Preparing the data and the label...

Data preprocessing is done!

Loading the hyperparameter settings...

[(0.4, 16, 0.0001), (0.4, 16, 0.0002), (0.4, 16, 0.001), (0.4, 32, 0.0001), (0.4, 32, 0.0002), (0.4, 32, 0.001), (0.4, 64, 0.0001), (0.4, 64, 0.0002)]

The number of parameter setting is: 27

Building the model...

Coping with the hyperparameter setting: dropout rate: 0.4; batch\_size: 16; learning\_rate: 0.0001

2020-10-21 13:54:41.595429: I tensorflow/stream\_executor/platform/default/dso\_loader.cc:48] Successfully opened dynamic library nvcuda.dll

2020-10-21 13:54:42.801921: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1716] Found device 0 with properties:

pciBusID: 0000:01:00.0 name: GeForce GTX 1650 Ti computeCapability: 7.5

coreClock: 1.485GHz coreCount: 16 deviceMemorySize: 4.00GiB deviceMemoryBandwidth: 178.84GiB/s

2020-10-21 13:54:42.802810: W tensorflow/stream\_executor/platform/default/dso\_loader.cc:59] Could not load dynamic library 'cudart64\_101.dll'; dlerror: cudart64\_101.dll not found

2020-10-21 13:54:42.803393: W tensorflow/stream\_executor/platform/default/dso\_loader.cc:59] Could not load dynamic library 'cublas64\_10.dll'; dlerror: cublas64\_10.dll not found

2020-10-21 13:54:42.807658: I tensorflow/stream\_executor/platform/default/dso\_loader.cc:48] Successfully opened dynamic library cufft64\_10.dll

2020-10-21 13:54:42.809578: I tensorflow/stream\_executor/platform/default/dso\_loader.cc:48] Successfully opened dynamic library curand64\_10.dll

2020-10-21 13:54:42.810330: W tensorflow/stream\_executor/platform/default/dso\_loader.cc:59] Could not load dynamic library 'cusolver64\_10.dll'; dlerror: cusolver64\_10.dll not found

2020-10-21 13:54:42.810922: W tensorflow/stream\_executor/platform/default/dso\_loader.cc:59] Could not load dynamic library 'cusparse64\_10.dll'; dlerror: cusparse64\_10.dll not found

2020-10-21 13:54:42.811512: W tensorflow/stream\_executor/platform/default/dso\_loader.cc:59] Could not load dynamic library 'cudnn64\_7.dll'; dlerror: cudnn64\_7.dll not found

2020-10-21 13:54:42.811708: W tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1753] Cannot dlopen some GPU libraries. Please make sure the missing libraries mentioned above are installed properly if you would like to use GPU. Follow the guide at https://www.tensorflow.org/install/gpu for how to download and setup the required libraries for your platform.

Skipping registering GPU devices...

2020-10-21 13:54:42.812364: I tensorflow/core/platform/cpu\_feature\_guard.cc:142] This TensorFlow binary is optimized with oneAPI Deep Neural Network Library (oneDNN)to use the following CPU instructions in performance-critical operations: AVX2

To enable them in other operations, rebuild TensorFlow with the appropriate compiler flags.

2020-10-21 13:54:42.821805: I tensorflow/compiler/xla/service/service.cc:168] XLA service 0x197b2cbdfe0 initialized for platform Host (this does not guarantee that XLA will be used). Devices:

2020-10-21 13:54:42.822267: I tensorflow/compiler/xla/service/service.cc:176] StreamExecutor device (0): Host, Default Version

2020-10-21 13:54:42.822692: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1257] Device interconnect StreamExecutor with strength 1 edge matrix:

2020-10-21 13:54:42.823019: I tensorflow/core/common\_runtime/gpu/gpu\_device.cc:1263]

Model: "functional\_1"

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Layer (type) Output Shape Param #

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weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 13ms/step - loss: 1.0263 - categorical\_accuracy: 0.7233 - categorical\_crossentropy: 1.0069

The performance on the test data is: [[242 33 8]

[ 56 90 14]

[ 20 35 102]]

The F1 score is: 0.6991136142568327

Coping with the hyperparameter setting: dropout rate: 0.4; batch\_size: 16; learning\_rate: 0.0002

