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C:\ProgramData\Anaconda3\python.exe C:/Users/Joshmiao/Desktop/ABSA-Aspect-Based-Sentimental-Analysis/main.py
CUDA is available.
There are 1 CUDA device(s) on this computer.
Some weights of the model checkpoint at ./BERT_model/ were not used when initializing BertModel: ['cls.predictions
.bias', 'cls.seq_relationship.bias', 'cls.predictions.transform.dense.weight', 'cls.predictions.transform.
LayerNorm.bias', 'cls.predictions.decoder.weight', 'cls.seq_relationship.weight', 'cls.predictions.transform.dense
.bias', 'cls.predictions.transform.LayerNorm.weight']
- This IS expected if you are initializing BertModel from the checkpoint of a model trained on another task or
with another architecture (e.g. initializing a BertForSequenceClassification model from a BertForPreTraining model
).
- This IS NOT expected if you are initializing BertModel from the checkpoint of a model that you expect to be
exactly identical (initializing a BertForSequenceClassification model from a BertForSequenceClassification model).
Some weights of the model checkpoint at ./BERT_model/ were not used when initializing BertModel: ['cls.predictions
.bias', 'cls.seq_relationship.bias', 'cls.predictions.transform.dense.weight', 'cls.predictions.transform.
LayerNorm.bias', 'cls.predictions.decoder.weight', 'cls.seq_relationship.weight', 'cls.predictions.transform.dense
.bias', 'cls.predictions.transform.LayerNorm.weight']
- This IS expected if you are initializing BertModel from the checkpoint of a model trained on another task or
with another architecture (e.g. initializing a BertForSequenceClassification model from a BertForPreTraining model
).
- This IS NOT expected if you are initializing BertModel from the checkpoint of a model that you expect to be
exactly identical (initializing a BertForSequenceClassification model from a BertForSequenceClassification model).
Some weights of the model checkpoint at ./Roberta_model/ were not used when initializing RobertaModel: ['lm_head.
dense.bias', 'lm_head.bias', 'lm_head.layer_norm.bias', 'lm_head.decoder.weight', 'lm_head.layer_norm.weight', '
lm_head.dense.weight']
- This IS expected if you are initializing RobertaModel from the checkpoint of a model trained on another task or
with another architecture (e.g. initializing a BertForSequenceClassification model from a BertForPreTraining model
).
- This IS NOT expected if you are initializing RobertaModel from the checkpoint of a model that you expect to be
exactly identical (initializing a BertForSequenceClassification model from a BertForSequenceClassification model).
max length = 92
max length = 102
max length = 91
max length = 99
94
0 tensor([[ 101, 1045, 2245, ..., 0, 0, 0],
          [ 101, 1045, 19222, ..., 0, 0, 0],
          [ 101, 1996, 10770, ..., 0, 0, 0],
          ...,
          [ 101, 2043, 1045, ..., 0, 0, 0],
          [ 101, 1996, 4274, ..., 0, 0, 0],
          [ 101, 3849, 2066, ..., 0, 0, 0]], device='cuda:0') tensor([[0, 0, 0, ..., 0, 0, 0],
          [0, 0, 0, ..., 0, 0, 0],
          [0, 0, 5, ..., 0, 0, 0],
          ...,
          [0, 0, 0, ..., 0, 0, 0],
          [0, 0, 3, ..., 0, 0, 0],
          [0, 0, 0, ..., 0, 0, 0]], device='cuda:0')
epoch0 :
avg_training_loss = 0.1582076295893243
used time = 15.498342514038086
tot_cnt=45980 acc_cnt=44714 true_cnt=1270 pred_cnt=26 true_pred_cnt=7
acc.=0.972466 pre.=0.269231 rec.=0.005512 f1=0.010802
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epoch1 :
avg_training_loss = 0.06637979568319118
used time = 13.884464740753174
tot_cnt=45980 acc_cnt=45059 true_cnt=1270 pred_cnt=1137 true_pred_cnt=473
acc.=0.979970 pre.=0.416007 rec.=0.372441 f1=0.393020
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epoch2 :
avg_training_loss = 0.04831876146032455
used time = 13.952762603759766
tot_cnt=45980 acc_cnt=45112 true_cnt=1270 pred_cnt=1117 true_pred_cnt=503
acc.=0.981122 pre.=0.450313 rec.=0.396063 f1=0.421450
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epoch3 :
avg_training_loss = 0.038302657452035455
used time = 13.93935227394104
tot_cnt=45980 acc_cnt=45217 true_cnt=1270 pred_cnt=1251 true_pred_cnt=645
acc.=0.983406 pre.=0.515588 rec.=0.507874 f1=0.511702
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epoch4 :

