



tf.keras.layers.LeakyReLU

 [TensorFlow](#)
[1 version](#) [\(/versions/r1.15/api_docs/python/tf/keras/layers/LeakyReLU\)](https://www.tensorflow.org/api_docs/python/tf/keras/layers/LeakyReLU)

 [View source](#) (https://github.com/tensorflow/tensorflow/blob/r1.15/tensorflow/python/keras/layers/leaky_relu.py#L88)
[on GitHub](#)

Leaky version of a Rectified Linear Unit.

Inherits From: [Layer](#) (https://www.tensorflow.org/api_docs/python/tf/keras/layers/Layer), [Module](#) (https://www.tensorflow.org/api_docs/python/tf/Module)

 [View aliases](#)

Compat aliases for migration

See [Migration guide](#) (<https://www.tensorflow.org/guide/migrate>) for more details.

[tf.compat.v1.keras.layers.LeakyReLU](#) (https://www.tensorflow.org/api_docs/python/tf/keras/layers/LeakyReLU)

```
tf.keras.layers.LeakyReLU(  
    alpha=0.3, **kwargs  
)
```

Used in the notebooks

Used in the guide	Used in the tutorials
<ul style="list-style-type: none">Customize what happens in Model.fit (https://www.tensorflow.org/guide/keras/customizing_what_happens_in_fit)Writing a training loop from scratch (https://www.tensorflow.org/guide/keras/writing_a_training_loop_from_scratch)	<ul style="list-style-type: none">Deep Convolutional Generative Adversarial Networks (https://www.tensorflow.org/tutorials/generative/dcgan)Pix2Pix (https://www.tensorflow.org/tutorials/generative/pix2pix)

It allows a small gradient when the unit is not active:

$$f(x) = \alpha * x \text{ if } x < 0$$
$$f(x) = x \text{ if } x \geq 0$$

Usage:

```
>>> layer = tf.keras.layers.LeakyReLU()
>>> output = layer([-3.0, -1.0, 0.0, 2.0])
>>> list(output.numpy())
[-0.9, -0.3, 0.0, 2.0]
>>> layer = tf.keras.layers.LeakyReLU(alpha=0.1)
>>> output = layer([-3.0, -1.0, 0.0, 2.0])
>>> list(output.numpy())
[-0.3, -0.1, 0.0, 2.0]
```

Input shape:

Arbitrary. Use the keyword argument `input_shape` (tuple of integers, does not include the batch axis) when using this layer as the first layer in a model.

Output shape:

Same shape as the input.

Args

alpha	Float ≥ 0 . Negative slope coefficient. Default to 0.3.
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