

tf.losses.mean_squared_error

```
mean_squared_error(  
    labels,  
    predictions,  
    weights=1.0,  
    scope=None,  
    loss_collection=tf.GraphKeys.LOSSES,  
    reduction=Reduction.SUM_BY_NONZERO_WEIGHTS  
)
```

Defined in [tensorflow/python/ops/losses/losses_impl.py](https://www.tensorflow.org/python/ops/losses/losses_impl.py).

Adds a Sum-of-Squares loss to the training procedure.

weights acts as a coefficient for the loss. If a scalar is provided, then the loss is simply scaled by the given value. If **weights** is a tensor of size [batch_size], then the total loss for each sample of the batch is rescaled by the corresponding element in the **weights** vector. If the shape of **weights** matches the shape of **predictions**, then the loss of each measurable element of **predictions** is scaled by the corresponding value of **weights**.

Args:

- **labels**: The ground truth output tensor, same dimensions as 'predictions'.
- **predictions**: The predicted outputs.
- **weights**: Optional **Tensor** whose rank is either 0, or the same rank as **labels**, and must be broadcastable to **labels** (i.e., all dimensions must be either 1, or the same as the corresponding **losses** dimension).
- **scope**: The scope for the operations performed in computing the loss.
- **loss_collection**: collection to which the loss will be added.
- **reduction**: Type of reduction to apply to loss.

Returns:

Weighted loss float **Tensor**. If **reduction** is **NONE**, this has the same shape as **labels**; otherwise, it is scalar.

Raises:

- **ValueError**: If the shape of **predictions** doesn't match that of **labels** or if the shape of **weights** is invalid. Also if **labels** or **predictions** is None.

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