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avg_training_loss = 0.02927826059625504
used time = 13.978509664535522
tot_cnt=45980 acc_cnt=45319 true_cnt=1270 pred_cnt=1302 true_pred_cnt=773
acc.=0.985624 pre.=0.593702 rec.=0.608661 f1=0.601089
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epoch5 :
avg_training_loss = 0.02344741973471134
used time = 14.002530336380005
tot_cnt=45980 acc_cnt=45364 true_cnt=1270 pred_cnt=1241 true_pred_cnt=778
acc.=0.986603 pre.=0.626914 rec.=0.612598 f1=0.619673
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epoch6 :
avg_training_loss = 0.018038180280239024
used time = 14.01811695098877
tot_cnt=45980 acc_cnt=45344 true_cnt=1270 pred_cnt=1197 true_pred_cnt=740
acc.=0.986168 pre.=0.618212 rec.=0.582677 f1=0.599919
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epoch7 :
avg_training_loss = 0.014634065171505542
used time = 14.037575960159302
tot_cnt=45980 acc_cnt=45342 true_cnt=1270 pred_cnt=1177 true_pred_cnt=731
acc.=0.986124 pre.=0.621071 rec.=0.575591 f1=0.597466
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epoch8 :
avg_training_loss = 0.011246554394985767
used time = 14.036505222320557
tot_cnt=45980 acc_cnt=45361 true_cnt=1270 pred_cnt=1174 true_pred_cnt=756
acc.=0.986538 pre.=0.643952 rec.=0.595276 f1=0.618658
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epoch9 :
avg_training_loss = 0.009220222843454239
used time = 14.034413576126099
tot_cnt=45980 acc_cnt=45363 true_cnt=1270 pred_cnt=1189 true_pred_cnt=750
acc.=0.986581 pre.=0.630782 rec.=0.590551 f1=0.610004
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epoch10 :
avg_training_loss = 0.007415732804765093
used time = 14.037882089614868
tot_cnt=45980 acc_cnt=45383 true_cnt=1270 pred_cnt=1228 true_pred_cnt=782
acc.=0.987016 pre.=0.636808 rec.=0.615748 f1=0.626101
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epoch11 :
avg_training_loss = 0.0060933676171810065
used time = 14.061450004577637
tot_cnt=45980 acc_cnt=45374 true_cnt=1270 pred_cnt=1280 true_pred_cnt=806
acc.=0.986820 pre.=0.629687 rec.=0.634646 f1=0.632157
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epoch12 :
avg_training_loss = 0.005552707834446684
used time = 14.06001901626587
tot_cnt=45980 acc_cnt=45377 true_cnt=1270 pred_cnt=1214 true_pred_cnt=769
acc.=0.986886 pre.=0.633443 rec.=0.605512 f1=0.619163
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epoch13 :
avg_training_loss = 0.0045502176310153715
used time = 14.087580442428589
tot_cnt=45980 acc_cnt=45389 true_cnt=1270 pred_cnt=1162 true_pred_cnt=768
acc.=0.987147 pre.=0.660929 rec.=0.604724 f1=0.631579
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epoch14 :
avg_training_loss = 0.004573219000024998
used time = 14.062528371810913
tot_cnt=45980 acc_cnt=45379 true_cnt=1270 pred_cnt=1251 true_pred_cnt=784
acc.=0.986929 pre.=0.626699 rec.=0.617323 f1=0.621975
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epoch15 :
avg_training_loss = 0.0042762553438227225
used time = 14.089332103729248
tot_cnt=45980 acc_cnt=45349 true_cnt=1270 pred_cnt=1199 true_pred_cnt=738
acc.=0.986277 pre.=0.615513 rec.=0.581102 f1=0.597813
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epoch16 :
avg_training_loss = 0.003237947187525161
used time = 14.09121036529541
tot_cnt=45980 acc_cnt=45385 true_cnt=1270 pred_cnt=1166 true_pred_cnt=760
acc.=0.987060 pre.=0.651801 rec.=0.598425 f1=0.623974
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epoch17 :
avg_training_loss = 0.0031065275060369615
used time = 14.057736873626709
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tot_cnt=45980 acc_cnt=45406 true_cnt=1270 pred_cnt=1206 true_pred_cnt=793
acc.=0.987516 pre.=0.657546 rec.=0.624409 f1=0.640549
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epoch18 :
avg_training_loss = 0.00273841048808808
used time = 14.093705654144287
tot_cnt=45980 acc_cnt=45365 true_cnt=1270 pred_cnt=1166 true_pred_cnt=744
acc.=0.986625 pre.=0.638079 rec.=0.585827 f1=0.610837
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epoch19 :
avg_training_loss = 0.002800047714659508
used time = 14.134063720703125
tot_cnt=45980 acc_cnt=45364 true_cnt=1270 pred_cnt=1155 true_pred_cnt=744
acc.=0.986603 pre.=0.644156 rec.=0.585827 f1=0.613608
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epoch20 :
avg_training_loss = 0.0029850877979968457
used time = 14.075494289398193
tot_cnt=45980 acc_cnt=45362 true_cnt=1270 pred_cnt=1203 true_pred_cnt=753
acc.=0.986559 pre.=0.625935 rec.=0.592913 f1=0.608977
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epoch21 :
avg_training_loss = 0.002863895385823351
used time = 14.093950748443604
tot_cnt=45980 acc_cnt=45324 true_cnt=1270 pred_cnt=1177 true_pred_cnt=709
acc.=0.985733 pre.=0.602379 rec.=0.558268 f1=0.579485
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epoch22 :
avg_training_loss = 0.0029207287316626693
used time = 14.089683771133423
tot_cnt=45980 acc_cnt=45349 true_cnt=1270 pred_cnt=1203 true_pred_cnt=742
acc.=0.986277 pre.=0.616791 rec.=0.584252 f1=0.600081
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epoch23 :
avg_training_loss = 0.00255924051112317
