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In [2]: runfile('C:/Users/Lenovo/Desktop/ShEMO_Train_Phase.py', wdir='C:/Users/Lenovo/Desktop')
```

Using TensorFlow backend.

Hello to Final project in digital speech processing ! ( Simchi and Yazdani )

Writing shEMO data set to file...

Extracting features 1/60 from data set...  
Extracting features 2/60 from data set...  
Extracting features 3/60 from data set...  
Extracting features 4/60 from data set...  
Extracting features 5/60 from data set...  
Extracting features 6/60 from data set...  
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Extracting features 48/60 from data set...

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Extracting features 49/60 from data set...
Extracting features 50/60 from data set...
Extracting features 51/60 from data set...
Extracting features 52/60 from data set...
Extracting features 53/60 from data set...
Extracting features 54/60 from data set...
Extracting features 55/60 from data set...
Extracting features 56/60 from data set...
Extracting features 57/60 from data set...
Extracting features 58/60 from data set...
Extracting features 59/60 from data set...
Extracting features 60/60 from data set...
Saving features to file...
Loading data and features...
WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow_backend.py:
74: The name tf.get_default_graph is deprecated. Please use tf.compat.v1.get_default_graph
instead.

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow_backend.py:
517: The name tf.placeholder is deprecated. Please use tf.compat.v1.placeholder instead.

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow_backend.py:
4138: The name tf.random_uniform is deprecated. Please use tf.random.uniform instead.

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow_backend.py:
133: The name tf.placeholder_with_default is deprecated. Please use
tf.compat.v1.placeholder_with_default instead.

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow_backend.py:
3445: calling dropout (from tensorflow.python.ops.nn_ops) with keep_prob is deprecated and
will be removed in a future version.
Instructions for updating:
Please use `rate` instead of `keep_prob`. Rate should be set to `rate = 1 - keep_prob`.
WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow_backend.py:
2974: where (from tensorflow.python.ops.array_ops) is deprecated and will be removed in a
future version.
Instructions for updating:
Use tf.where in 2.0, which has the same broadcast rule as np.where
WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\optimizers.py:790: The name
tf.train.Optimizer is deprecated. Please use tf.compat.v1.train.Optimizer instead.

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow_backend.py:
3295: The name tf.log is deprecated. Please use tf.math.log instead.

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Layer (type)	Output Shape	Param #	Connected to
=====			
input_2 (InputLayer)	(None, 1024, 36)	0	
=====			
masking_1 (Masking)	(None, 1024, 36)	0	input_2[0][0]
=====			

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dense_2 (Dense)	(None, 1024, 512)	18944	masking_1[0][0]
dropout_1 (Dropout)	(None, 1024, 512)	0	dense_2[0][0]
dense_3 (Dense)	(None, 1024, 512)	262656	dropout_1[0][0]
input_1 (InputLayer)	(None, 256)	0	
dropout_2 (Dropout)	(None, 1024, 512)	0	dense_3[0][0]
dense_1 (Dense)	(None, 256)	65792	input_1[0][0]
bidirectional_1 (Bidirectional)	(None, 1024, 256)	656384	dropout_2[0][0]
dot_1 (Dot)	(None, 1024)	0	dense_1[0][0] bidirectional_1[0][0]
activation_1 (Activation)	(None, 1024)	0	dot_1[0][0]
dot_2 (Dot)	(None, 256)	0	activation_1[0][0] bidirectional_1[0][0]
dense_4 (Dense)	(None, 6)	1542	dot_2[0][0]
=====			
Total params: 1,005,318			
Trainable params: 1,005,318			
Non-trainable params: 0			

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow\_backend.py:986: The name tf.assign\_add is deprecated. Please use tf.compat.v1.assign\_add instead.

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow\_backend.py:973: The name tf.assign is deprecated. Please use tf.compat.v1.assign instead.

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow\_backend.py:2741: The name tf.Session is deprecated. Please use tf.compat.v1.Session instead.

Train on 42 samples, validate on 18 samples

Epoch 1/200

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow\_backend.py:174: The name tf.get\_default\_session is deprecated. Please use tf.compat.v1.get\_default\_session instead.

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow\_backend.py:181: The name tf.ConfigProto is deprecated. Please use tf.compat.v1.ConfigProto instead.

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow\_backend.py:190: The name tf.global\_variables is deprecated. Please use tf.compat.v1.global\_variables instead.

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow\_backend.py:199: The name tf.is\_variable\_initialized is deprecated. Please use tf.compat.v1.is\_variable\_initialized instead.

WARNING:tensorflow:From C:\Anaconda\lib\site-packages\keras\backend\tensorflow\_backend.py:206: The name tf.variables\_initializer is deprecated. Please use tf.compat.v1.variables\_initializer instead.

