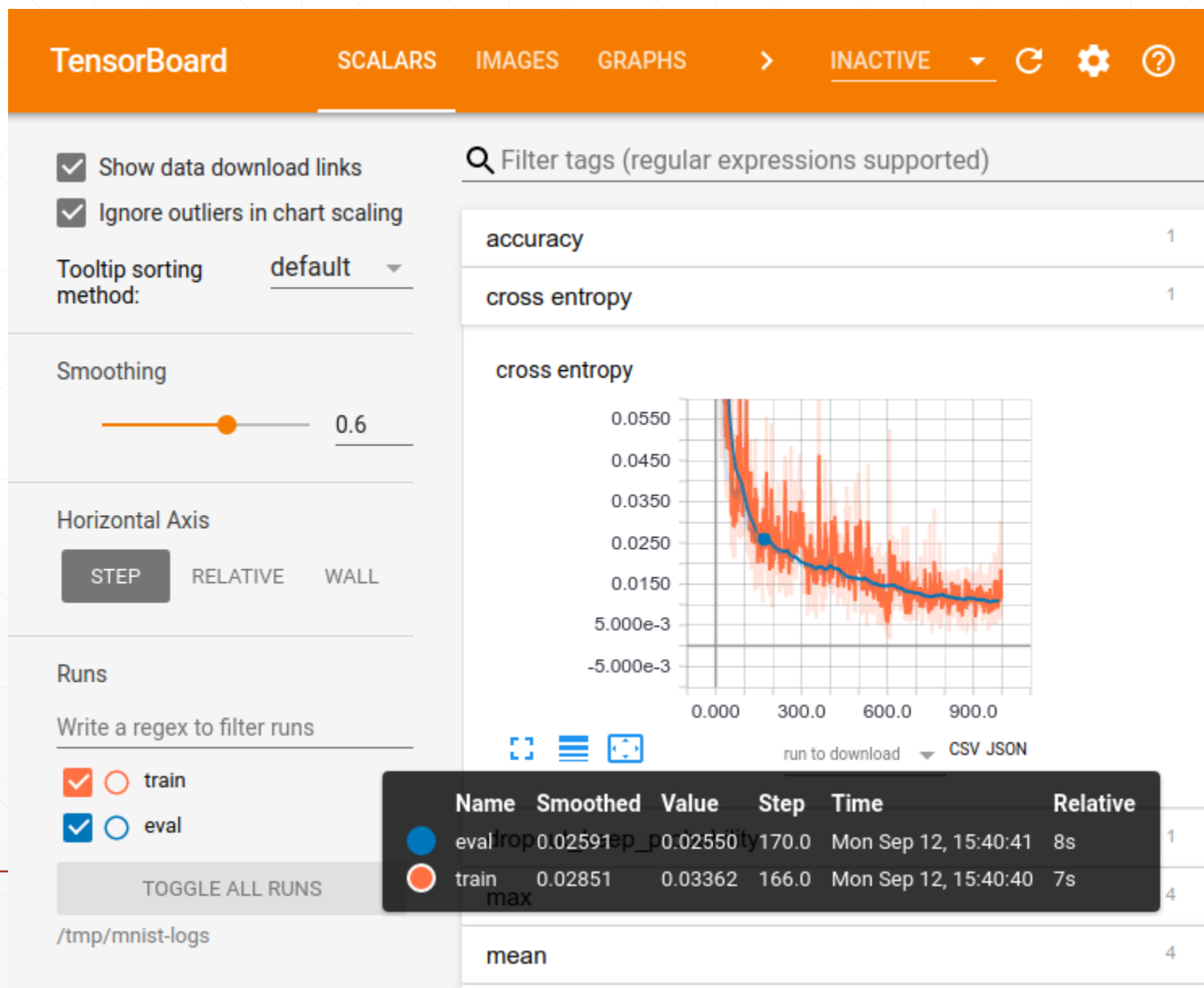




Visdom可视化