used time = 14.07758355140686
tot_cnt=45980 acc_cnt=45356 true_cnt=1270 pred_cnt=1200 true_pred_cnt=750
acc.=0.986429 pre.=0.625000 rec.=0.590551 f1=0.607287
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epoch24 :
avg_training_loss = 0.0026451444372217704
used time = 14.090142250061035
tot_cnt=45980 acc_cnt=45369 true_cnt=1270 pred_cnt=1216 true_pred_cnt=772
acc.=0.986712 pre.=0.634868 rec.=0.607874 f1=0.621078
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epoch25 :
avg_training_loss = 0.0025703231704995986
used time = 14.07685136795044
tot_cnt=45980 acc_cnt=45370 true_cnt=1270 pred_cnt=1220 true_pred_cnt=766
acc.=0.986733 pre.=0.627869 rec.=0.603150 f1=0.615261
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epoch26 :
avg_training_loss = 0.0020972236673882667
used time = 14.10943078994751
tot_cnt=45980 acc_cnt=45359 true_cnt=1270 pred_cnt=1191 true_pred_cnt=750
acc.=0.986494 pre.=0.629723 rec.=0.590551 f1=0.609508
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epoch27 :
avg_training_loss = 0.002007722537568275
used time = 14.080877780914307
tot_cnt=45980 acc_cnt=45361 true_cnt=1270 pred_cnt=1200 true_pred_cnt=757
acc.=0.986538 pre.=0.630833 rec.=0.596063 f1=0.612955
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epoch28 :
avg_training_loss = 0.0020610981799186546
used time = 14.132079362869263
tot_cnt=45980 acc_cnt=45352 true_cnt=1270 pred_cnt=1187 true_pred_cnt=743
acc.=0.986342 pre.=0.625948 rec.=0.585039 f1=0.604803
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epoch29 :
avg_training_loss = 0.002193495155648982
used time = 14.099125623703003
tot_cnt=45980 acc_cnt=45388 true_cnt=1270 pred_cnt=1211 true_pred_cnt=786
acc.=0.987125 pre.=0.649050 rec.=0.618898 f1=0.633615
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epoch30 :
avg_training_loss = 0.0021024772778470468
used time = 14.100556373596191
tot_cnt=45980 acc_cnt=45359 true_cnt=1270 pred_cnt=1274 true_pred_cnt=793
acc.=0.986494 pre.=0.622449 rec.=0.624409 f1=0.623428
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epoch31 :
avg_training_loss = 0.002394614860098413
used time = 14.08614444732666
tot_cnt=45980 acc_cnt=45337 true_cnt=1270 pred_cnt=1169 true_pred_cnt=717
acc.=0.986016 pre.=0.613345 rec.=0.564567 f1=0.587946
-----
epoch32 :
avg_training_loss = 0.002295885314332678
used time = 14.101019620895386
tot_cnt=45980 acc_cnt=45360 true_cnt=1270 pred_cnt=1216 true_pred_cnt=759
acc.=0.986516 pre.=0.624178 rec.=0.597638 f1=0.610619
-----
epoch33 :
avg_training_loss = 0.0024204509372406815
used time = 14.10142183303833
tot_cnt=45980 acc_cnt=45347 true_cnt=1270 pred_cnt=1168 true_pred_cnt=733
acc.=0.986233 pre.=0.627568 rec.=0.577165 f1=0.601313
-----
epoch34 :
avg_training_loss = 0.0021817979026348033
used time = 14.102143287658691
tot_cnt=45980 acc_cnt=45361 true_cnt=1270 pred_cnt=1249 true_pred_cnt=777
acc.=0.986538 pre.=0.622098 rec.=0.611811 f1=0.616911
-----
epoch35 :
avg_training_loss = 0.0020648676981317236
used time = 14.106401920318604
tot_cnt=45980 acc_cnt=45363 true_cnt=1270 pred_cnt=1211 true_pred_cnt=763
acc.=0.986581 pre.=0.630058 rec.=0.600787 f1=0.615075
-----
epoch36 :
avg_training_loss = 0.0018610781494607317
used time = 14.117918729782104
tot_cnt=45980 acc_cnt=45368 true_cnt=1270 pred_cnt=1217 true_pred_cnt=763
acc.=0.986690 pre.=0.626952 rec.=0.600787 f1=0.613591
-----
epoch37 :
avg_training_loss = 0.001890705462465895
used time = 14.117457151412964
tot_cnt=45980 acc_cnt=45396 true_cnt=1270 pred_cnt=1166 true_pred_cnt=770
acc.=0.987299 pre.=0.660377 rec.=0.606299 f1=0.632184
-----
epoch38 :
avg_training_loss = 0.002026902234300654
used time = 14.103641510009766
tot_cnt=45980 acc_cnt=45348 true_cnt=1270 pred_cnt=1123 true_pred_cnt=712
acc.=0.986255 pre.=0.634016 rec.=0.560630 f1=0.595069
-----
epoch39 :
avg_training_loss = 0.0023039725232631603
used time = 14.118637323379517
tot_cnt=45980 acc_cnt=45365 true_cnt=1270 pred_cnt=1182 true_pred_cnt=748
acc.=0.986625 pre.=0.632826 rec.=0.588976 f1=0.610114
-----
epoch0 :
avg_training_loss = 0.12907818530468232
used time = 14.987639904022217
tot_cnt=45980 acc_cnt=44873 true_cnt=1270 pred_cnt=509 true_pred_cnt=202
acc.=0.975924 pre.=0.396857 rec.=0.159055 f1=0.227094
-----
epoch1 :
avg_training_loss = 0.057876703586984185
used time = 14.986011028289795
tot_cnt=45980 acc_cnt=45076 true_cnt=1270 pred_cnt=1024 true_pred_cnt=466
acc.=0.980339 pre.=0.455078 rec.=0.366929 f1=0.406277
-----
epoch2 :
avg_training_loss = 0.04208823467822785
used time = 14.976067543029785
tot_cnt=45980 acc_cnt=45195 true_cnt=1270 pred_cnt=1007 true_pred_cnt=567
acc.=0.982927 pre.=0.563059 rec.=0.446457 f1=0.498024
-----
epoch3 :
avg_training_loss = 0.03216640239066266
used time = 15.010784387588501
tot_cnt=45980 acc_cnt=45263 true_cnt=1270 pred_cnt=1166 true_pred_cnt=662
acc.=0.984406 pre.=0.567753 rec.=0.521260 f1=0.543514
-----
epoch4 :
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```
avg_training_loss = 0.025210733109332147
used time = 14.994999647140503
tot_cnt=45980 acc_cnt=45344 true_cnt=1270 pred_cnt=1212 true_pred_cnt=752
acc.=0.986168 pre.=0.620462 rec.=0.592126 f1=0.605963
-----

