

Natural Language Applications- Assignment

2

I have used `pytorch` and `torchtext` for the given assignment.

Drive link: <https://drive.google.com/drive/folders/1aLHL8vsJEv6f13RclyTm5oJ5CZ-zOvfN?usp=sharing>

Data files changed and stored in `dev.json, train.json and test.json`. The code for the conversion given in

1. Sequence to Sequence Learning with Neural Networks

- This model is a simple seq2seq model
- Encoder and Decoder used with LSTMs
- Source code in `seq2seq.py`
- `seq2seq.model` has the final weight matrix
- Batch size: 128
- **Test Loss: 5.629 and Test Perplexity: 278.487** (higher perplexity means worse)

2. Neural Machine Translation By Jointly Learning To Align And Translate

- This model is a seq2seq model with attention
- Source code in `seq2seq_attn.py`
- `Seq2seq_attn.model` has the final weight matrix
- Batch size: 64
- Memory heavy code and fails with larger batch sizes.
- Also more computationally heavy than the previous model
- **Test Loss: 4.817 and Test Perplexity: 123.557**

3. Effective Approaches to Attention-based Neural Machine Translation

Did not implement

4. Modeling Coverage for Neural Machine Translation

Did not implement