\\_random\\_seed](#) for behavior.
- **training**: Either a Python boolean, or a TensorFlow boolean scalar tensor (e.g. a placeholder). Whether to return the output in training mode (apply dropout) or in inference mode (return the input untouched).
- **name**: The name of the layer (string).

## Returns:

Output tensor.

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