epoch5 :
avg_training_loss = 0.018854397408505703
used time = 14.990114688873291
tot_cnt=45980 acc_cnt=45365 true_cnt=1270 pred_cnt=1177 true_pred_cnt=759
acc.=0.986625 pre.=0.644860 rec.=0.597638 f1=0.620351
-----

epoch6 :
avg_training_loss = 0.015336480546504893
used time = 15.007311582565308
tot_cnt=45980 acc_cnt=45375 true_cnt=1270 pred_cnt=1194 true_pred_cnt=770
acc.=0.986842 pre.=0.644891 rec.=0.606299 f1=0.625000
-----

epoch7 :
avg_training_loss = 0.011378951529239087
used time = 14.992497682571411
tot_cnt=45980 acc_cnt=45377 true_cnt=1270 pred_cnt=1187 true_pred_cnt=770
acc.=0.986886 pre.=0.648694 rec.=0.606299 f1=0.626781
-----

epoch8 :
avg_training_loss = 0.009194263752470625
used time = 15.024073123931885
tot_cnt=45980 acc_cnt=45400 true_cnt=1270 pred_cnt=1183 true_pred_cnt=787
acc.=0.987386 pre.=0.665258 rec.=0.619685 f1=0.641663
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epoch9 :
avg_training_loss = 0.007856414673176217
used time = 15.059823989868164
tot_cnt=45980 acc_cnt=45375 true_cnt=1270 pred_cnt=1116 true_pred_cnt=752
acc.=0.986842 pre.=0.673835 rec.=0.592126 f1=0.630344
-----

epoch10 :
avg_training_loss = 0.006394452871160305
used time = 15.184341430664062
tot_cnt=45980 acc_cnt=45374 true_cnt=1270 pred_cnt=1229 true_pred_cnt=785
acc.=0.986820 pre.=0.638731 rec.=0.618110 f1=0.628251
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epoch11 :
avg_training_loss = 0.006080392193286977
used time = 15.104270935058594
tot_cnt=45980 acc_cnt=45370 true_cnt=1270 pred_cnt=1083 true_pred_cnt=736
acc.=0.986733 pre.=0.679594 rec.=0.579528 f1=0.625584
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epoch12 :
avg_training_loss = 0.00530263401092367
used time = 14.994343996047974
tot_cnt=45980 acc_cnt=45405 true_cnt=1270 pred_cnt=1191 true_pred_cnt=791
acc.=0.987495 pre.=0.664148 rec.=0.622835 f1=0.642828
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epoch13 :
avg_training_loss = 0.00389419749696204
used time = 14.990792274475098
tot_cnt=45980 acc_cnt=45405 true_cnt=1270 pred_cnt=1202 true_pred_cnt=800
acc.=0.987495 pre.=0.665557 rec.=0.629921 f1=0.647249
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epoch14 :
avg_training_loss = 0.0036003966914846543
used time = 14.994158029556274
tot_cnt=45980 acc_cnt=45389 true_cnt=1270 pred_cnt=1155 true_pred_cnt=765
acc.=0.987147 pre.=0.662338 rec.=0.602362 f1=0.630928
-----

epoch15 :
avg_training_loss = 0.0035249917431080593
used time = 14.993053674697876
tot_cnt=45980 acc_cnt=45415 true_cnt=1270 pred_cnt=1220 true_pred_cnt=806
acc.=0.987712 pre.=0.660656 rec.=0.634646 f1=0.647390
-----

