Machine Learning and having it Deep and Structured Homework III Report

Group "SYChienIsGod"

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1 The Group

1.1 Members

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2 The Algorithm

2.1 Data processing

We first extract sentences from training data-set with python script, which deletes the header information in every file and puts the remaining all in one file. The second step is to take punctuation out of the sentences which make the file able to be trained.

2.2 Training

2.3 Testing

After training, we pack each sentence in testing data into fixed-wordcount sentence by padding zero at the end of sentence. With that, we can find the best answer by comparing the loss (cost) of each sentence.

Note that because of the characteristics of RNN (exploding gradients) the training testing process will terminate earilly (as shown in Table1). The exploding gradients should be handled in the future.

The training and testing time for 1000k sentences dataset, 64 state, 32 class took about 45 minutes for each epoch on 12 cores CPU with Blas acclerate.

3 The Experiments

Train sentences	state#	class#	initial LR	Epoch	Score
1000k	64	32	0.1	1	0.2817
1000k	64	32	0.1	5	0.3278
1000k	64	32	0.1	6	0.3317
1000k	64	32	0.1	7	0.3278
1000k	64	32	0.1	8	0.3451
1000k	64	32	0.1	9	0.3730
1000k	64	32	0.1	10	X(terminate)
1000k	24	104	0.1	4	0.2788
500k	64	64	0.1	4	0.2875
100k	104	104	0.1	9	0.2750

Table 1: Parameter setting for training RNN.