UDACITY

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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## Requires Changes

1 SPECIFICATION REQUIRES CHANGES

Excellent work in your first submission. You are almost complete. Just take care one issue in inference method. Hope you learned a lot and keep learning. Here are few things to read
Exploring LSTMs
For a deeper understanding of how Sequence-to-Sequence models work, check out this video lecture

### Required Files and Tests

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

Found all required files.
-rw-r--r--@ 1 xxxx xxxx 1092215 Aug 17 13:54 dlnd_language_translation-MD_Alamgir+-+Batch256_LR001_Embed128.html
-rw-r--r--@ 1 xxxx xxxx 476774 Aug 17 13:54 Hyper parameter Sensitivity Study -Project 4-Language Translation.pdf
-rw-r--r--@ 1 xxxx xxxx 884360 Aug 17 19:06 dlnd_language_translation-MD_Alamgir+-+Batch256_LR001_Embed128.ipynb

**All the unit tests in project have passed.**

Good job. Unit tests are good practice as it focuses on one tiny bit of functionality.

### Preprocessing

**The function `text_to_ids` is implemented correctly.**

👍 added the <EOS> word id at the end of each sentence from target_text. This will help the neural network predict when the sentence should end.

### Neural Network

**The function `model_inputs` is implemented correctly.**

Good implementation. Placeholders are gateways into computation. They are primitives in tensorFlow.

**The function `process_decoding_input` is implemented correctly.**

well done!! Here is great discussion What does `tf.strided_slice()` do?

**The function `encoding_layer` is implemented correctly.**

Suggestion
suggestion to write whether dropout is applied to input or output tensor like as below
dropout = tf.contrib.rnn.DropoutWrapper(lstm_cells, output_keep_prob=keep_prob)

**The function `decoding_layer_train` is implemented correctly.**

**The function `decoding_layer_infer` is implemented correctly.**

One should not apply dropout here as it gives random prediction. Below statement needs to be modified.
infer_logits = tf.nn.dropout(infer_pred, keep_prob) # Inference Logits

**The function `decoding_layer` is implemented correctly.**

Suggestion
Although code is correct. suggest to use tf.variable_scope.reuse_variables() function, which is a good way to share variables, lightweight and safe.
You may refer Sharing Variables
Therefore please replace your line:
with tf.variable_scope("decoding", reuse=True) as decoding_scope:
with this one:
decoding_scope.reuse_variables()

**The function `seq2seq_model` is implemented correctly.**

## Neural Network Training

**The parameters are set to reasonable numbers.**

Yes, This is tricky. Hyperparameter optimization is a big part of deep learning. Overview of Hyperparameter Tuning

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

Awesome!! 😄 validation accuracy is much above required 90.00%
Epoch 14 Batch 535/538 - Train Accuracy: 0.979, Validation Accuracy: 0.966, Loss: 0.008
Epoch 14 Batch 536/538 - Train Accuracy: 0.980, Validation Accuracy: 0.966, Loss: 0.009
Model Trained and Saved

## 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.**

Looks good.

RESUBMIT

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## Best practices for your project resubmission

Ben shares 5 helpful tips to get you through revising and resubmitting your project.

Watch Video (3:01)

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