UDACITY

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

A solid submission here, your code is good, you have a great translation model here. 👍

You have grasped the concepts of LSTM and RNNs really well. Great job!
You have successfully implemented a State of the Art model, now to expand your understanding please do go through the following links:
1.Machine Translation Tutorial
2.Attention and Augmented Recurrent Neural Networks
3.Word Embeddings

Also check out Bidirectional LSTM as they seem to have good performance.

Its always a great practise to refer to the source research paper.
Check out this paper to get an idea about the hyper parameters used in larger corpora.

All the best in your deep learning journey! 👏

Required Files and Tests

The project submission contains the project notebook, called “dlnd_language_translation.ipynb”.

All the unit tests in project have passed.

Preprocessing

The function `text_to_ids` is implemented correctly.

Neural Network

The function `model_inputs` is implemented correctly.

The function `process_decoding_input` is implemented correctly.

The function `encoding_layer` is implemented correctly.

The function `decoding_layer_train` is implemented correctly.

The context manager used here is redundant, please do remove this here!

The function `decoding_layer_infer` is implemented correctly.

The context manager used here is redundant, please do remove this here!

The function `decoding_layer` is implemented correctly.

Suggestion

You have used a dropout here to define a decoder cell, this will be really useful for regularisation in the training layer but when the same passes through the inference layer this will lead to loss of information, however you wont notice a difference here because the default keep_prob here is set to 1 and that makes the dropout redundant, but for making your code reusable and scalable please do remove the dropouts here and try to incorporate dropouts in the decoding_layer_train and encoding_layer
Here is good explanation of What's the Difference Between Deep Learning Training and Inference?

As per the project rubric you are supposed to use reuse_variables() function with the decoding_scope instead of redundantly making context managers. Instead of using

```
with tf.variable_scope("decode”, reuse=True) as decoding_scope:
        inference_logits...
```

use:

```
    decoding_scope.reuse_variables()
    inference_logits
```

Please do make sure that the reuse_variable() function and the consecutive code is indented to be at the same level as the previous context manager.Please do read more about Sharing Variables in Tf Also the output layer can be created in the same context manager.

The function `seq2seq_model` is implemented correctly.

Neural Network Training

The parameters are set to reasonable numbers.

A very good set of hyper parameters chosen here! Well done!
Only suggestion here is that your data has a vocabulary of 227 words and when you encode information from 227 words to 256 dimensions you tend to add noise to the model, so please do be careful here. 😃

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

Awesome job getting over 90% accuracy here! 👏

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.

The translations are perfect! Well done! 😎

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