epoch16 :
avg_training_loss = 0.0035566830254615623
used time = 15.007834672927856
tot_cnt=45980 acc_cnt=45382 true_cnt=1270 pred_cnt=1125 true_pred_cnt=749
acc.=0.986994 pre.=0.665778 rec.=0.589764 f1=0.625470
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epoch17 :
avg_training_loss = 0.0030901955163225216
used time = 15.0081946849823
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tot_cnt=45980 acc_cnt=45405 true_cnt=1270 pred_cnt=1163 true_pred_cnt=785
acc.=0.987495 pre.=0.674979 rec.=0.618110 f1=0.645294
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epoch18 :
avg_training_loss = 0.0030037846336973474
used time = 15.02594256401062
tot_cnt=45980 acc_cnt=45414 true_cnt=1270 pred_cnt=1176 true_pred_cnt=792
acc.=0.987690 pre.=0.673469 rec.=0.623622 f1=0.647588
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```
epoch19 :
avg_training_loss = 0.0029419825432148387
used time = 15.011021852493286
tot_cnt=45980 acc_cnt=45413 true_cnt=1270 pred_cnt=1166 true_pred_cnt=788
acc.=0.987669 pre.=0.675815 rec.=0.620472 f1=0.646962
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epoch20 :
avg_training_loss = 0.002729594390443031
used time = 14.99146056175232
tot_cnt=45980 acc_cnt=45420 true_cnt=1270 pred_cnt=1188 true_pred_cnt=800
acc.=0.987821 pre.=0.673401 rec.=0.629921 f1=0.650936
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```
epoch21 :
avg_training_loss = 0.0026002343981824023
used time = 15.007630109786987
tot_cnt=45980 acc_cnt=45398 true_cnt=1270 pred_cnt=1207 true_pred_cnt=784
acc.=0.987342 pre.=0.649544 rec.=0.617323 f1=0.633024
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```
epoch22 :
avg_training_loss = 0.002919041412941953
used time = 14.995790004730225
tot_cnt=45980 acc_cnt=45394 true_cnt=1270 pred_cnt=1135 true_pred_cnt=757
acc.=0.987255 pre.=0.666960 rec.=0.596063 f1=0.629522
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```
epoch23 :
avg_training_loss = 0.0026652239104534717
used time = 15.16097092628479
tot_cnt=45980 acc_cnt=45398 true_cnt=1270 pred_cnt=1157 true_pred_cnt=767
acc.=0.987342 pre.=0.662921 rec.=0.603937 f1=0.632056
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```
epoch24 :
avg_training_loss = 0.0024075240213820275
used time = 15.116628885269165
tot_cnt=45980 acc_cnt=45403 true_cnt=1270 pred_cnt=1233 true_pred_cnt=800
acc.=0.987451 pre.=0.648824 rec.=0.629921 f1=0.639233
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```
epoch25 :
avg_training_loss = 0.0022838992324281247
used time = 15.119035959243774
tot_cnt=45980 acc_cnt=45386 true_cnt=1270 pred_cnt=1163 true_pred_cnt=760
acc.=0.987081 pre.=0.653482 rec.=0.598425 f1=0.624743
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```
epoch26 :
avg_training_loss = 0.0024087391001112917
used time = 15.0572030544281
tot_cnt=45980 acc_cnt=45401 true_cnt=1270 pred_cnt=1138 true_pred_cnt=764
acc.=0.987408 pre.=0.671353 rec.=0.601575 f1=0.634551
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epoch27 :
avg_training_loss = 0.0021137500062901925
used time = 15.11611819267273
tot_cnt=45980 acc_cnt=45415 true_cnt=1270 pred_cnt=1209 true_pred_cnt=797
acc.=0.987712 pre.=0.659222 rec.=0.627559 f1=0.643001
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```
epoch28 :
avg_training_loss = 0.001991015006887152
used time = 15.116899490356445
tot_cnt=45980 acc_cnt=45414 true_cnt=1270 pred_cnt=1183 true_pred_cnt=788
acc.=0.987690 pre.=0.666103 rec.=0.620472 f1=0.642479
-----
```

```
epoch29 :
avg_training_loss = 0.0021397233643430345
used time = 15.114795684814453
tot_cnt=45980 acc_cnt=45395 true_cnt=1270 pred_cnt=1228 true_pred_cnt=790
acc.=0.987277 pre.=0.643322 rec.=0.622047 f1=0.632506
-----
```

```
epoch30 :
avg_training_loss = 0.00211995744958837
used time = 14.993459939956665
tot_cnt=45980 acc_cnt=45401 true_cnt=1270 pred_cnt=1165 true_pred_cnt=770
acc.=0.987408 pre.=0.660944 rec.=0.606299 f1=0.632444
```

