

Comparsion of TensorFlow Wrappers

Run Keras, TensorLayer and Tflern with same model and data on a same GPU machine.

The parameter initialization may have slightly different, but would not effect the speed.

Feel free to PUSH !

Speed of MLP

GPU: GTX980

TensorFlow: r0.10

Data: MNIST train:50k val:10k test:10k

Model: 784-800-800-10

Num of epochs: 200

Batch size: 500

Keras: 282.475250s = 1.41 s/epoch

TensorLayer: 116.670947s = 0.58 s/epoch

Tflearn:

Arcyfelix's test

Setup

GPU: GTX970

Driver Version: 375.39

TensorFlow: 1.0.1

Data: MNIST train: 50k val: 10k test: 10k

Speed of MLP

Num of epochs: 200

Batch size: 500

FC-x = Fully Connected / Dense with Relu activation with x number of neurons

DP = Dropout

Architecture / Library	Keras	TFLearn	TensorLayer
INPUT + FC-800 + DP + FC-800 + DP + OUTPUT	173.825s	337.312s	To be tested

INPUT + FC-2000 + DP + FC-2000 + DP + OUTPUT	377.443s	477.034s	To be tested
INPUT + FC-4000 + DP + FC-4000 + DP + OUTPUT	1007.613s	872.662s	To be tested
INPUT + FC-4000 + DP + FC-4000 + FC-4000 + DP + OUTPUT	1715.068s	1313.363s	To be tested

Speed of CNN

Num of epochs: 20

Batch size: 100

Conv2d[kernel-x, kernel-y]-filters = Convolutional layer with padding =
'same'

Architecture / Library	Keras	TFLearn	TensorLayer
INPUT + Conv2d[3,3]-8 + Conv2d[3,3]-8 + FC- 100 + DP + FC-100 + DP + OUTPUT	79.999s	84.487s	To be tested
INPUT + Conv2d[3,3]-32 + Conv2d[3,3]-32 + FC- 100 + DP + FC-100 + DP + OUTPUT	132.741s	125.306s	To be tested
INPUT + Conv2d[3,3]-64 + Conv2d[3,3]-64 + FC-	230.574s	204.685s	To be tested

100 + DP + FC-100 + DP + OUTPUT			
INPUT + Conv2d[3,3]-128 + Conv2d[3,3]-128 + FC- 100 + DP + FC-100 + DP + OUTPUT	477.009s	407.489s	To be tested
INPUT + Conv2d[3,3]-256 + Conv2d[3,3]-256 + FC- 100 + DP + FC-100 + DP + OUTPUT	1186.775s	1037.954s	To be tested

Speed of LSTM