tf.contrib.metrics.streaming_mean_tensor

```
streaming_mean_tensor(
    values,
    weights=None,
    metrics_collections=None,
    updates_collections=None,
    name=None
)
```

Defined in **tensorflow/contrib/metrics/python/ops/metric_ops.py** .

See the guide: Metrics (contrib) > Metric **Ops**

Computes the element-wise (weighted) mean of the given tensors.

In contrast to the `streaming_mean` function which returns a scalar with the mean, this function returns an average tensor with the same shape as the input tensors.

The `streaming_mean_tensor` function creates two local variables, `total_tensor` and `count_tensor` that are used to compute the average of `values` . This average is ultimately returned as `mean` which is 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` . `update_op` increments `total` with the reduced sum of the product of `values` and `weights` , 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:

- `values` : A **Tensor** of arbitrary dimensions.
- `weights` : **Tensor** whose rank is either 0, or the same rank as `values` , and must be broadcastable to `values` (i.e., all dimensions must be either `1` , or the same as the corresponding `values` dimension).
- `metrics_collections` : An optional list of collections that `mean` 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` : A float **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` .

Raises:

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

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