- 24s - loss: 1.8219 - acc: 0.1429 - val\_loss: 1.7868 - val\_acc: 0.1111

Epoch 00001: val\_acc improved from -inf to 0.11111, saving model to weights\_blstm\_hyperas.h5

Epoch 2/200

- 14s - loss: 1.7420 - acc: 0.3571 - val\_loss: 1.7682 - val\_acc: 0.1111

Epoch 00002: val\_acc did not improve from 0.11111

Epoch 3/200

- 13s - loss: 1.7563 - acc: 0.1905 - val\_loss: 1.7820 - val\_acc: 0.1111

Epoch 00003: val\_acc did not improve from 0.11111

Epoch 4/200

- 13s - loss: 1.8078 - acc: 0.1905 - val\_loss: 1.7921 - val\_acc: 0.1111

Epoch 00004: val\_acc did not improve from 0.11111

Epoch 5/200

- 13s - loss: 1.7224 - acc: 0.2381 - val\_loss: 1.8023 - val\_acc: 0.1111

Epoch 00005: val\_acc did not improve from 0.11111

Epoch 6/200

- 13s - loss: 1.7267 - acc: 0.3333 - val\_loss: 1.8060 - val\_acc: 0.1111

Epoch 00006: val\_acc did not improve from 0.11111

Epoch 7/200

- 14s - loss: 1.6804 - acc: 0.2619 - val\_loss: 1.7981 - val\_acc: 0.1111

Epoch 00007: val\_acc did not improve from 0.11111

Epoch 8/200

- 14s - loss: 1.7062 - acc: 0.3095 - val\_loss: 1.7855 - val\_acc: 0.1111

Epoch 00008: val\_acc did not improve from 0.11111

Epoch 9/200

- 13s - loss: 1.7265 - acc: 0.2857 - val\_loss: 1.7711 - val\_acc: 0.1667

Epoch 00009: val\_acc improved from 0.11111 to 0.16667, saving model to weights\_blstm\_hyperas.h5

Epoch 10/200

- 13s - loss: 1.6943 - acc: 0.3095 - val\_loss: 1.7556 - val\_acc: 0.1667

Epoch 00010: val\_acc did not improve from 0.16667  
Epoch 11/200  
- 14s - loss: 1.6789 - acc: 0.2857 - val\_loss: 1.7438 - val\_acc: 0.2222

Epoch 00011: val\_acc improved from 0.16667 to 0.22222, saving model to weights\_blstm\_hyperas.h5  
Epoch 12/200  
- 12s - loss: 1.7064 - acc: 0.2857 - val\_loss: 1.7390 - val\_acc: 0.2222

Epoch 00012: val\_acc did not improve from 0.22222  
Epoch 13/200  
- 14s - loss: 1.6809 - acc: 0.3095 - val\_loss: 1.7347 - val\_acc: 0.2222

Epoch 00013: val\_acc did not improve from 0.22222  
Epoch 14/200  
- 14s - loss: 1.7325 - acc: 0.3095 - val\_loss: 1.7327 - val\_acc: 0.2222

Epoch 00014: val\_acc did not improve from 0.22222  
Epoch 15/200  
- 14s - loss: 1.6686 - acc: 0.3095 - val\_loss: 1.7347 - val\_acc: 0.2222

Epoch 00015: val\_acc did not improve from 0.22222  
Epoch 16/200  
- 14s - loss: 1.6789 - acc: 0.2857 - val\_loss: 1.7411 - val\_acc: 0.2222

Epoch 00016: val\_acc did not improve from 0.22222  
Epoch 17/200  
- 14s - loss: 1.6441 - acc: 0.3810 - val\_loss: 1.7562 - val\_acc: 0.2222

Epoch 00017: val\_acc did not improve from 0.22222  
Epoch 18/200  
- 13s - loss: 1.6319 - acc: 0.2381 - val\_loss: 1.7664 - val\_acc: 0.2778

Epoch 00018: val\_acc improved from 0.22222 to 0.27778, saving model to weights\_blstm\_hyperas.h5  
Epoch 19/200  
- 13s - loss: 1.6464 - acc: 0.4286 - val\_loss: 1.7702 - val\_acc: 0.2222

Epoch 00019: val\_acc did not improve from 0.27778  
Epoch 20/200  
- 14s - loss: 1.6633 - acc: 0.4048 - val\_loss: 1.7692 - val\_acc: 0.2222

Epoch 00020: val\_acc did not improve from 0.27778  
Epoch 21/200  
- 14s - loss: 1.6139 - acc: 0.3095 - val\_loss: 1.7622 - val\_acc: 0.2222

Epoch 00021: val\_acc did not improve from 0.27778  
Epoch 22/200  
- 14s - loss: 1.6775 - acc: 0.3571 - val\_loss: 1.7502 - val\_acc: 0.2222

Epoch 00022: val\_acc did not improve from 0.27778  
Epoch 23/200  
- 14s - loss: 1.6587 - acc: 0.3571 - val\_loss: 1.7355 - val\_acc: 0.2222

Epoch 00023: val\_acc did not improve from 0.27778

Epoch 24/200  
- 14s - loss: 1.6213 - acc: 0.3333 - val\_loss: 1.7179 - val\_acc: 0.2222

Epoch 00024: val\_acc did not improve from 0.27778