Model: "functional\_3"

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Layer (type) Output Shape Param #

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weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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Epoch 00049: early stopping

10/10 [==============================] - 0s 13ms/step - loss: 0.7927 - categorical\_accuracy: 0.7583 - categorical\_crossentropy: 0.7817

The performance on the test data is: [[246 29 8]

[ 49 107 4]

[ 32 23 102]]

The F1 score is: 0.743390433236261

Coping with the hyperparameter setting: dropout rate: 0.4; batch\_size: 16; learning\_rate: 0.001

Model: "functional\_5"

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Layer (type) Output Shape Param #

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weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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Epoch 00024: early stopping

10/10 [==============================] - 0s 14ms/step - loss: 0.6940 - categorical\_accuracy: 0.7200 - categorical\_crossentropy: 0.6899

The performance on the test data is: [[201 69 13]

[ 28 129 3]

[ 16 39 102]]

The F1 score is: 0.717685291199145

Coping with the hyperparameter setting: dropout rate: 0.4; batch\_size: 32; learning\_rate: 0.0001

Model: "functional\_7"

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Layer (type) Output Shape Param #

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weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 16ms/step - loss: 0.8668 - categorical\_accuracy: 0.7300 - categorical\_crossentropy: 0.8460

The performance on the test data is: [[238 30 15]

[ 42 86 32]

[ 20 23 114]]

The F1 score is: 0.7028995068371606

Coping with the hyperparameter setting: dropout rate: 0.4; batch\_size: 32; learning\_rate: 0.0002

Model: "functional\_9"

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Layer (type) Output Shape Param #

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weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 16ms/step - loss: 0.8430 - categorical\_accuracy: 0.7650 - categorical\_crossentropy: 0.8280

The performance on the test data is: [[236 37 10]

[ 40 110 10]

[ 16 28 113]]

The F1 score is: 0.7522987759851417

Coping with the hyperparameter setting: dropout rate: 0.4; batch\_size: 32; learning\_rate: 0.001

Model: "functional\_11"

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Layer (type) Output Shape Param #

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weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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Epoch 00033: early stopping

10/10 [==============================] - 0s 15ms/step - loss: 0.6401 - categorical\_accuracy: 0.7333 - categorical\_crossentropy: 0.6360

The performance on the test data is: [[208 45 30]

[ 35 111 14]

[ 16 20 121]]

The F1 score is: 0.7265982520073647

Coping with the hyperparameter setting: dropout rate: 0.4; batch\_size: 64; learning\_rate: 0.0001

Model: "functional\_13"

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Layer (type) Output Shape Param #

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weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 17ms/step - loss: 0.9556 - categorical\_accuracy: 0.6750 - categorical\_crossentropy: 0.9270

The performance on the test data is: [[251 14 18]

[ 68 35 57]

[ 27 11 119]]

The F1 score is: 0.5981122353671374

Coping with the hyperparameter setting: dropout rate: 0.4; batch\_size: 64; learning\_rate: 0.0002

Model: "functional\_15"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 17ms/step - loss: 1.0576 - categorical\_accuracy: 0.7300 - categorical\_crossentropy: 1.0356

The performance on the test data is: [[224 45 14]

[ 35 104 21]

[ 17 30 110]]

The F1 score is: 0.7144924232461661

Coping with the hyperparameter setting: dropout rate: 0.4; batch\_size: 64; learning\_rate: 0.001

Model: "functional\_17"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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Epoch 00024: early stopping

10/10 [==============================] - 0s 17ms/step - loss: 0.8312 - categorical\_accuracy: 0.5967 - categorical\_crossentropy: 0.8252

The performance on the test data is: [[213 12 58]

[ 43 5 112]

[ 14 3 140]]

The F1 score is: 0.4751569568336977

Coping with the hyperparameter setting: dropout rate: 0.5; batch\_size: 16; learning\_rate: 0.0001

Model: "functional\_19"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 18ms/step - loss: 0.8832 - categorical\_accuracy: 0.7550 - categorical\_crossentropy: 0.8643

The performance on the test data is: [[238 35 10]

[ 47 102 11]

