

## tf.contrib.kfac.fisher\_blocks.FisherBlock

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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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