Epoch 25/200  
- 14s - loss: 1.5786 - acc: 0.3571 - val\_loss: 1.7092 - val\_acc: 0.2222

Epoch 00025: val\_acc did not improve from 0.27778

Epoch 26/200  
- 13s - loss: 1.6818 - acc: 0.3333 - val\_loss: 1.6961 - val\_acc: 0.1667

Epoch 00026: val\_acc did not improve from 0.27778

Epoch 27/200  
- 16s - loss: 1.7086 - acc: 0.3571 - val\_loss: 1.6864 - val\_acc: 0.2222

Epoch 00027: val\_acc did not improve from 0.27778

Epoch 28/200  
- 13s - loss: 1.5921 - acc: 0.4286 - val\_loss: 1.6950 - val\_acc: 0.2222

Epoch 00028: val\_acc did not improve from 0.27778

Epoch 29/200  
- 14s - loss: 1.6419 - acc: 0.3095 - val\_loss: 1.7278 - val\_acc: 0.1667

Epoch 00029: val\_acc did not improve from 0.27778

Epoch 30/200  
- 14s - loss: 1.5864 - acc: 0.3571 - val\_loss: 1.7594 - val\_acc: 0.1667

Epoch 00030: val\_acc did not improve from 0.27778

Epoch 31/200  
- 13s - loss: 1.6285 - acc: 0.3571 - val\_loss: 1.7832 - val\_acc: 0.1667

Epoch 00031: val\_acc did not improve from 0.27778

Epoch 32/200  
- 14s - loss: 1.5956 - acc: 0.4048 - val\_loss: 1.7912 - val\_acc: 0.1667

Epoch 00032: val\_acc did not improve from 0.27778

Epoch 33/200  
- 15s - loss: 1.6063 - acc: 0.2857 - val\_loss: 1.7866 - val\_acc: 0.1667

Epoch 00033: val\_acc did not improve from 0.27778

Epoch 34/200  
- 15s - loss: 1.5669 - acc: 0.3571 - val\_loss: 1.7638 - val\_acc: 0.1667

Epoch 00034: val\_acc did not improve from 0.27778

Epoch 35/200  
- 14s - loss: 1.5890 - acc: 0.4524 - val\_loss: 1.7469 - val\_acc: 0.1667

Epoch 00035: val\_acc did not improve from 0.27778

Epoch 36/200  
- 14s - loss: 1.5472 - acc: 0.3810 - val\_loss: 1.7423 - val\_acc: 0.2222

Epoch 00036: val\_acc did not improve from 0.27778

Epoch 37/200  
- 14s - loss: 1.5633 - acc: 0.4048 - val\_loss: 1.7563 - val\_acc: 0.1667

Epoch 00037: val\_acc did not improve from 0.27778  
Epoch 38/200  
- 15s - loss: 1.5831 - acc: 0.3810 - val\_loss: 1.7599 - val\_acc: 0.1667

Epoch 00038: val\_acc did not improve from 0.27778  
Epoch 39/200  
- 16s - loss: 1.5516 - acc: 0.3810 - val\_loss: 1.7728 - val\_acc: 0.1667

Epoch 00039: val\_acc did not improve from 0.27778  
Epoch 40/200  
- 14s - loss: 1.5401 - acc: 0.4286 - val\_loss: 1.7881 - val\_acc: 0.2222

Epoch 00040: val\_acc did not improve from 0.27778  
Epoch 41/200  
- 14s - loss: 1.5561 - acc: 0.4762 - val\_loss: 1.8105 - val\_acc: 0.2222

Epoch 00041: val\_acc did not improve from 0.27778  
Epoch 42/200  
- 14s - loss: 1.5904 - acc: 0.4048 - val\_loss: 1.8347 - val\_acc: 0.2222

Epoch 00042: val\_acc did not improve from 0.27778  
Epoch 43/200  
- 14s - loss: 1.5675 - acc: 0.4048 - val\_loss: 1.8472 - val\_acc: 0.1111

Epoch 00043: val\_acc did not improve from 0.27778  
Epoch 44/200  
- 14s - loss: 1.6311 - acc: 0.3333 - val\_loss: 1.8238 - val\_acc: 0.1111

Epoch 00044: val\_acc did not improve from 0.27778  
Epoch 45/200  
- 14s - loss: 1.5063 - acc: 0.3571 - val\_loss: 1.7946 - val\_acc: 0.1111

Epoch 00045: val\_acc did not improve from 0.27778  
Epoch 46/200  
- 12s - loss: 1.4842 - acc: 0.4286 - val\_loss: 1.7506 - val\_acc: 0.1111

Epoch 00046: val\_acc did not improve from 0.27778  
Epoch 47/200  
- 14s - loss: 1.4824 - acc: 0.3571 - val\_loss: 1.7251 - val\_acc: 0.1111

Epoch 00047: val\_acc did not improve from 0.27778  
Epoch 00047: early stopping  
18/18 [=====] - 2s 95ms/step  
Final validation accuracy: 0.111111119389534  
the result is: {'accuracy': 0.111111119389534, 'model': <keras.engine.training.Model  
object at 0x000001E342331208>}  
Evaluate models:  
No training data found

In [3]: