

## PROJECT

## Translation From One Language to Another Language

A part of the Deep Learning Nanodegree Foundation Program

## PROJECT REVIEW

## CODE REVIEW

## NOTES

SHARE YOUR ACCOMPLISHMENT!  

## Meets Specifications

Excellent job! You seem to have understood theoretically and in practice (coding) how RNNs work for this kind of task. If you are curious keep playing around with more data or improving parameters.

As an extra bonus:

- Skip-Thoughts model is a sentence encoder. It learns to encode input sentences into a fixed-dimensional vector representation that is useful for many tasks: [https://github.com/tensorflow/models/tree/master/skip\\_thoughts](https://github.com/tensorflow/models/tree/master/skip_thoughts)
- A Machine Translation tutorial from NVIDIA: <https://devblogs.nvidia.com/parallelforall/introduction-neural-machine-translation-with-gpus/>
- Another cool tutorial I found: <https://medium.com/@ageitgey/machine-learning-is-fun-part-5-language-translation-with-deep-learning-and-the-magic-of-sequences-2ace0acca0aa>

Hope you enjoy those

Keep up with the good work!

## Required Files and Tests



The project submission contains the project notebook, called "dLnd\_language\_translation.ipynb".

Alright, file submitted correctly!



All the unit tests in project have passed.

Achievement unlocked! All tests passed successfully.

## Preprocessing



The function `text_to_ids` is implemented correctly.

Function correctly implemented.

## Neural Network



The function `model_inputs` is implemented correctly.

TF Placeholders created correctly, bidimensional placeholders for Input and Targets, and scalar for Learning Rate and Keep probability.



The function `process_decoding_input` is implemented correctly.

Good job using `tf.strided_slice` and `tf.concat` to remove the last word and adding the GO ID to the beginning of the batch!



The function `encoding_layer` is implemented correctly.

Well done! Similar to previous project! Notice you could have used dropout here (although it's not strictly required).



The function `decoding_layer_train` is implemented correctly.

Training logits correctly created, and `output_fn` correctly applied.



The function `decoding_layer_infer` is implemented correctly.

Parameters passed correctly to the functions required in this step.



The function `decoding_layer` is implemented correctly.

Excellent job! This function has some degree of difficulty, but you completed it correctly. You correctly created the lambda function, and used `tf.variable_scope` with the `reuse_variables()` function.

Also you are correctly getting EOS and GO ids using `target_vocab_to_int`



The function `seq2seq_model` is implemented correctly.

You used correctly the building blocks and implemented this function successfully, great job!

## Neural Network Training



The parameters are set to reasonable numbers.

Good job setting the parameters, it seems you are keeping in mind the guidelines we shared with you in the previous project!



The project should end with a validation and test accuracy that is at least 90.00%

You are getting the expected accuracy for this project, congratulations!

## Language Translation



The function `sentence_to_seq` is implemented correctly.

Well done!



The project gets majority of the translation correctly. The translation doesn't have to be perfect.

Awesome, you built a translator using deep neural networks, how cool is that?

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