[ 16 28 113]]

The F1 score is: 0.7397977010828303

Coping with the hyperparameter setting: dropout rate: 0.5; batch\_size: 16; learning\_rate: 0.0002

Model: "functional\_21"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 16ms/step - loss: 0.9175 - categorical\_accuracy: 0.7750 - categorical\_crossentropy: 0.9064

The performance on the test data is: [[246 24 13]

[ 49 100 11]

[ 22 16 119]]

The F1 score is: 0.7600000000000001

Coping with the hyperparameter setting: dropout rate: 0.5; batch\_size: 16; learning\_rate: 0.001

Model: "functional\_23"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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Epoch 00025: early stopping

10/10 [==============================] - 0s 17ms/step - loss: 0.7210 - categorical\_accuracy: 0.7717 - categorical\_crossentropy: 0.7164

The performance on the test data is: [[227 38 18]

[ 29 125 6]

[ 14 32 111]]

The F1 score is: 0.7618252721926613

Coping with the hyperparameter setting: dropout rate: 0.5; batch\_size: 32; learning\_rate: 0.0001

Model: "functional\_25"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 16ms/step - loss: 1.0185 - categorical\_accuracy: 0.7117 - categorical\_crossentropy: 0.9949

The performance on the test data is: [[232 39 12]

[ 53 89 18]

[ 19 32 106]]

The F1 score is: 0.6900864846610192

Coping with the hyperparameter setting: dropout rate: 0.5; batch\_size: 32; learning\_rate: 0.0002

Model: "functional\_27"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 18ms/step - loss: 0.9479 - categorical\_accuracy: 0.7200 - categorical\_crossentropy: 0.9306

The performance on the test data is: [[228 40 15]

[ 40 89 31]

[ 17 25 115]]

The F1 score is: 0.697655440850581

Coping with the hyperparameter setting: dropout rate: 0.5; batch\_size: 32; learning\_rate: 0.001

Model: "functional\_29"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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Epoch 00034: early stopping

10/10 [==============================] - 0s 17ms/step - loss: 0.7231 - categorical\_accuracy: 0.6750 - categorical\_crossentropy: 0.7192

The performance on the test data is: [[249 32 2]

[ 60 75 25]

[ 38 38 81]]

The F1 score is: 0.631200074627232

Coping with the hyperparameter setting: dropout rate: 0.5; batch\_size: 64; learning\_rate: 0.0001

Model: "functional\_31"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 18ms/step - loss: 0.9092 - categorical\_accuracy: 0.6517 - categorical\_crossentropy: 0.8797

The performance on the test data is: [[250 11 22]

[ 59 21 80]

[ 28 9 120]]

The F1 score is: 0.5495507397898582

Coping with the hyperparameter setting: dropout rate: 0.5; batch\_size: 64; learning\_rate: 0.0002

Model: "functional\_33"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 19ms/step - loss: 0.8944 - categorical\_accuracy: 0.7350 - categorical\_crossentropy: 0.8739

The performance on the test data is: [[235 39 9]

[ 49 97 14]

[ 17 31 109]]

The F1 score is: 0.7174639837724462

Coping with the hyperparameter setting: dropout rate: 0.5; batch\_size: 64; learning\_rate: 0.001

Model: "functional\_35"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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Epoch 00025: early stopping

10/10 [==============================] - 0s 18ms/step - loss: 0.7674 - categorical\_accuracy: 0.6850 - categorical\_crossentropy: 0.7583

The performance on the test data is: [[223 54 6]

[ 30 122 8]

[ 17 74 66]]

The F1 score is: 0.6528646407621399

Coping with the hyperparameter setting: dropout rate: 0.6; batch\_size: 16; learning\_rate: 0.0001

Model: "functional\_37"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 16ms/step - loss: 0.9545 - categorical\_accuracy: 0.7250 - categorical\_crossentropy: 0.9327

The performance on the test data is: [[233 39 11]

[ 51 93 16]

[ 21 27 109]]

The F1 score is: 0.7065388036234891

Coping with the hyperparameter setting: dropout rate: 0.6; batch\_size: 16; learning\_rate: 0.0002

