tf.variance_scaling_initializer

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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