

tf.contrib.layers.joint_weighted_sum_from_feature_columns

```
joint_weighted_sum_from_feature_columns(  
    columns_to_tensors,  
    feature_columns,  
    num_outputs,  
    weight_collections=None,  
    trainable=True,  
    scope=None  
)
```

Defined in [tensorflow/contrib/layers/python/layers/feature_column_ops.py](#).

See the guide: [Layers \(contrib\) > Feature columns](#)

A restricted linear prediction builder based on FeatureColumns.

As long as all feature columns are unweighted sparse columns this computes the prediction of a linear model which stores all weights in a single variable.

Args:

- `columns_to_tensors`: A mapping from feature column to tensors. 'string' key means a base feature (not-transformed). It can have FeatureColumn as a key too. That means that FeatureColumn is already transformed by input pipeline. For example, `inflow` may have handled transformations.
- `feature_columns`: A set containing all the feature columns. All items in the set should be instances of classes derived from FeatureColumn.
- `num_outputs`: An integer specifying number of outputs. Default value is 1.
- `weight_collections`: List of graph collections to which weights are added.
- `trainable`: If `True` also add variables to the graph collection `GraphKeys.TRAINABLE_VARIABLES` (see `tf.Variable`).
- `scope`: Optional scope for variable_scope.

Returns:

A tuple containing:

- A Tensor which represents predictions of a linear model.
- A list of Variables storing the weights.
- A Variable which is used for bias.

Raises:

- `ValueError`: if FeatureColumn cannot be used for linear predictions.

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