

## tf.contrib.legacy\_seq2seq.model\_with\_buckets

```
model_with_buckets(  
    encoder_inputs,  
    decoder_inputs,  
    targets,  
    weights,  
    buckets,  
    seq2seq,  
    softmax_loss_function=None,  
    per_example_loss=False,  
    name=None  
)
```

Defined in [tensorflow/contrib/legacy\\_seq2seq/python/ops/seq2seq.py](#).

Create a sequence-to-sequence model with support for bucketing.

The seq2seq argument is a function that defines a sequence-to-sequence model, e.g., seq2seq = lambda x, y: basic\_rnn\_seq2seq(x, y, rnn\_cell.GRUCell(24))

### Args:

- **encoder\_inputs**: A list of Tensors to feed the encoder; first seq2seq input.
- **decoder\_inputs**: A list of Tensors to feed the decoder; second seq2seq input.
- **targets**: A list of 1D batch-sized int32 Tensors (desired output sequence).
- **weights**: List of 1D batch-sized float-Tensors to weight the targets.
- **buckets**: A list of pairs of (input size, output size) for each bucket.
- **seq2seq**: A sequence-to-sequence model function; it takes 2 input that agree with encoder\_inputs and decoder\_inputs, and returns a pair consisting of outputs and states (as, e.g., basic\_rnn\_seq2seq).
- **softmax\_loss\_function**: Function (labels, logits) -> loss-batch to be used instead of the standard softmax (the default if this is None). **Note that to avoid confusion, it is required for the function to accept named arguments.**
- **per\_example\_loss**: Boolean. If set, the returned loss will be a batch-sized tensor of losses for each sequence in the batch. If unset, it will be a scalar with the averaged loss from all examples.
- **name**: Optional name for this operation, defaults to "model\_with\_buckets".

### Returns:

A tuple of the form (outputs, losses), where: **outputs**: The outputs for each bucket. Its j'th element consists of a list of 2D Tensors. The shape of output tensors can be either [batch\_size x output\_size] or [batch\_size x num\_decoder\_symbols] depending on the seq2seq model used. **losses**: List of scalar Tensors, representing losses for each bucket, or, if per\_example\_loss is set, a list of 1D batch-sized float Tensors.

### Raises:

- **ValueError**: If length of encoder\_inputs, targets, or weights is smaller than the largest (last) bucket.

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