# tf.contrib.kfac.fisher_blocks.FisherBlock

Contents



## Class `FisherBlock`

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

Abstract base class for objects modeling approximate Fisher matrix blocks.

Subclasses must implement multiply_inverse(), instantiate_factors(), and tensors_to_compute_grads() methods.

## Methods

### `__init__`

```
__init__(layer_collection)
```

### `instantiate_factors`

```
instantiate_factors(
    grads_list,
    damping
)
```

Creates and registers the component factors of this Fisher block.

Args:

- `grads_list`: A list gradients (each a Tensor or tuple of Tensors) with respect to the tensors returned by tensors_to_compute_grads() that are to be used to estimate the block.
- `damping`: The damping factor (float or Tensor).

### `multiply`

```
multiply(vector)
```

Multiplies the vector by the (damped) block.

Args:

- `vector`: The vector (a Tensor or tuple of Tensors) to be multiplied.

Returns:

The vector left-multiplied by the (damped) block.

### `multiply_inverse`

```
multiply_inverse(vector)
```

Multiplies the vector by the (damped) inverse of the block.

Args:

- `vector`: The vector (a Tensor or tuple of Tensors) to be multiplied.

Returns:

The vector left-multiplied by the (damped) inverse of the block.

### `tensors_to_compute_grads`

```
tensors_to_compute_grads()
```

Returns the Tensor(s) with respect to which this FisherBlock needs grads.

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