

tf.contrib.rnn.LSTMBlockWrapper

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Inherits From: [FusedRNNCell](#)

Defined in [tensorflow/contrib/rnn/python/ops/lstm_ops.py](#).

See the guide: [RNN and Cells \(contrib\) > Core RNN Cell wrappers \(RNNCells that wrap other RNNCells\)](#)

This is a helper class that provides housekeeping for LSTM cells.

This may be useful for alternative LSTM and similar type of cells. The subclasses must implement `_call_cell` method and `num_units` property.

Properties

num_units

Number of units in this cell (output dimension).

Methods

__call__

```
__call__(
    inputs,
    initial_state=None,
    dtype=None,
    sequence_length=None,
    scope=None
)
```

Run this LSTM on inputs, starting from the given state.

Args:

- `inputs`: 3-D tensor with shape `[time_len, batch_size, input_size]` or a list of `time_len` tensors of shape `[batch_size, input_size]`.
- `initial_state`: a tuple `(initial_cell_state, initial_output)` with tensors of shape `[batch_size,`

`self._num_units]` . If this is not provided, the cell is expected to create a zero initial state of type `dtype` .

- `dtype` : The data type for the initial state and expected output. Required if `initial_state` is not provided or RNN state has a heterogeneous dtype.
- `sequence_length` : Specifies the length of each sequence in inputs. An `int32` or `int64` vector (tensor) size `[batch_size]` , values in `[0, time_len)` . Defaults to `time_len` for each element.
- `scope` : `VariableScope` for the created subgraph; defaults to class name.

Returns:

A pair containing:

- Output: A 3-D tensor of shape `[time_len, batch_size, output_size]` or a list of `time_len` tensors of shape `[batch_size, output_size]` , to match the type of the `inputs` .
- Final state: a tuple `(cell_state, output)` matching `initial_state` .

Raises:

- `ValueError` : in case of shape mismatches

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