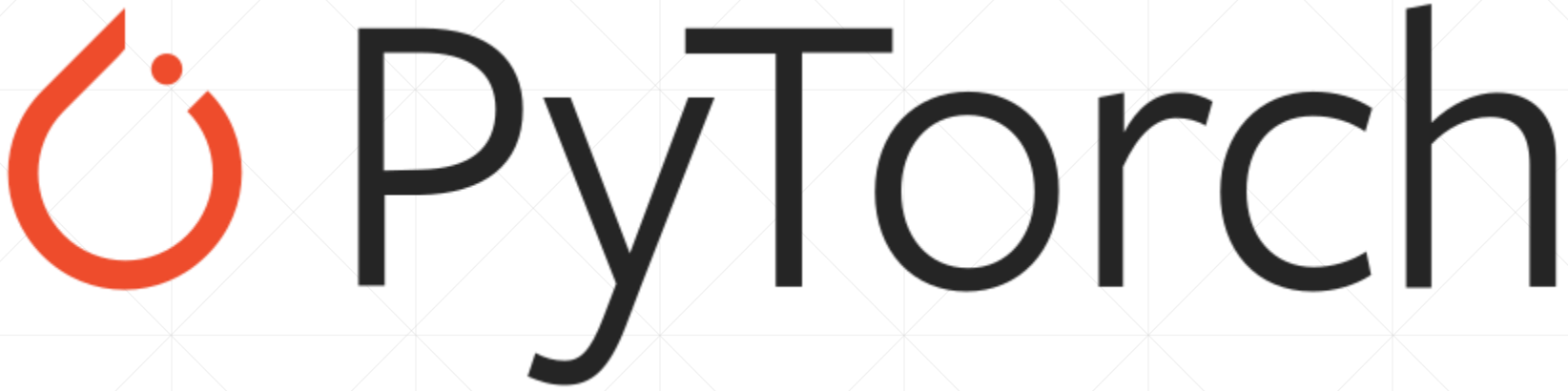
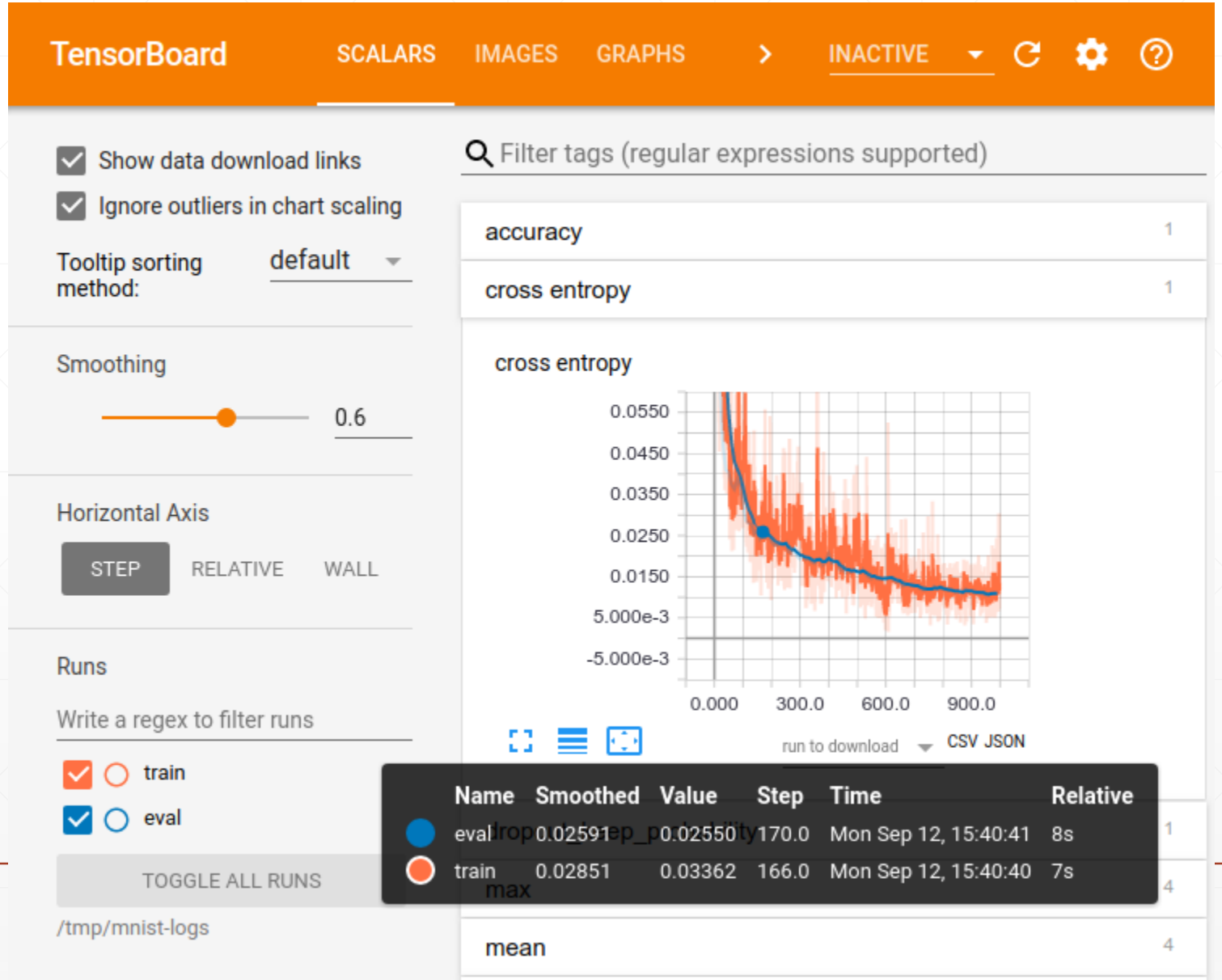


Visdom可视化

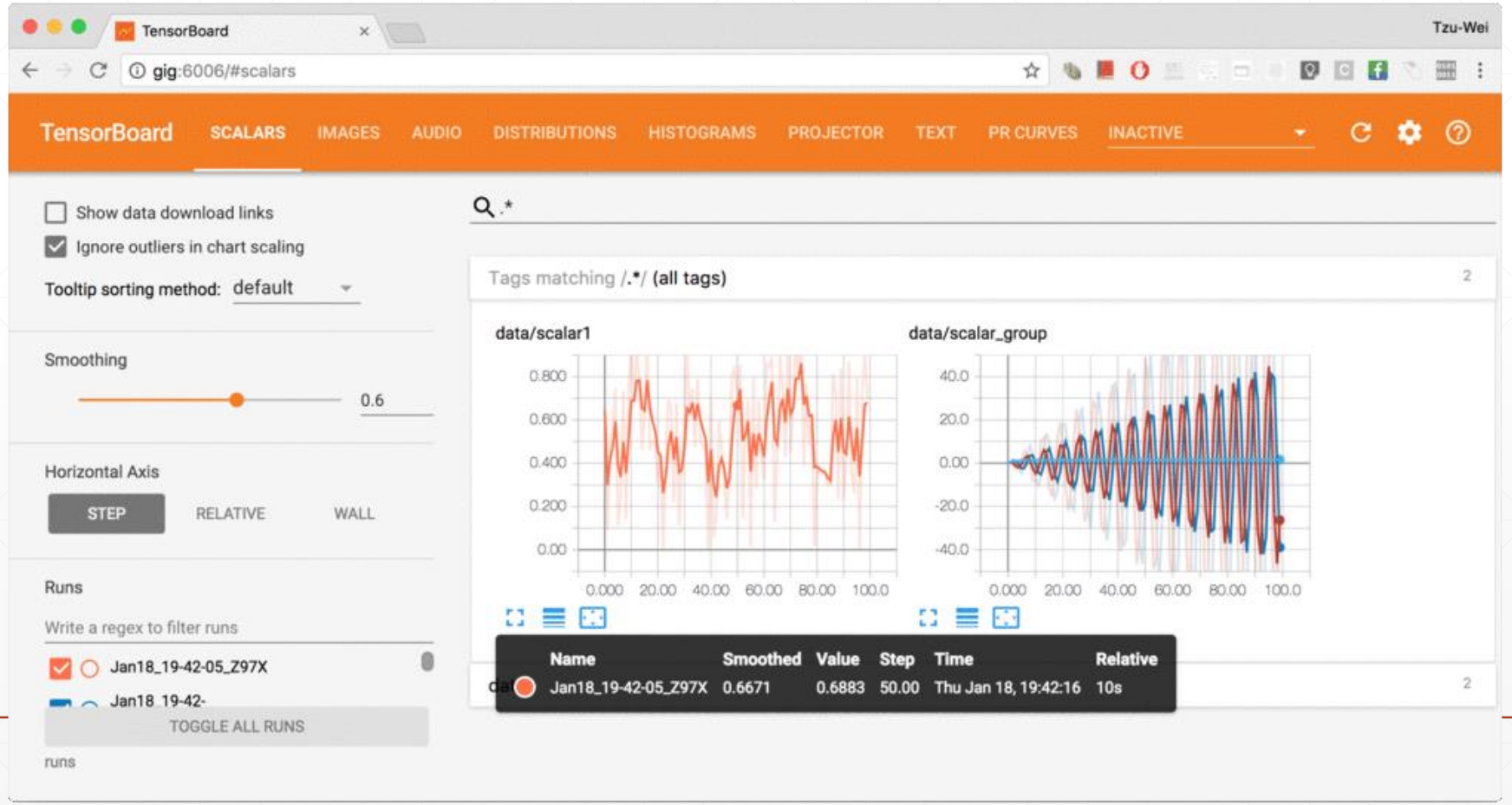
主讲人：龙良曲

TensorBoard?



TensorboardX

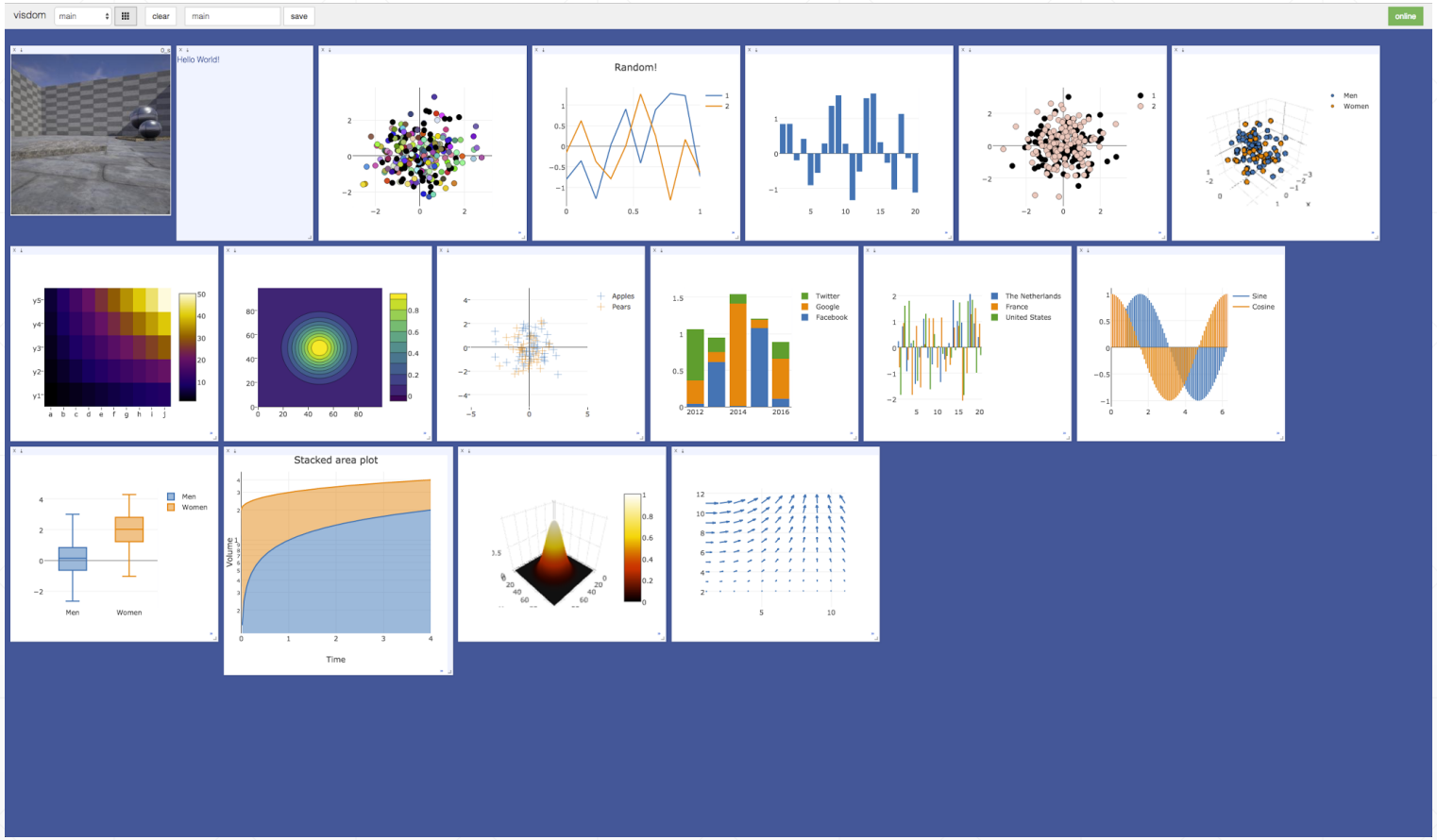
- pip install tensorboardX



