TencorFlow

TensorFlow API r1.4

tf.variance_scaling_initializer

```
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Class variance_scaling_initializer

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Class variance_scaling_initializer

Inherits From: Initializer

Aliases:

- Class tf.initializers.variance_scaling
- Class tf.keras.initializers.VarianceScaling
- Class tf.variance_scaling_initializer

Defined in tensorflow/python/ops/init_ops.py.

Initializer capable of adapting its scale to the shape of weights tensors.

With distribution="normal", samples are drawn from a truncated normal distribution centered on zero, with stddev = sqrt(scale / n) where n is: - number of input units in the weight tensor, if mode = "fan_in" - number of output units, if mode = "fan_out" - average of the numbers of input and output units, if mode = "fan_avg"

With **distribution="uniform"**, samples are drawn from a uniform distribution within [-limit, limit], with **limit = sqrt(3 * scale / n)**.

Args:

- scale: Scaling factor (positive float).
- mode: One of "fan_in", "fan_out", "fan_avg".
- distribution: Random distribution to use. One of "normal", "uniform".
- seed: A Python integer. Used to create random seeds. See tf.set_random_seed for behavior.
- dtype: The data type. Only floating point types are supported.

Raises:

• ValueError: In case of an invalid value for the "scale", mode" or "distribution" arguments.

Methods

__init__

```
__init__(
    scale=1.0,
    mode='fan_in',
    distribution='normal',
    seed=None,
    dtype=tf.float32
)
```

__call__

```
__call__(
    shape,
    dtype=None,
    partition_info=None
)
```

from_config

```
from_config(
   cls,
   config
)
```

Instantiates an initializer from a configuration dictionary.

Example:

```
initializer = RandomUniform(-1, 1)
config = initializer.get_config()
initializer = RandomUniform.from_config(config)
```

Args:

• config: A Python dictionary. It will typically be the output of get_config.

Returns:

An Initializer instance.

get_config

```
get_config()
```

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Last updated November 2, 2017.

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