```
-----
epoch31 :
avg_training_loss = 0.00209915669674569
used time = 15.007987976074219
tot_cnt=45980 acc_cnt=45435 true_cnt=1270 pred_cnt=1223 true_pred_cnt=818
acc.=0.988147 pre.=0.668847 rec.=0.644094 f1=0.656237
-----

epoch32 :
avg_training_loss = 0.0021396116056340807
used time = 15.011288404464722
tot_cnt=45980 acc_cnt=45394 true_cnt=1270 pred_cnt=1081 true_pred_cnt=743
acc.=0.987255 pre.=0.687327 rec.=0.585039 f1=0.632071
-----

epoch33 :
avg_training_loss = 0.002034099336634291
used time = 15.0131094455719
tot_cnt=45980 acc_cnt=45401 true_cnt=1270 pred_cnt=1256 true_pred_cnt=814
acc.=0.987408 pre.=0.648089 rec.=0.640945 f1=0.644497
-----

epoch34 :
avg_training_loss = 0.0021327477186284167
used time = 15.032498836517334
tot_cnt=45980 acc_cnt=45398 true_cnt=1270 pred_cnt=1127 true_pred_cnt=762
acc.=0.987342 pre.=0.676131 rec.=0.600000 f1=0.635795
-----

epoch35 :
avg_training_loss = 0.0031290485503825734
used time = 15.009440183639526
tot_cnt=45980 acc_cnt=45407 true_cnt=1270 pred_cnt=1245 true_pred_cnt=809
acc.=0.987538 pre.=0.649799 rec.=0.637008 f1=0.643340
-----

epoch36 :
avg_training_loss = 0.0021963797985239232
used time = 15.007500171661377
tot_cnt=45980 acc_cnt=45407 true_cnt=1270 pred_cnt=1150 true_pred_cnt=779
acc.=0.987538 pre.=0.677391 rec.=0.613386 f1=0.643802
-----

epoch37 :
avg_training_loss = 0.0018754241631386127
used time = 15.039744138717651
tot_cnt=45980 acc_cnt=45408 true_cnt=1270 pred_cnt=1119 true_pred_cnt=767
acc.=0.987560 pre.=0.685433 rec.=0.603937 f1=0.642110
-----

epoch38 :
avg_training_loss = 0.00223939152474099
used time = 15.008289098739624
tot_cnt=45980 acc_cnt=45409 true_cnt=1270 pred_cnt=1176 true_pred_cnt=778
acc.=0.987582 pre.=0.661565 rec.=0.612598 f1=0.636141
-----

epoch39 :
avg_training_loss = 0.0023608340861949514
used time = 15.015537738800049
tot_cnt=45980 acc_cnt=45393 true_cnt=1270 pred_cnt=1135 true_pred_cnt=754
acc.=0.987234 pre.=0.664317 rec.=0.593701 f1=0.627027
-----

epoch0 :
avg_training_loss = 0.17921198175308553
used time = 14.569929122924805
tot_cnt=45980 acc_cnt=44682 true_cnt=1298 pred_cnt=0 true_pred_cnt=0
acc.=0.971770 pre.=0.000000 rec.=0.000000 f1=0.000000
-----

epoch1 :
avg_training_loss = 0.08205751155285125
used time = 14.585989952087402
tot_cnt=45980 acc_cnt=44873 true_cnt=1298 pred_cnt=653 true_pred_cnt=220
acc.=0.975924 pre.=0.336907 rec.=0.169492 f1=0.225525
-----

epoch2 :
avg_training_loss = 0.06743985034049825
used time = 14.58357548713684
tot_cnt=45980 acc_cnt=45041 true_cnt=1298 pred_cnt=1091 true_pred_cnt=447
acc.=0.979578 pre.=0.409716 rec.=0.344376 f1=0.374215
-----

epoch3 :
avg_training_loss = 0.04964858927625291
used time = 14.586092948913574
tot_cnt=45980 acc_cnt=45263 true_cnt=1298 pred_cnt=1200 true_pred_cnt=685
acc.=0.984406 pre.=0.570833 rec.=0.527735 f1=0.548439
-----

epoch4 :
```

```
avg_training_loss = 0.036692449387083666
used time = 14.575420141220093
tot_cnt=45980 acc_cnt=45437 true_cnt=1298 pred_cnt=1256 true_pred_cnt=856
acc.=0.988191 pre.=0.681529 rec.=0.659476 f1=0.670321
-----

epoch5 :
avg_training_loss = 0.029480710942694482
used time = 14.586315393447876
tot_cnt=45980 acc_cnt=45428 true_cnt=1298 pred_cnt=1096 true_pred_cnt=802
acc.=0.987995 pre.=0.731752 rec.=0.617874 f1=0.670008
-----

epoch6 :
avg_training_loss = 0.0244136059537847
used time = 14.577520370483398
tot_cnt=45980 acc_cnt=45424 true_cnt=1298 pred_cnt=1205 true_pred_cnt=821
acc.=0.987908 pre.=0.681328 rec.=0.632512 f1=0.656013
-----

epoch7 :
avg_training_loss = 0.018620064918031084
used time = 14.585679769515991
tot_cnt=45980 acc_cnt=45479 true_cnt=1298 pred_cnt=1229 true_pred_cnt=881
acc.=0.989104 pre.=0.716843 rec.=0.678737 f1=0.697269
-----

epoch8 :
avg_training_loss = 0.015266049415507216
used time = 14.554599523544312
tot_cnt=45980 acc_cnt=45494 true_cnt=1298 pred_cnt=1266 true_pred_cnt=910
acc.=0.989430 pre.=0.718799 rec.=0.701079 f1=0.709828
-----

