tf.spectral.rfft3d

```
rfft3d(
    input_tensor,
    fft_length=None,
    name=None
)
```

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

See the guide: Spectral Functions > Discrete Fourier Transforms

3D real-valued fast Fourier transform.

Computes the 3-dimensional discrete Fourier transform of a real-valued signal over the inner-most 3 dimensions of `input`.

Since the DFT of a real signal is Hermitian-symmetric, `RFFT3D` only returns the `fft_length / 2 + 1` unique components of the FFT for the inner-most dimension of `output`: the zero-frequency term, followed by the `fft_length / 2` positive-frequency terms.

Along each axis `RFFT3D` is computed on, if `fft_length` is smaller than the corresponding dimension of `input`, the dimension is cropped. If it is larger, the dimension is padded with zeros.

Args:

- `input`: A `Tensor` of type `float32`. A float32 tensor.
- `fft_length`: A `Tensor` of type `int32`. An int32 tensor of shape [3]. The FFT length for each dimension.
- `name`: A name for the operation (optional).

Returns:

A `Tensor` of type `complex64`. A complex64 tensor of the same rank as `input`. The inner-most 3 dimensions of `input` are replaced with the their 3D Fourier transform. The inner-most dimension contains `fft_length / 2 + 1` unique frequency components.

numpy compatibility

Equivalent to np.fft.rfftn with 3 dimensions.

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