First Homework

Submit by Emailing

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before the 2nd class (Jan. 28)

Homework Overview

- Install Theano
- Run your first program on Theano:
  - Classifying handwriting digits
- Modify your program and run it

1.1 Install Theano

- Refer to http://deeplearning.net/software/theano/install.html

- After your installation, try to import theano into your python code, e.g.,

```
import theano

dir(theano)
```

1.2 Your First Program with Theano

Run the example at
http://deeplearning.net/tutorial/logreg.html

- Download MNIST data (http://deeplearning.net/data/mnist/mnist.pkl.gz)
- Download the example code
- Run the example code on your machine
- Record your performance
- Change a few parameters including learning rate, batch_size, and n_epochs, and record how your performance changes *If you meet any error, read the theano documentation*

1.3 Modify your code

- The experiment in step 1.2 is based on images 28 x 28. The pixel level is from 0 to 255

- Try to resize the image size to 14 x 14, and then re-run your program in 1.2. Record your performance

What To Submit

- Before the next course, email
  - your code
  - a report with your performance

  to the instructors.

- The report doesn't need to be long, you may just provide a table with your parameters with the corresponding performance for 28x28, and 14x14 images, respectively. You are welcome to input your thoughts too.