



PROJECT

Translation From One Language to Another Language

A part of the Deep Learning Nanodegree Foundation Program

PROJECT REVIEW

CODE REVIEW

NOTES

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Meets Specifications

Congratulations on passing the language translation project of DLNF. You have done an amazing job. A few links have been shared in comments and you can go through the high-quality resources that have already been shared by the [previous reviewer](#). You can further continue working on similar stuff by using larger datasets like [WMT10](#) French-English corpus. You can also download sentences from [Tatoeba](#) and setup a translation model. Keep up the great work!

Required Files and Tests

The project submission contains the project notebook, called "dlnd_language_translation.ipynb".

The project submission contains all the files that are required for reviewing the project:

- IPython Notebook: dlnd_language_translation.ipynb
- HTML file: dlnd_language_translation.html
- helper.py
- problem_unittests

All the unit tests in project have passed.

All the unit tests are perfectly running. You have correctly worked on the suggestions of the previous reviewer. 

Preprocessing

The function `text_to_ids` is implemented correctly.

The text is correctly converted to the numbers using `text_to_ids()` method. The `<EOS>` id is correctly added at the end of each sentence. This EOS character will help the network to understand when the sentence ends. 

Neural Network

The function `model_inputs` is implemented correctly.

The datatype, rank and name of placeholder variables are correctly declared.

The function `process_decoding_input` is implemented correctly.

Awesome! The `process_decoding_input()` is perfectly coded up. It is perfectly removing the last word 'id' from each batch in `target_data` and concatenating the GO ID to the beginning of each batch.

The function `encoding_layer` is implemented correctly.

Thumbs up 👍 for using Dropout while creating the Encoder RNN layers. The implementation is just perfect.

The encoder network maps the input sequence to an encoded representation of the sequence. To further read about Encoder-Decoder models in RNN, this quora discussion can be helpful. <https://goo.gl/XvrybG>

The function `decoding_layer_train` is implemented correctly.

The previous reviewer suggested to use dropout, but you have missed to add it. Dropout helps to reduce the overfitting. The dropout can be added like this:

```
drop = tf.contrib.rnn.DropoutWrapper(dec_cell, output_keep_prob=keep_prob)
train_output, _, _ = tf.contrib.seq2seq.dynamic_rnn_decoder(
    drop, train_fn, dec_embed_input, sequence_length, scope=decoding_scope)
```

Adding dropout to this is highly recommended although the training logits are correctly created.

The function `decoding_layer_infer` is implemented correctly.

The `decoding_layer_infer()` is correctly creating inference logits.

The function `decoding_layer` is implemented correctly.

The Decoder RNN layer is correctly created.

- The RNN cell for decoding is accurately implemented.
- The output function is correctly created using the lambda function. 👍
- The `decoding_layer_train` & `decoding_layer_infer` functions are correctly used to get training and inference logits. You can consider reading this article by [Nvidia](#)

The function `seq2seq_model` is implemented correctly.

The `seq2seq_model()` function is flawlessly running.

This Quora discussion can help you further: <https://www.quora.com/What-is-conditioning-in-seq2seq-learning>

Neural Network Training

The parameters are set to reasonable numbers.

The combination of parameter values is acceptable. You can also experiment by lowering the `batch_size`, `rnn_size`, `num_layers` and `learning_rate`. Overall its giving great results and converging in a reasonable amount of time.

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

The accuracy of the model is over 95%, it is highly appreciable. ★

Language Translation

The function `sentence_to_seq` is implemented correctly.

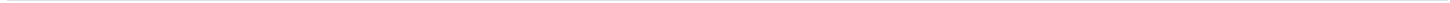
The project gets majority of the translation correctly. The translation doesn't have to be perfect.

You nailed it! The majority of translation is correct. ★

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