

tf.contrib.kfac.fisher_factors.ConvDiagonalFactor

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Class `ConvDiagonalFactor`

Inherits From: [DiagonalFactor](#)

Defined in [tensorflow/contrib/kfac/python/ops/fisher_factors.py](#).

FisherFactor for a diagonal approx of a convolutional layer's Fisher.

Methods

`__init__`

```
__init__(
    inputs,
    outputs_grads,
    filter_shape,
    strides,
    padding,
    has_bias=False
)
```

Creates a `ConvDiagonalFactor` object.

Args:

- `inputs`: Tensor of shape `[batch_size, height, width, in_channels]`. Input activations to this layer.
- `outputs_grads`: Tensor of shape `[batch_size, height, width, out_channels]`. Per-example gradients to the loss with respect to the layer's output preactivations.
- `filter_shape`: Tuple of 4 ints: `(kernel_height, kernel_width, in_channels, out_channels)`. Represents shape of kernel used in this layer.
- `strides`: The stride size in this layer (1-D Tensor of length 4).
- `padding`: The padding in this layer (1-D of Tensor length 4).
- `has_bias`: Python bool. If True, the layer is assumed to have a bias parameter in addition to its filter parameter.

`get_cov`

```
get_cov()
```

instantiate_covariance

```
instantiate_covariance()
```

Instantiates the covariance Variable as the instance member `_cov`.

make_covariance_update_op

```
make_covariance_update_op(ema_decay)
```

Constructs and returns the covariance update Op.

Args:

- `ema_decay` : The exponential moving average decay (float or Tensor).

Returns:

An Op for updating the covariance Variable referenced by `_cov`.

make_inverse_update_ops

```
make_inverse_update_ops()
```

Create and return update ops corresponding to registered computations.

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Last updated November 2, 2017.

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