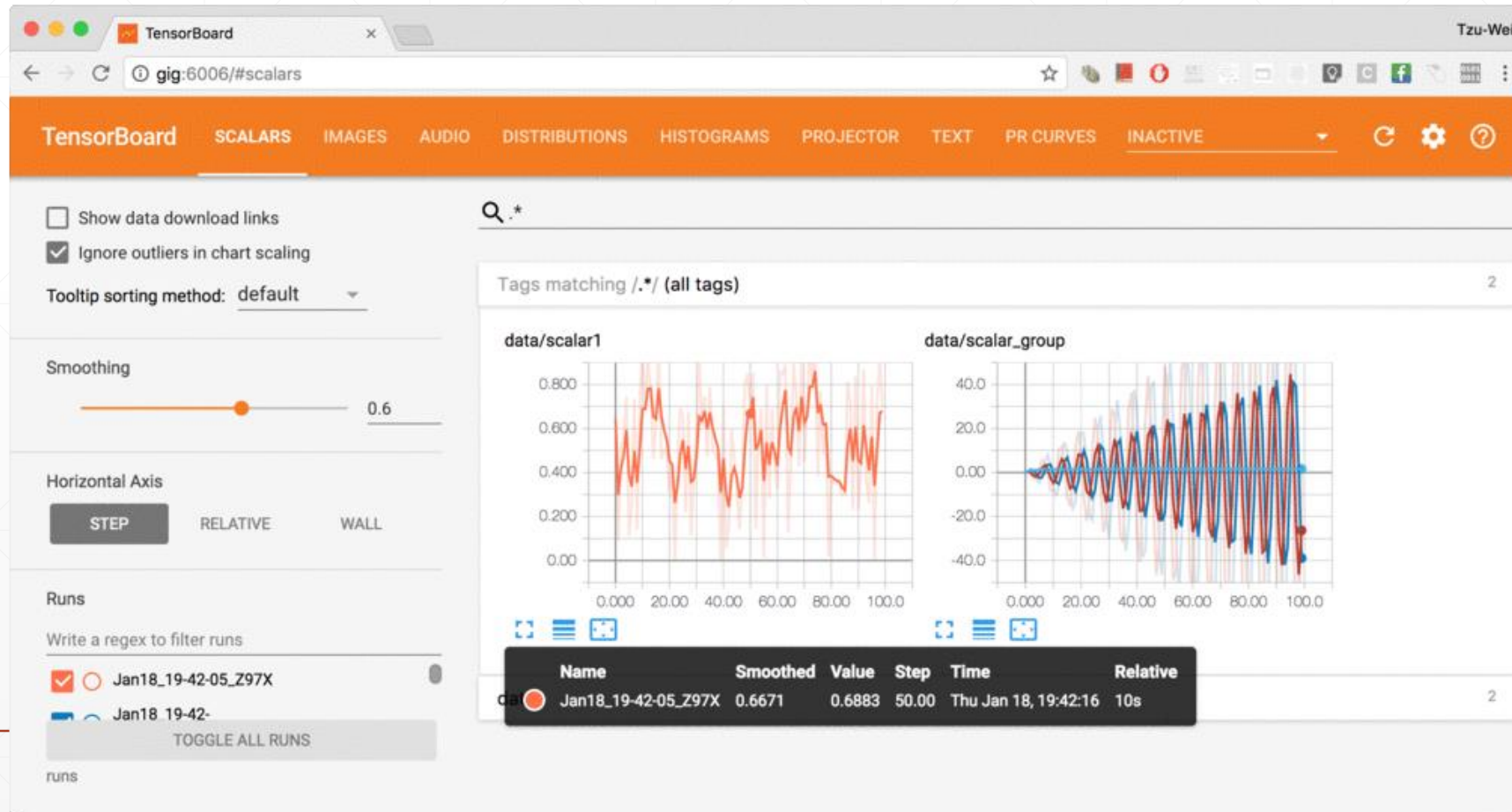
主讲人：龙良曲

TensorBoard?