Model: "functional\_39"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 15ms/step - loss: 0.9389 - categorical\_accuracy: 0.7650 - categorical\_crossentropy: 0.9246

The performance on the test data is: [[243 31 9]

[ 46 107 7]

[ 23 25 109]]

The F1 score is: 0.750798355923183

Coping with the hyperparameter setting: dropout rate: 0.6; batch\_size: 16; learning\_rate: 0.001

Model: "functional\_41"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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Epoch 00026: early stopping

10/10 [==============================] - 0s 18ms/step - loss: 0.7549 - categorical\_accuracy: 0.6933 - categorical\_crossentropy: 0.7516

The performance on the test data is: [[244 33 6]

[ 50 91 19]

[ 27 49 81]]

The F1 score is: 0.6568210493877152

Coping with the hyperparameter setting: dropout rate: 0.6; batch\_size: 32; learning\_rate: 0.0001

Model: "functional\_43"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 15ms/step - loss: 0.9463 - categorical\_accuracy: 0.6867 - categorical\_crossentropy: 0.9234

The performance on the test data is: [[250 28 5]

[ 66 83 11]

[ 27 51 79]]

The F1 score is: 0.6470780406743736

Coping with the hyperparameter setting: dropout rate: 0.6; batch\_size: 32; learning\_rate: 0.0002

Model: "functional\_45"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 19ms/step - loss: 0.9610 - categorical\_accuracy: 0.7350 - categorical\_crossentropy: 0.9422

The performance on the test data is: [[245 28 10]

[ 57 89 14]

[ 24 26 107]]

The F1 score is: 0.711704000859856

Coping with the hyperparameter setting: dropout rate: 0.6; batch\_size: 32; learning\_rate: 0.001

Model: "functional\_47"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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Epoch 00033: early stopping

10/10 [==============================] - 0s 20ms/step - loss: 0.6644 - categorical\_accuracy: 0.7733 - categorical\_crossentropy: 0.6603

The performance on the test data is: [[238 32 13]

[ 41 112 7]

[ 22 21 114]]

The F1 score is: 0.7626014723402098

Coping with the hyperparameter setting: dropout rate: 0.6; batch\_size: 64; learning\_rate: 0.0001

Model: "functional\_49"

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Layer (type) Output Shape Param #

=================================================================

weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 19ms/step - loss: 0.8454 - categorical\_accuracy: 0.7117 - categorical\_crossentropy: 0.8122

The performance on the test data is: [[245 18 20]

[ 58 63 39]

[ 24 14 119]]

The F1 score is: 0.6692813655924811

Coping with the hyperparameter setting: dropout rate: 0.6; batch\_size: 64; learning\_rate: 0.0002

Model: "functional\_51"

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Layer (type) Output Shape Param #

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weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

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Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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Epoch 00050: early stopping

10/10 [==============================] - 0s 21ms/step - loss: 0.9317 - categorical\_accuracy: 0.7300 - categorical\_crossentropy: 0.9089

The performance on the test data is: [[224 46 13]

[ 42 96 22]

[ 16 23 118]]

The F1 score is: 0.7149933024440589

Coping with the hyperparameter setting: dropout rate: 0.6; batch\_size: 64; learning\_rate: 0.001

Model: "functional\_53"

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Layer (type) Output Shape Param #

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weibo\_input (InputLayer) [(None, 60, 300, 1)] 0

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conv\_1 (Conv2D) (None, 59, 1, 100) 60100

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reshape\_1 (Reshape) (None, 59, 100) 0

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dropout\_1 (Dropout) (None, 59, 100) 0

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lstm\_1 (LSTM) (None, 100) 80400

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dropout\_2 (Dropout) (None, 100) 0

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dense\_1 (Dense) (None, 100) 10100

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output\_dense (Dense) (None, 3) 303

=================================================================

Total params: 150,903

Trainable params: 150,903

Non-trainable params: 0

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10/10 [==============================] - 0s 19ms/step - loss: 0.7869 - categorical\_accuracy: 0.7117 - categorical\_crossentropy: 0.7822

The performance on the test data is: [[251 19 13]

[ 74 69 17]

[ 31 19 107]]

The F1 score is: 0.6767825309864058

Process finished with exit code 0