Report for Spring 2019 PRML Assignment # 4

Date: June 1, 2019

Abstract: The purpose of this assignment was to gain more experience in implementing RNN and CNN. We will redo assignment 2 categorizing text using RNN and CNN.

1 Part 1: Implement two text classifiers in RNN and CNN

1.1 RNN

To implement an RNN classifier with fastNLP. First, I formatted given data as need, such as removing tabs and changing it to lowercase. Then I used the CNNText and Trainer. Through varying the embedding layers, I found that around 1000 gave the best result of accuracy around 90%.

1.2 CNN

To implement an CNN classifier with fastNLP. First, I formatted given data as need, such as removing tabs and changing it to lowercase. Then I used the RNN model with an input layer, LSTM layers, and the softmax layer. Through varying the LSTM layers, I found that four gives the best results. Then I varied the epoch and the accuracy peeked around 60%

2. Part 2: Thoughts on FastNLP

Overall FastNLP was very convenient to use and have good comments. However, it can take a while to learn how to use it since there are many functions to use. The training and debugging are quite easy to use. For data processing interface it's not as easy to use since there are many restrictions.

3 Conclusion

Overall, the assignment easy since we are working with things we have learned before. I tried my best to finish the assignment. So I consider this assignment a success.

References

1. “Assignment 4” Pattern Recognition and Machine Learning, Fudan University, Spring 2019, <https://zfhu.ac.cn/PRML-Spring19-Fudan/assignment-4/index.html>.