

LING 575K HW6

Due 11PM on May 13, 2021

In this assignment, you will

- Develop understanding of recurrent neural networks
- Implement components of data processing
- Implement key pieces of two variants of a recurrent model architecture

All files referenced herein may be found in `/dropbox/20-21/575k/hw6/` on patas.

1 Recurrent Neural Network Encoders

Q1:

2 Implementing an RNN Sentiment Classifier

blah blah blah.

Q1: Data processing

3 Running the Classifier

`run.py` contains a basic training loop for a feed-forward language model, which will record the training loss and generate text every N epochs (controlled by the flat `--generate_every`, set to 4 by default).

Q1: Vanilla RNN

Q2: LSTM

Q3: Modify one hyper-parameter Re-run the training loop, modifying one of the following hyper-parameters, which are specified by command-line flags:

- Hidden layer size
- Embedding size
- Number of epochs

4 Testing your code

In the dropbox folder for this assignment, we will include a file `test_all.py` with a few very simple unit tests for the methods that you need to implement. You can verify that your code passes the tests by running `pytest` from your code's directory, with the course's conda environment activated.

Submission Instructions

In your submission, include the following:

- `readme.(txt|pdf)` that includes your answers to §1 and §3.
- `hw5.tar.gz` containing:
 - `run_hw5.sh`. This should contain the code for activating the conda environment and your run commands for §3 above. You can use `run_hw2.sh` from the previous assignment as a template.
 - `data.py`
 - `model.py`
 - `ops.py`
 - `run.py`