

tf.metrics.mean_relative_error

```
mean_relative_error(  
    labels,  
    predictions,  
    normalizer,  
    weights=None,  
    metrics_collections=None,  
    updates_collections=None,  
    name=None  
)
```

Defined in [tensorflow/python/ops/metrics_impl.py](#).

Computes the mean relative error by normalizing with the given values.

The `mean_relative_error` function creates two local variables, `total` and `count` that are used to compute the mean relative absolute error. This average is weighted by `weights`, and it is ultimately returned as `mean_relative_error`: an idempotent operation that simply divides `total` by `count`.

For estimation of the metric over a stream of data, the function creates an `update_op` operation that updates these variables and returns the `mean_reactive_error`. Internally, a `relative_errors` operation divides the absolute value of the differences between `predictions` and `labels` by the `normalizer`. Then `update_op` increments `total` with the reduced sum of the product of `weights` and `relative_errors`, and it increments `count` with the reduced sum of `weights`.

If `weights` is `None`, weights default to 1. Use weights of 0 to mask values.

Args:

- `labels`: A `Tensor` of the same shape as `predictions`.
- `predictions`: A `Tensor` of arbitrary shape.
- `normalizer`: A `Tensor` of the same shape as `predictions`.
- `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 `labels` dimension).
- `metrics_collections`: An optional list of collections that `mean_relative_error` should be added to.
- `updates_collections`: An optional list of collections that `update_op` should be added to.
- `name`: An optional variable_scope name.

Returns:

- `mean_relative_error`: A `Tensor` representing the current mean, the value of `total` divided by `count`.
- `update_op`: An operation that increments the `total` and `count` variables appropriately and whose value matches `mean_relative_error`.

Raises:

- `ValueError`: If `predictions` and `labels` have mismatched shapes, or if `weights` is not `None` and its shape doesn't match `predictions`, or if either `metrics_collections` or `updates_collections` are not a list or tuple.

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