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!

Requires Changes

1 SPECIFICATION REQUIRES CHANGES

Excellent work in your first submission. You are almost complete. Hope you learned a lot and keep learning. Please play around with hyper param.
Exploring LSTMs
For a deeper understanding of how Sequence-to-Sequence models work, check out this video lecture
Few suggested values below. Rest of the param values looks good.
Batch Size can be increased to 512
batch_size = 512

RNN Size can be increased to 256
rnn_size = 256
Number of Layers should be 2. For this data set Number of Layers = 2 works well
num_layers = 2

Required Files and Tests

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

Found all required files.

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.

The function `decoding_layer_train` is implemented correctly.

Suggestion
You may experiment by adding dropout layer in this method. What is dropout in deep learning?
Dropout is a regularization technique for neural network models where randomly selected neurons are ignored during training.

The function `decoding_layer_infer` is implemented correctly.

Well done!! Here is good explanation of What's the Difference Between Deep Learning Training and Inference?

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 6 Batch 1040/1077 - Train Accuracy: 0.9486, Validation Accuracy: 0.9339, Loss: 0.0452
Epoch 6 Batch 1060/1077 - Train Accuracy: 0.9594, Validation Accuracy: 0.9361, Loss: 0.0369
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.

little bit off and needs improvement.

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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