《Context-Dependent Sentiment Analysis in User-Generated Videos》论文

讨论纯音频的情感分析

原文 model 和 accuracy

```
(62, 63, 100)

Layer (type)                    Output Shape           Param #
=================================================================
input_1 (InputLayer)            (None, 63, 100)         0

masking_1 (Masking)             (None, 63, 100)         0

bidirectional_1 (Bidirection    (None, 63, 600)         962400

dropout_1 (Dropout)             (None, 63, 600)         0

time_distributed_1 (TimeDist    (None, 63, 500)         300500

dropout_2 (Dropout)             (None, 63, 500)         0

time_distributed_2 (TimeDist    (None, 63, 2)           1002
=================================================================
Total params: 1,263,902
Trainable params: 1,263,902
Non-trainable params: 0

Train on 49 samples, validate on 13 samples
```

```
Confusion Matrix :
[[ 14 271]
 [ 22 445]]
Classification Report :
          precision    recall  f1-score   support

       0      0.39      0.05      0.09       285
       1      0.62      0.95      0.75       467

avg / total   0.53      0.61      0.50       752

Accuracy  0.6103723404255319
```
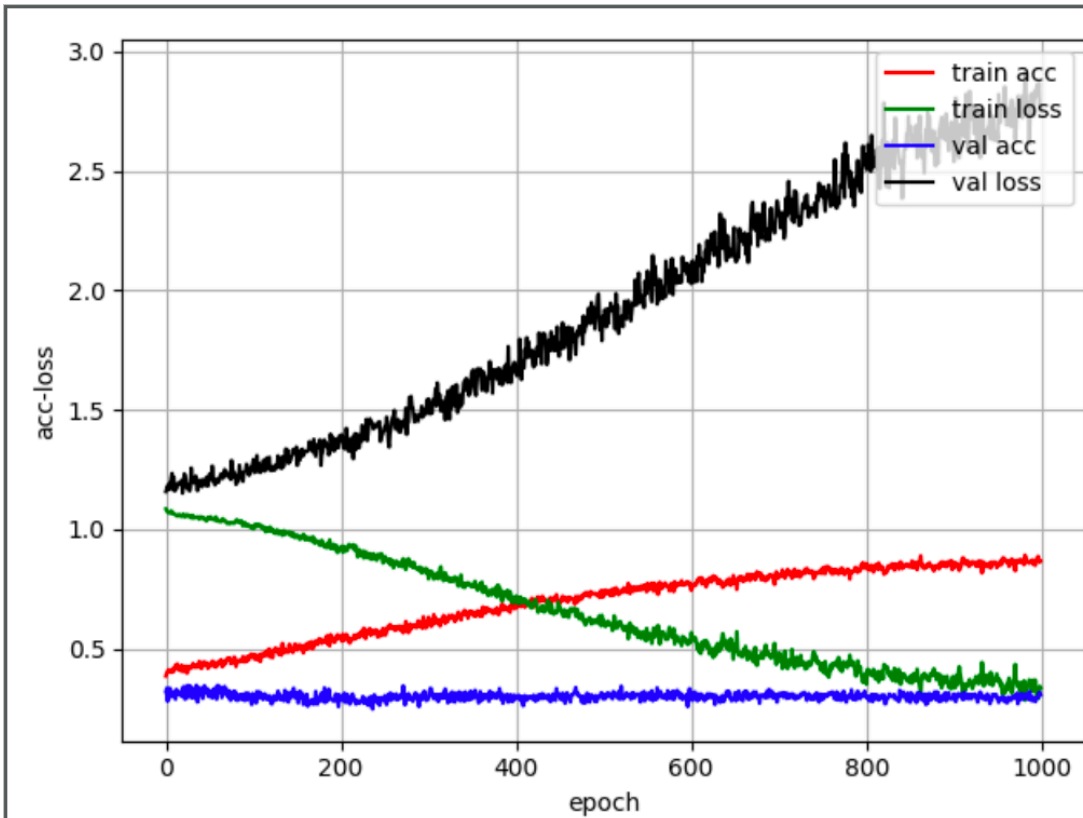
```
model = Sequential()

model.add(Bidirectional(LSTM(units=128, dropout=0.05, recurrent_dropout=0.35, return_sequences=True), input_shape=input
model.add(Bidirectional(LSTM(units=32, dropout=0.05, recurrent_dropout=0.35, return_sequences=False)))
model.add(Dense(units=features.train_Y.shape[1], activation='softmax'))
```



```
1616/1616 [==============================] - 2s 1ms/step - loss: 0.3356 - acc: 0.8670 - val_loss: 2.7511 - val_acc: 0.30

Testing ...

 35/583 [>.............................] - ETA: 0s
245/583 [==========>...................] - ETA: 0s
420/583 [=================>........] - ETA: 0s
560/583 [============================>..] - ETA: 0s
583/583 [==============================] - 0s 331us/step
Test loss:    2.7511029196439845
Test accuracy:    0.3053173314952523
```