TensorboardX

- `pip install tensorboardX`



TensorboardX



```
from tensorboardX import SummaryWriter

writer = SummaryWriter()
writer.add_scalar('data/scalar1', dummy_s1[0], n_iter)

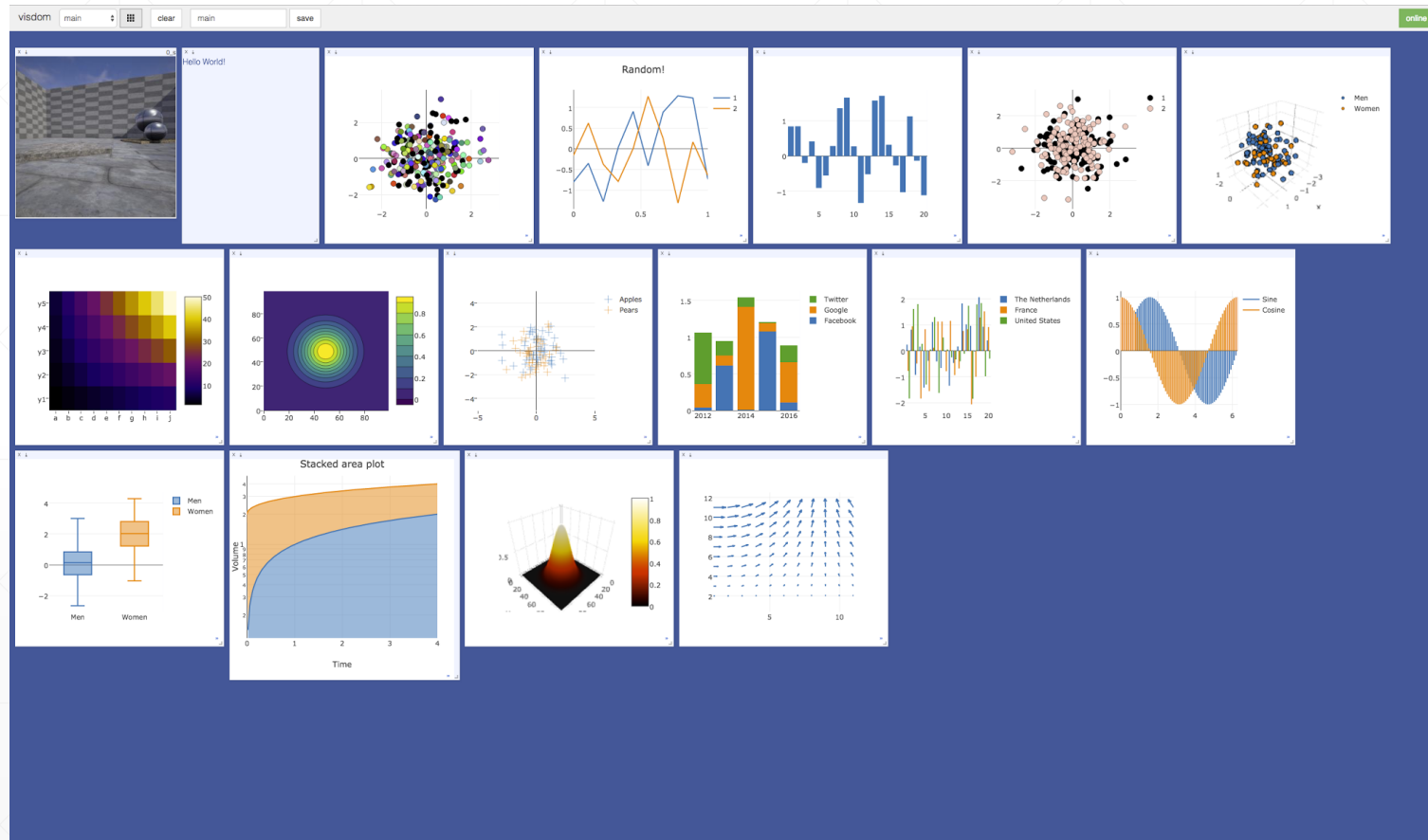
writer.add_scalars('data/scalar_group', {'xsinx': n_iter * np.sin(n_iter),
                                          'xcosx': n_iter * np.cos(n_iter),
                                          'arctanx': np.arctan(n_iter)}, n_iter)

writer.add_image('Image', x, n_iter)
writer.add_text('Text', 'text logged at step:' + str(n_iter), n_iter)

for name, param in resnet18.named_parameters():
    writer.add_histogram(name, param.clone().cpu().data.numpy(), n_iter)

writer.close()
```

Visdom from Facebook



Step 1. install

```
C:\Users\drage>pip install visdom
```

Collecting wisdom

Downloading <https://files.pythonhosted.org/packages/c1/48/d90e1519768107811fd6e7760bea46fff9e9c9fffb490441684003ae634a9/visdom-0.1.8.5.tar.gz> (248kB)

100% [Progress Bar] 256kB 466kB/s

Requirement already satisfied: numpy>=1.8 in c:\programdata\conda\lib\site-packages (from visdom)

Requirement already satisfied: scipy in c:\programdata\conda\lib\site-packages (from visdom)

Requirement already satisfied: requests in c:\programdata\conda\lib\site-packages (from visdom)

Requirement already satisfied: pyzmq in c:\programdata\conda\lib\site-packages (from visdom)

Requirement already satisfied: six in c:\programdata\conda\lib\site-packages (from visdom)

Collecting torchfile (from visdom)

Collecting websocket-client (from visdom)

```
Downloading https://files.pythonhosted.org/packages/26/2d/f749a5c82f6192d77ed061a38e02001afcba55fe8477336d26a950ab17ce/websocket-client-0.54.0-py2.py3-none-any.whl (200kB)
```

100% 204kB 5.4MB/s

Step2. run server damon

```
C:\Users\drage>python -m visdom.server
Downloading scripts. It might take a while.
ERROR:root:Error 404 while downloading https://unpkg.com/layout-bin-packer@1.4.0
```

Step2. run server damon

```
C:\Users\drage>python -m visdom.server
Downloading scripts. It might take a while.
ERROR:root:Error 404 while downloading https://unpkg.com/layout-bin-packer@1.4.0
It's Alive!
INFO:root:Application Started
You can navigate to http://localhost:8097
INFO:tornado.access:200 POST /win_exists (::1) 0.00ms
INFO:tornado.access:200 POST /events (::1) 1.00ms
INFO:tornado.access:200 POST /win_exists (::1) 0.00ms
INFO:tornado.access:200 POST /update (::1) 1.00ms
INFO:tornado.access:200 POST /win_exists (::1) 0.00ms
INFO:tornado.access:200 POST /update (::1) 1.03ms
```

install from source

The screenshot shows the GitHub repository page for `facebookresearch/visdom`. The browser's address bar displays the URL `https://github.com/facebookresearch/visdom`. The repository's name is `facebookresearch / visdom`. The page includes navigation links for `Code`, `Issues` (39), `Pull requests` (1), `Projects` (0), and `Insights`. A description of the repository is provided: "A flexible tool for creating, organizing, and sharing visualizations of live, rich data. Supports Torch and Numpy." Below this, statistics are shown: 225 commits, 12 branches, 0 releases, and 63 contributors. A progress bar indicates the repository's activity. The `Clone or download` button is visible. The commit history table lists recent changes, including the latest commit by `luisenp` and `facebook-github-bot` 12 days ago, which changed the code to parse the hostname to use `urllib` (#531).

Commit	Message	Time
9caf4dc	Changed code to parse hostname to use urllib (#531)	12 days ago
	Properties pane added	7 months ago
	Prepares dependency versioning, completes 0.1.8	8 months ago
	Firewall update (#379)	7 months ago
	options -> opts, removing lua options parameter in favor of opts	8 months ago
	Add code of conduct file (#488)	3 months ago
	Make Image Pane scrolling browser independent (#526)	13 days ago
	Line different dash types (#523)	17 days ago
	Create Issue Templates (#384)	6 months ago

lines: single trace



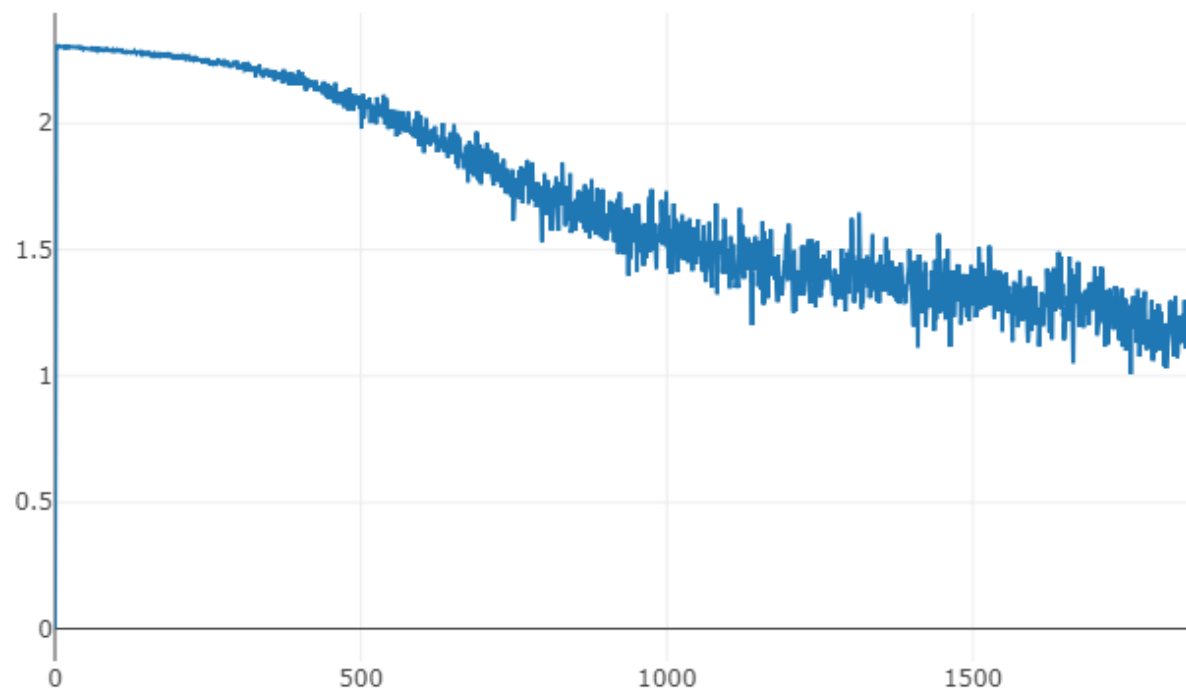
```
from visdom import Visdom

viz = Visdom()

viz.line([0.], [0.], win='train_loss', opts=dict(title='train loss'))

viz.line([loss.item()], [global_step], win='train_loss', update='append')
```

train loss



lines: multi-traces

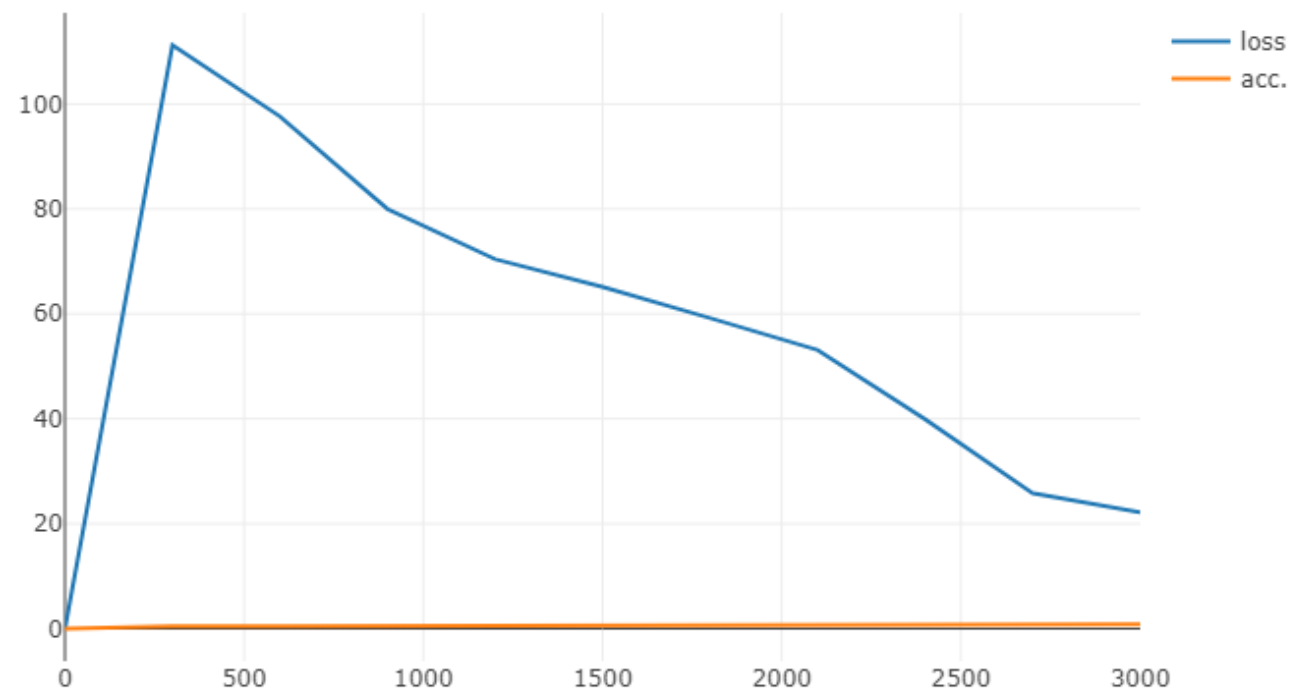


```
from visdom import Visdom

viz = Visdom()
viz.line([[0.0, 0.0]], [0.], win='test', opts=dict(title='test loss&acc.',
                                                    legend=['loss', 'acc.']))

viz.line([[test_loss, correct / len(test_loader.dataset)],
          [global_step], win='test', update='append')
```

test loss&acc.



visual X



```
from visdom import Visdom
```

```
viz = Visdom()
```

```
viz.images(data.view(-1, 1, 28, 28), win='x')
```

```
viz.text(str(pred.detach().cpu().numpy()), win='pred',  
         opts=dict(title='pred'))
```

X	Y	Θ	X	Y	Θ	preo																							
7	1	2	8	9	0	9	1	[7	0	2	8	9	0	9	1	5	3	6	0	3	2	5	1	2	4	2	7		
5	7	6	0	3	2	5	1	8	6	2	2	8	6	2	6	7	9	0	4	6	4	4	2	8	2	9	1		
2	4	2	7	8	6	2	2	8	6	9	7	1	1	8	2	7	1	3	2	2	6	3	0	4	5	0	7	6	
8	6	2	6	7	9	0	4	5	8	6	8	0	8	3	0	4	8	9	4	2	7	7	0	1	9	9	0		
6	4	4	2	5	2	9	1	7	5	3	6	6	9	3	1	4	1	3	4	8	6	4	3	7	1	5	2	7	
8	6	8	7	1	1	8	2	0	7	9	5	1	9	6	1	5	4	4	1	9	4	3	0	6	7	1	7	9	
6	4	4	2	5	2	9	1	4	6	7	3	5	4	1	0	0	9	9	5	9	1	1	5	1	0	8	7	6	
8	6	8	7	1	1	8	2	1	1	3	9	4	0	4	8	8	4	7	2	7	7	7	2	8	8	1	4	1	
7	1	3	2	2	6	3	0	9	3	4	8	7	0	0	3	8	5	3	7	0	0	3	6	3	3	9	2		
4	8	0	3	6	8	8	5	5	1	0	4	5	0	7	2	0	8	6	4	5	4								
6	8	0	8	3	0	4	8																						
7	8	0	2	0	8	8	2																						
5	1	3	8	5	0	0	0																						

下一课时

train-val-test

Thank You.
