tf.contrib.kfac.fisher_factors.FullFactor

Contents

Class `FullFactor`

Inherits From: `InverseProvidingFactor`

Defined in `tensorflow/contrib/kfac/python/ops/fisher_factors.py`.

FisherFactor for a full matrix representation of the Fisher of a parameter.

Note that this uses the naive "square the sum estimator", and so is applicable to any type of parameter in principle, but has very high variance.

Methods

`__init__`

```
__init__(
    params_grads,
    batch_size
)
```

`get_cov`

```
get_cov()
```

`get_eigendecomp`

```
get_eigendecomp()
```

`get_inverse`

```
get_inverse(damping)
```

`get_matpower`

```
get_matpower(
    exp,
    damping
)
```

`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.

`register_damped_inverse`

```
register_damped_inverse(damping)
```

Registers a damped inverse needed by a FisherBlock.

Args:

- `damping`: The damping value (float or Tensor) for this factor.

`register_eigendecomp`

```
register_eigendecomp()
```

Registers that an eigendecomposition is needed by a FisherBlock.

`register_matpower`

```
register_matpower(
    exp,
    damping
)
```

Registers a matrix power needed by a FisherBlock.

Args:

- `exp`: The exponent (float or Tensor) to raise the matrix to.
- `damping`: The damping value (float or Tensor).

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