epoch9 :
avg_training_loss = 0.012870316809796273
used time = 14.602529048919678
tot_cnt=45980 acc_cnt=45496 true_cnt=1298 pred_cnt=1222 true_pred_cnt=888
acc.=0.989474 pre.=0.726678 rec.=0.684129 f1=0.704762
-----

epoch10 :
avg_training_loss = 0.011268329113087755
used time = 14.55421257019043
tot_cnt=45980 acc_cnt=45464 true_cnt=1298 pred_cnt=1289 true_pred_cnt=898
acc.=0.988778 pre.=0.696664 rec.=0.691834 f1=0.694240
-----

epoch11 :
avg_training_loss = 0.00957626167764055
used time = 14.584145307540894
tot_cnt=45980 acc_cnt=45435 true_cnt=1298 pred_cnt=1187 true_pred_cnt=825
acc.=0.988147 pre.=0.695029 rec.=0.635593 f1=0.663984
-----

epoch12 :
avg_training_loss = 0.008480253371786563
used time = 14.587316036224365
tot_cnt=45980 acc_cnt=45469 true_cnt=1298 pred_cnt=1246 true_pred_cnt=877
acc.=0.988886 pre.=0.703852 rec.=0.675655 f1=0.689465
-----

epoch13 :
avg_training_loss = 0.006448704511561292
used time = 14.604828596115112
tot_cnt=45980 acc_cnt=45495 true_cnt=1298 pred_cnt=1286 true_pred_cnt=915
acc.=0.989452 pre.=0.711509 rec.=0.704931 f1=0.708204
-----

epoch14 :
avg_training_loss = 0.005767016334736601
used time = 14.585518598556519
tot_cnt=45980 acc_cnt=45446 true_cnt=1298 pred_cnt=1278 true_pred_cnt=871
acc.=0.988386 pre.=0.681534 rec.=0.671032 f1=0.676242
-----

epoch15 :
avg_training_loss = 0.005307303147113069
used time = 14.572574377059937
tot_cnt=45980 acc_cnt=45468 true_cnt=1298 pred_cnt=1275 true_pred_cnt=888
acc.=0.988865 pre.=0.696471 rec.=0.684129 f1=0.690245
-----

epoch16 :
avg_training_loss = 0.005065847584541807
used time = 14.589943170547485
tot_cnt=45980 acc_cnt=45497 true_cnt=1298 pred_cnt=1253 true_pred_cnt=903
acc.=0.989495 pre.=0.720670 rec.=0.695686 f1=0.707958
-----

epoch17 :
avg_training_loss = 0.004634722750237647
used time = 14.584409952163696
```



```
tot_cnt=45980 acc_cnt=45444 true_cnt=1298 pred_cnt=1223 true_pred_cnt=844  
acc.=0.988343 pre.=0.690106 rec.=0.650231 f1=0.669576  
-----
```

```
epoch18 :  
avg_training_loss = 0.004591562963546591  
used time = 14.571741104125977  
tot_cnt=45980 acc_cnt=45473 true_cnt=1298 pred_cnt=1252 true_pred_cnt=881  
acc.=0.988973 pre.=0.703674 rec.=0.678737 f1=0.690980  
-----
```

```
epoch19 :  
avg_training_loss = 0.00480252631167148  
used time = 14.554159879684448  
tot_cnt=45980 acc_cnt=45481 true_cnt=1298 pred_cnt=1226 true_pred_cnt=878  
acc.=0.989147 pre.=0.716150 rec.=0.676425 f1=0.695721  
-----
```

```
epoch20 :  
avg_training_loss = 0.003687323407923922  
used time = 14.5603666305542  
tot_cnt=45980 acc_cnt=45480 true_cnt=1298 pred_cnt=1254 true_pred_cnt=884  
acc.=0.989126 pre.=0.704944 rec.=0.681048 f1=0.692790  
-----
```

```
epoch21 :  
avg_training_loss = 0.002893661882014985  
used time = 14.585278749465942  
tot_cnt=45980 acc_cnt=45469 true_cnt=1298 pred_cnt=1298 true_pred_cnt=896  
acc.=0.988886 pre.=0.690293 rec.=0.690293 f1=0.690293  
-----
```

```
epoch22 :  
avg_training_loss = 0.0043486835474663595  
used time = 14.585935354232788  
tot_cnt=45980 acc_cnt=45433 true_cnt=1298 pred_cnt=1126 true_pred_cnt=802  
acc.=0.988104 pre.=0.712256 rec.=0.617874 f1=0.661716  
-----
```

```
epoch23 :  
avg_training_loss = 0.003416243068715359  
used time = 14.571304321289062  
tot_cnt=45980 acc_cnt=45501 true_cnt=1298 pred_cnt=1289 true_pred_cnt=917  
acc.=0.989582 pre.=0.711404 rec.=0.706471 f1=0.708929  
-----
```

```
epoch24 :  
avg_training_loss = 0.0027737256060255335  
used time = 14.58449101448059  
tot_cnt=45980 acc_cnt=45451 true_cnt=1298 pred_cnt=1177 true_pred_cnt=836  
acc.=0.988495 pre.=0.710280 rec.=0.644068 f1=0.675556  
-----
```

```
epoch25 :  
avg_training_loss = 0.0024062911880777236  
used time = 14.567513227462769  
tot_cnt=45980 acc_cnt=45501 true_cnt=1298 pred_cnt=1277 true_pred_cnt=907  
acc.=0.989582 pre.=0.710258 rec.=0.698767 f1=0.704466  
-----
```

