tf.nn.atrous_conv2d_transpose

```
atrous_conv2d_transpose(
    value,
    filters,
    output_shape,
    rate,
    padding,
    name=None
)
```

Defined in `tensorflow/python/ops/nn_ops.py`.

See the guide: Neural Network > Convolution

The transpose of `atrous_conv2d`.

This operation is sometimes called "deconvolution" after Deconvolutional Networks, but is actually the transpose (gradient) of `atrous_conv2d` rather than an actual deconvolution.

Args:

- `value`: A 4-D `Tensor` of type `float`. It needs to be in the default `NHWC` format. Its shape is `[batch, in_height, in_width, in_channels]`.
- `filters`: A 4-D `Tensor` with the same type as `value` and shape `[filter_height, filter_width, out_channels, in_channels]`. `filters`' `in_channels` dimension must match that of `value`. Atrous convolution is equivalent to standard convolution with upsampled filters with effective height `filter_height + (filter_height - 1) * (rate - 1)` and effective width `filter_width + (filter_width - 1) * (rate - 1)`, produced by inserting `rate - 1` zeros along consecutive elements across the `filters`' spatial dimensions.
- `output_shape`: A 1-D `Tensor` of shape representing the output shape of the deconvolution op.
- `rate`: A positive int32. The stride with which we sample input values across the `height` and `width` dimensions. Equivalently, the rate by which we upsample the filter values by inserting zeros across the `height` and `width` dimensions. In the literature, the same parameter is sometimes called `input stride` or `dilation`.
- `padding`: A string, either `'VALID'` or `'SAME'`. The padding algorithm.
- `name`: Optional name for the returned tensor.

Returns:

A `Tensor` with the same type as `value`.

Raises:

- `ValueError`: If input/output depth does not match `filters`' shape, or if padding is other than `'VALID'` or `'SAME'`, or if the `rate` is less than one, or if the output_shape is not a tensor with 4 elements.

Last updated November 2, 2017.