A program for answer selection using CNN or RNN

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Two mainly different methods to this program.

The first one:

concat the question and answer into a integral sentence seperate by '[sep]' .Then use glove to generate word representation. Put the above sentences into classifier CNN or RNN etc.

The second one:

Use CNN or RNN to represent the question and answers and then evaluate the similarity. Define the loss function individually so that the test accuracy can be better. This program use MSE loss.

I. Environment

Ubuntu 16.04.4 LTS
python3.6.6

II. Results

For the first method: code in './Method1/Method1.py'

Set	Train	Dev	Test
Accuracy	59%	80%	**82%**

The reason why train set accuracy is so low is that the CNN model is underfitting. However, I maybe have learnt how to build a CNN model so that I didn't pay too much attention on how to fine tune the hyperparameter. Because it need much time to tune parameter . In order to learn more models ,I try another method to increase accuracy.

For the second method: code in './Method2/Method2.py'

The classification accuracy on train, dev and test set show in the table.

Set	Train	Dev	Test
Accuracy	92.7%	73.9%	**78.9%**

III. Reference

1. Architecture of Convolutional Neural Networks (CNNs) demystified
2. An Intuitive Understanding of Word Embeddings: From Count Vectors to Word2Vec
3. Python 中实现文本分类
4. wiki-news-300d-1M.vec
5. GloVe: Global Vectors for Word Representation
6. glove-to-word2vec
7. Question Answering (State of the art)
8. LSTM-BASED DEEP LEARNING MODELS FOR NONFACTOID ANSWER SELECTION