MLDS - HW0

MNIST - Number Recognition

MNIST
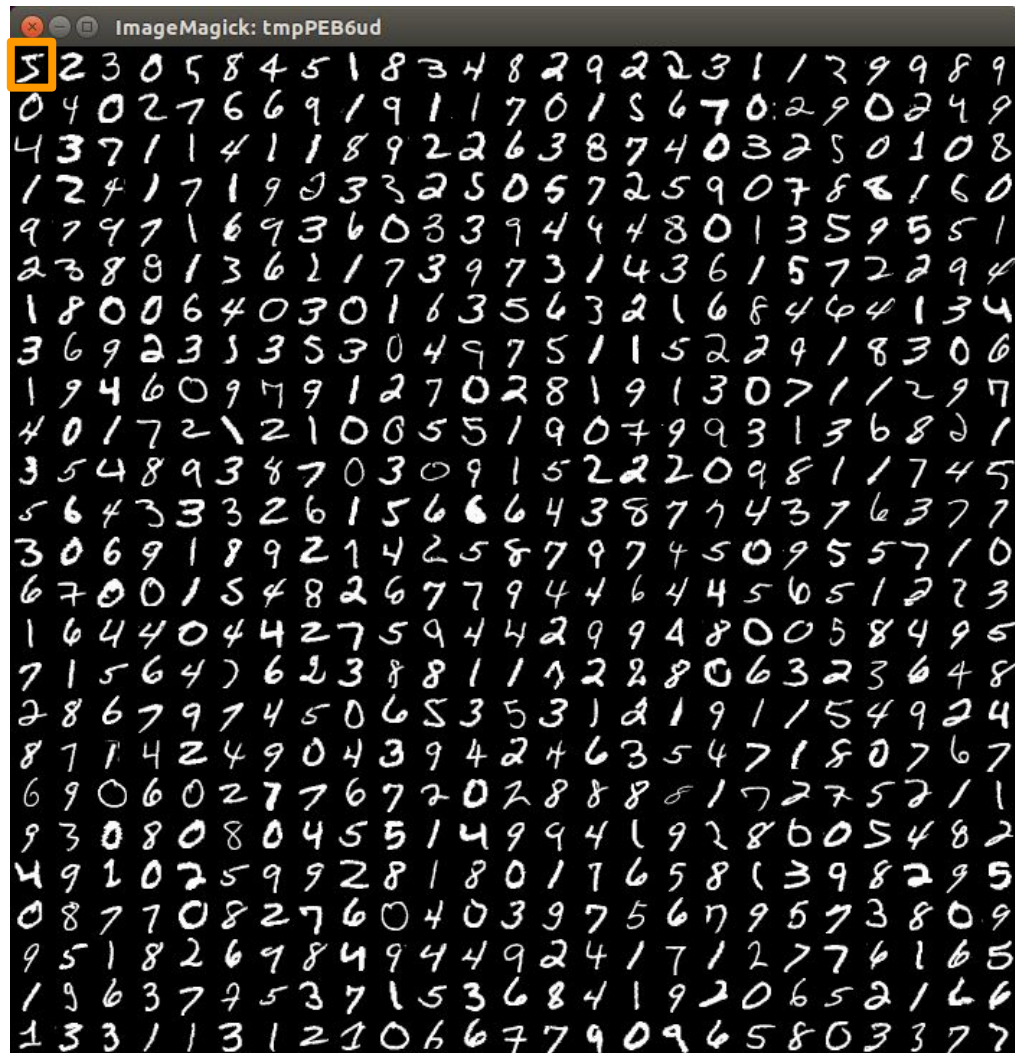
DATA

- training data (image+label)
  - 60000 data
  - http://yann.lecun.com/exdb/mnist/

```
train-images-idx3-ubyte.gz:  training set images (9912422 bytes)
train-labels-idx1-ubyte.gz:  training set labels (28881 bytes)
```

- testing data (image)
  - 10000 data
  - https://mega.nz/#!WII31LzI!Z6HAOnVIa-AOqQcDMPRKLldZ7Q7nXhsUycT7GY7IND4
  - different from the original testing data file

data format - image

```
[offset] [type]           [value]           [description]
0000     32 bit integer   0x00000803(2051)  magic number
0004     32 bit integer   60000             number of images
0008     32 bit integer   28                number of rows
0012     32 bit integer   28                number of columns
0016     unsigned byte    ??                pixel
0017     unsigned byte    ??                pixel
........
xxxx     unsigned byte    ??                pixel
```

Pixels are organized row-wise. Pixel values are 0 to 255. 0 means background (white), 255 means foreground (black).

- ignore first 16 bytes
- 784 bytes for each image (28*28, row-wise) - 0~255
- 60000 images
- same format in testing image file (10000 data)

data format - label

```
[offset] [type]          [value]          [description]
0000     32 bit integer  0x00000801(2049) magic number (MSB first)
0004     32 bit integer  60000            number of items
0008     unsigned byte   ??               label
0009     unsigned byte   ??               label
........
xxxx     unsigned byte   ??               label

The labels values are 0 to 9.
```

- ignore first 8 bytes
- 60000 bytes for 60000 int - 0~9

Method

- any Model
- any programming language

- **Tensorflow**

answer file

- csv file
  - [id, label]
  - id : from **0~9999**
  - label : from 0~9

	A	B
1	id	label
2	0	9
3	1	9
4	2	9
5	3	9
6	4	9
7	5	9
8	6	9
9	7	9
10	8	9

kaggle in class

- https://inclass.kaggle.com/c/hw0-mnist
- deadline: 12 p.m.   2/26 (Sun)
- 99% in public testing set
- **use your student number as Team Name**
- **relative lectures in description**

Dashboard

Home 🏠
  Data 🗄
  Make a submission ✎

Information ℹ
  Description
  Evaluation
  Rules

Forum 💬

Leaderboard ☰

My Team 👥

My Submissions 📦

Public Leaderboard

1. r05921052

Manage Your Team

Make a Submission on behalf of your team.

Team Name | r05921052

Team Members

Alison
Team Leader

#	Δ12h	Team Name	Score ❓	Entries	Last Submission UTC (Best – Last Submission)
1	—	**r05921052**	**1.00000**	**2**	**Tue, 21 Feb 2017 08:31:40**

every submission

Click or drop your submission here

ML ~ �� ~ A+
ADL ~ 儂大 ~ A+
[lecture] ~ [teacher] ~ [score]

Submit

TA Email

- mldsntu2017@gmail.com