UDACITY

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# Machine Translation

REVIEW

CODE REVIEW

HISTORY

## Meets Specifications

Great job! 👍

You seem to have understood theoretically and in practice (coding) how RNNs work for this kind of task.

A Machine Translation tutorial from NVIDIA - Introduction to Neural Machine Translation with GPUs.
Another cool tutorial - Language Translation with Deep Learning and the Magic of Sequences.

Hope you enjoy those.
Keep up with the good work! 😃

**PS**: For almost all of your models - the training validation loss shows up as - `nan`; you should refer to *this knowledge question* - as to how to rectify it.

## Submitted Files

The following files have been submitted: `helper.py`, `machine_translation.ipynb`, `machine_translation.html`

This submission contains all of the three files:

- `helper.py`
- `machine_translation.ipynb`
- `machine_translation.html`

## Preprocess

The function `tokenize` returns tokenized input and the tokenized class.

The function `tokenize` is correctly implemented and returns the tokenized input and the tokenized class.

The function `pad` returns padded input to the correct length.

The function `pad` is correctly implemented and returns padded input to the correct length.

## Models

The function `simple_model` builds a basic RNN model.

Good job using the `GRU` instead of `SimpleRNN` in implementing the `simple_model`.

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**Suggestion**: Here are a few suggestions for you to ponder upon:

- Try using different `RNN` units like `LSTM` and compare it with `GRU`.
- You should try evaluating different activation functions like `tanh` and `relu`.
- Also, decrease batch size to `256 ~ 512`; there are disadvantages to using very large batch sizes as you should know (for this and other models). You might need to increase the epochs, though.

The function `embed_model` builds a RNN model using word embedding.

The function `embed_model` is correctly implemented and builds a RNN model using word embedding.

The Embedding RNN is trained on the dataset. A prediction using the model on the training dataset is printed in the notebook.

The function `bd_model` builds a bidirectional RNN model.

The function `bd_model` is correctly implemented and builds a bidirectional RNN model.

The Bidirectional RNN is trained on the dataset. A prediction using the model on the training dataset is printed in the notebook.

The function `model_final` builds and trains a model that incorporates embedding, and bidirectional RNN using the dataset.

You did a great job building the `model_final` using all of the building blocks from previous models.

## Prediction

The final model correctly predicts both sentences.

You correctly trained the model in the dataset and obtained correct predictions for both the sentences.

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