出现了过拟合，采用 dropout 和 EarlyStopping 改进模型

```
Layer (type)                    Output Shape          Param #
=================================================================
input_1 (InputLayer)            (None, 10, 204)        0
_____
masking_1 (Masking)             (None, 10, 204)        0
_____
bidirectional_1 (Bidirection    (None, 10, 600)        1212000
_____
dropout_1 (Dropout)             (None, 10, 600)        0
_____
time_distributed_1 (TimeDist    (None, 10, 500)        300500
_____
bidirectional_2 (Bidirection    (None, 64)             136448
_____
dropout_2 (Dropout)             (None, 64)             0
_____
dense_2 (Dense)                 (None, 3)              195
=================================================================
Total params: 1,649,143
Trainable params: 1,649,143
Non-trainable params: 0
```
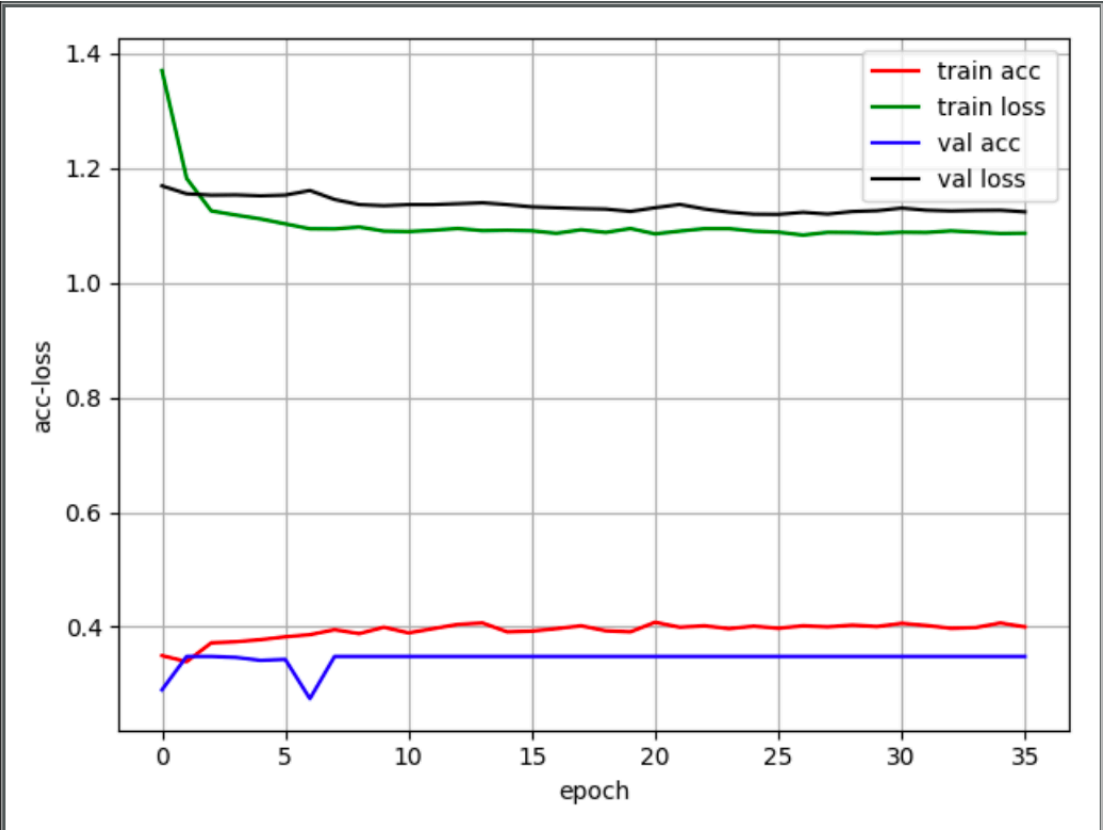
```
Testing ...

 35/583 [>.............................] - ETA: 0s
105/583 [====>.........................] - ETA: 0s
175/583 [========>.....................] - ETA: 0s
245/583 [===========>..................] - ETA: 0s
315/583 [===============>..............] - ETA: 0s
385/583 [==================>...........] - ETA: 0s
455/583 [======================>.......] - ETA: 0s
525/583 [=========================>...] - ETA: 0s
583/583 [==============================] - 1s 959us/step
Test loss:   1.1237921616634414
Test accuracy:   0.3481989797862889
```

但准确率仍然一直没有提高，猜想是 MOSI 数据集数据预处理的问题，但原文中并未详细给出数据处理的过程，所以实验进程遭遇了瓶颈。。。