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 visdom
  Downloading https://files.pythonhosted.org/packages/c1/48/d90e1519768107811fd6e7760bea46fff9e9c9ffb490441684003ae634a9
/visdom-0.1.8.5.tar.gz (248kB)
    100% |████████████████████████████████| 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: tornado 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)
  Downloading https://files.pythonhosted.org/packages/91/af/5b305f86f2d218091af657ddb53f984ecbd9518ca9fe8ef4103a007252c9
/torchfile-0.1.0.tar.gz
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
```

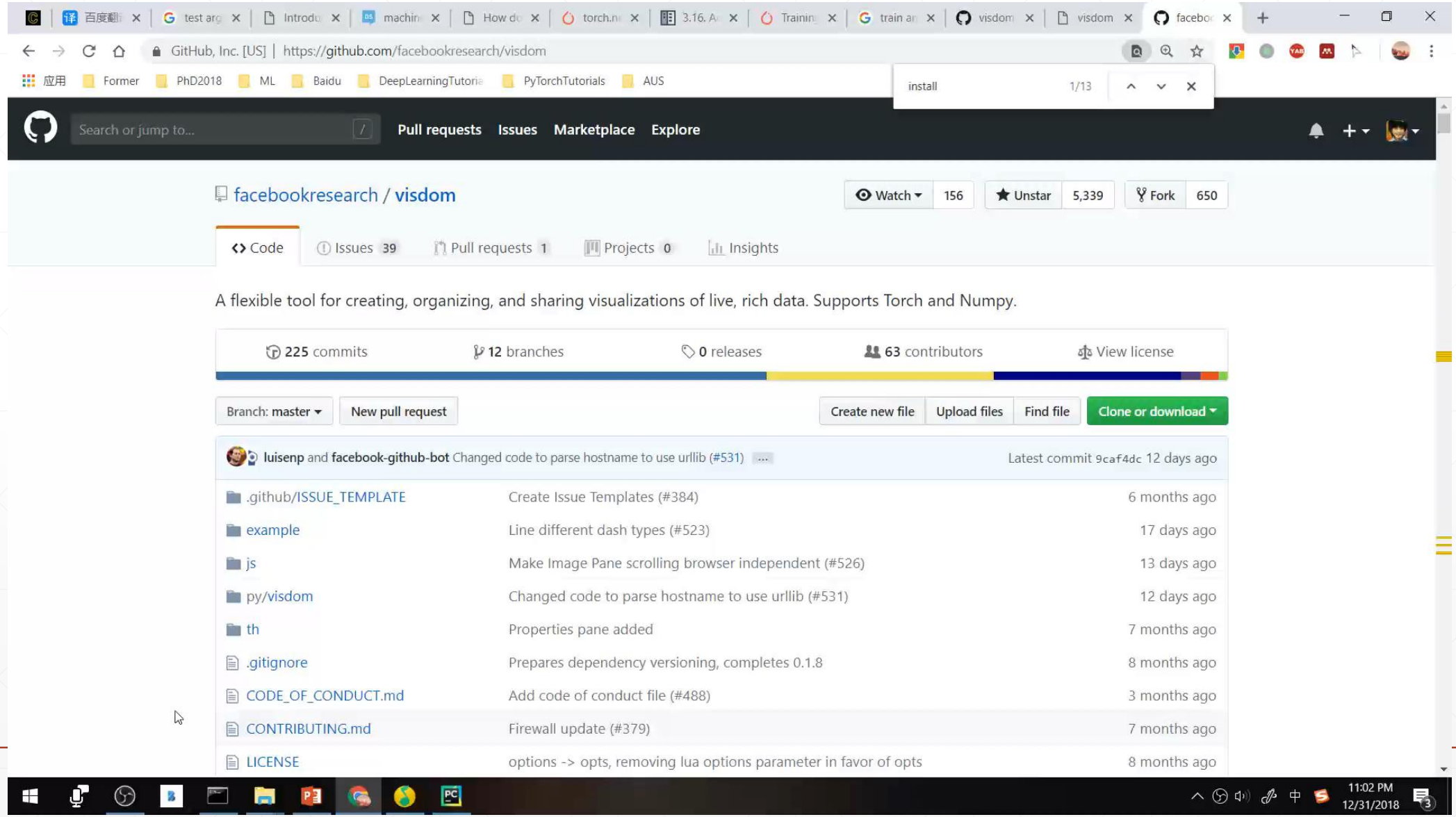
Step2. run server damon

```
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

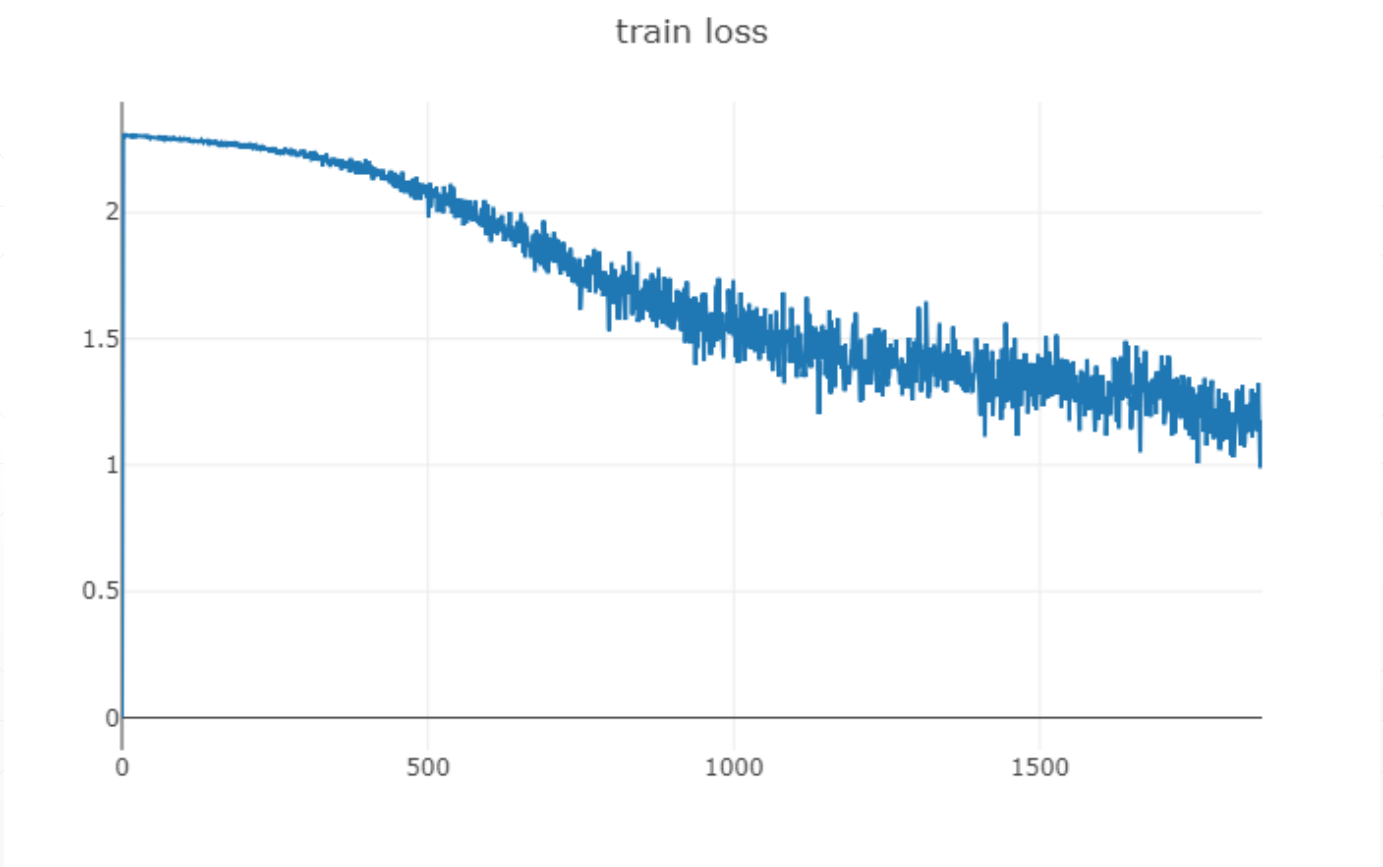
```
C:\Users\drage>python -m visdom.server
Downloading scripts. It might take a while.
ERROR:root:Error 404 while downloading https://unpkg.com/layout-bin-packer@1.4.0
It's Alive!
INFO:root:Application Started
You can navigate to http://localhost:8097
INFO:tornado.access:200 POST /win_exists (::1) 0.00ms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



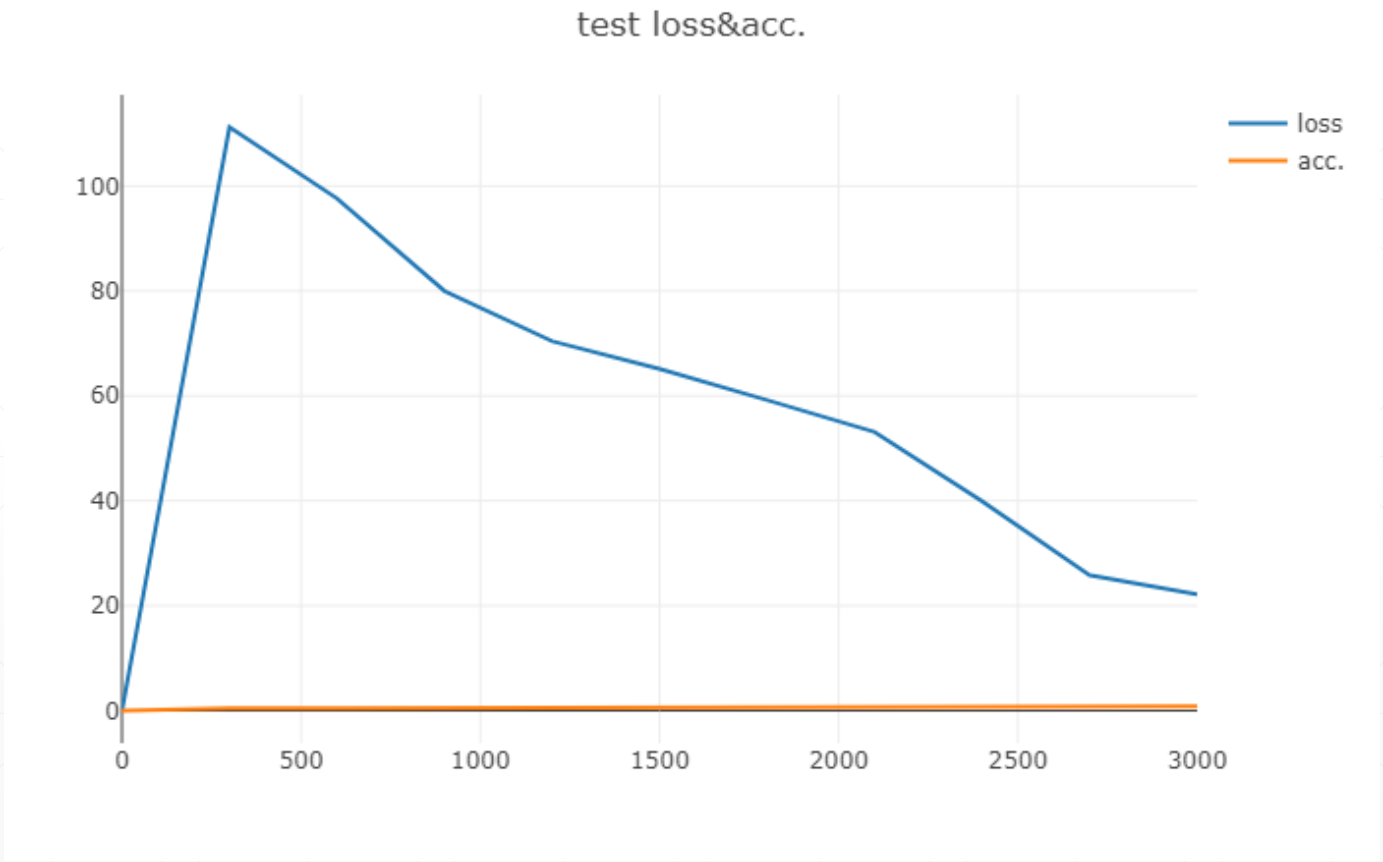
lines: single trace

```
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
2
1.5
1
0.5
0
0
500
1000
1500

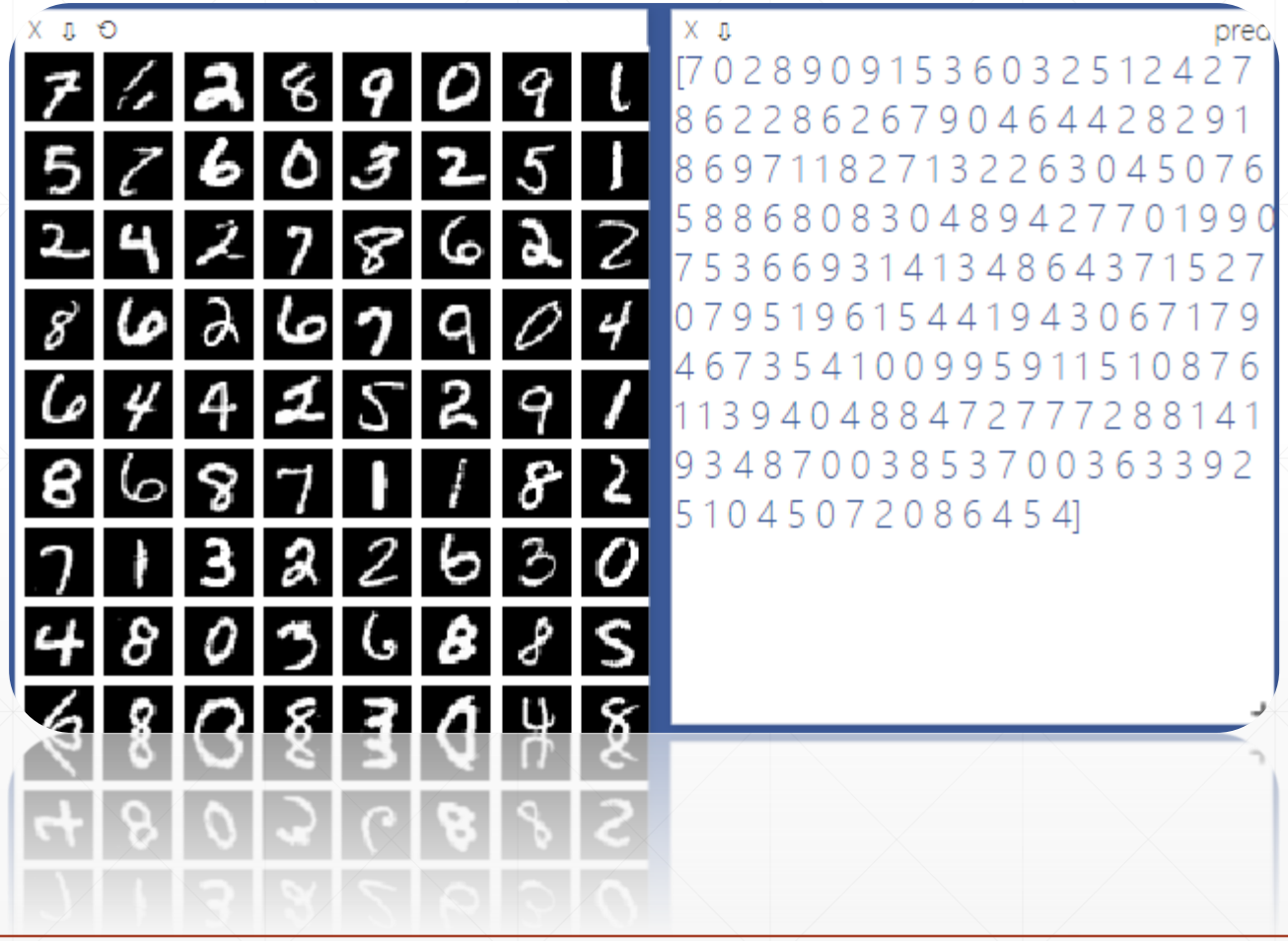
lines: multi-traces

```
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.
loss
acc.
100
80
60
40
20
0
0
500
1000
1500
2000
2500
3000

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
X
prec
[7 0 2 8 9 0 9 1 5 3 6 0 3 2 5 1 2 4 2 7
8 6 2 2 8 6 2 6 7 9 0 4 6 4 4 2 8 2 9 1
8 6 9 7 1 1 8 2 7 1 3 2 2 6 3 0 4 5 0 7 6
5 8 8 6 8 0 8 3 0 4 8 9 4 2 7 7 0 1 9 9 0
7 5 3 6 6 9 3 1 4 1 3 4 8 6 4 3 7 1 5 2 7
0 7 9 5 1 9 6 1 5 4 4 1 9 4 3 0 6 7 1 7 9
4 6 7 3 5 4 1 0 0 9 9 5 9 1 1 5 1 0 8 7 6
1 1 3 9 4 0 4 8 8 4 7 2 7 7 7 2 8 8 1 4 1
9 3 4 8 7 0 0 3 8 5 3 7 0 0 3 6 3 3 9 2
5 1 0 4 5 0 7 2 0 8 6 4 5 4]

下一课时

train-val-test

Thank You.