```
epoch26 :  
avg_training_loss = 0.002052615614647561  
used time = 14.55671501159668  
tot_cnt=45980 acc_cnt=45469 true_cnt=1298 pred_cnt=1208 true_pred_cnt=856  
acc.=0.988886 pre.=0.708609 rec.=0.659476 f1=0.683160  
-----
```

```
epoch27 :  
avg_training_loss = 0.002719339855173801  
used time = 14.57124400138855  
tot_cnt=45980 acc_cnt=45479 true_cnt=1298 pred_cnt=1244 true_pred_cnt=881  
acc.=0.989104 pre.=0.708199 rec.=0.678737 f1=0.693155  
-----
```

```
epoch28 :  
avg_training_loss = 0.0022965447699770016  
used time = 14.585132598876953  
tot_cnt=45980 acc_cnt=45444 true_cnt=1298 pred_cnt=1115 true_pred_cnt=812  
acc.=0.988343 pre.=0.728251 rec.=0.625578 f1=0.673021  
-----
```

```
epoch29 :  
avg_training_loss = 0.0024827778973477953  
used time = 14.587992429733276  
tot_cnt=45980 acc_cnt=45497 true_cnt=1298 pred_cnt=1213 true_pred_cnt=883  
acc.=0.989495 pre.=0.727947 rec.=0.680277 f1=0.703305  
-----
```

```
epoch30 :  
avg_training_loss = 0.0017838181650384943  
used time = 14.570418119430542  
tot_cnt=45980 acc_cnt=45455 true_cnt=1298 pred_cnt=1178 true_pred_cnt=832  
acc.=0.988582 pre.=0.706282 rec.=0.640986 f1=0.672052  
-----
```

```
-----
epoch31 :
avg_training_loss = 0.001567019744122282
used time = 14.571266174316406
tot_cnt=45980 acc_cnt=45484 true_cnt=1298 pred_cnt=1200 true_pred_cnt=869
acc.=0.989213 pre.=0.724167 rec.=0.669492 f1=0.695757
-----

epoch32 :
avg_training_loss = 0.001513186921464636
used time = 14.572840452194214
tot_cnt=45980 acc_cnt=45522 true_cnt=1298 pred_cnt=1258 true_pred_cnt=916
acc.=0.990039 pre.=0.728140 rec.=0.705701 f1=0.716745
-----

epoch33 :
avg_training_loss = 0.0014785063710618526
used time = 14.570554256439209
tot_cnt=45980 acc_cnt=45527 true_cnt=1298 pred_cnt=1280 true_pred_cnt=928
acc.=0.990148 pre.=0.725000 rec.=0.714946 f1=0.719938
-----

epoch34 :
avg_training_loss = 0.0020642467635743162
used time = 14.588062763214111
tot_cnt=45980 acc_cnt=45487 true_cnt=1298 pred_cnt=1222 true_pred_cnt=876
acc.=0.989278 pre.=0.716858 rec.=0.674884 f1=0.695238
-----

epoch35 :
avg_training_loss = 0.0023282240045831557
used time = 14.579898834228516
tot_cnt=45980 acc_cnt=45451 true_cnt=1298 pred_cnt=1203 true_pred_cnt=826
acc.=0.988495 pre.=0.686617 rec.=0.636364 f1=0.660536
-----

epoch36 :
avg_training_loss = 0.00207004854653744
used time = 14.603780269622803
tot_cnt=45980 acc_cnt=45499 true_cnt=1298 pred_cnt=1331 true_pred_cnt=930
acc.=0.989539 pre.=0.698723 rec.=0.716487 f1=0.707493
-----

epoch37 :
avg_training_loss = 0.002795337679538321
used time = 14.60319209098816
tot_cnt=45980 acc_cnt=45485 true_cnt=1298 pred_cnt=1202 true_pred_cnt=861
acc.=0.989234 pre.=0.716306 rec.=0.663328 f1=0.688800
-----

epoch38 :
avg_training_loss = 0.0016228796002712655
used time = 14.590090274810791
tot_cnt=45980 acc_cnt=45516 true_cnt=1298 pred_cnt=1274 true_pred_cnt=915
acc.=0.989909 pre.=0.718210 rec.=0.704931 f1=0.711509
-----

epoch39 :
avg_training_loss = 0.001639233149112539
used time = 14.588216304779053
tot_cnt=45980 acc_cnt=45504 true_cnt=1298 pred_cnt=1238 true_pred_cnt=893
acc.=0.989648 pre.=0.721325 rec.=0.687982 f1=0.704259
-----

epoch0 :
avg_training_loss = 0.12749528884887695
used time = 15.462139129638672
tot_cnt=45980 acc_cnt=44823 true_cnt=1298 pred_cnt=507 true_pred_cnt=174
acc.=0.974837 pre.=0.343195 rec.=0.134052 f1=0.192798
-----

epoch1 :
avg_training_loss = 0.06316578641850898
used time = 15.46224570274353
tot_cnt=45980 acc_cnt=45045 true_cnt=1298 pred_cnt=1079 true_pred_cnt=458
acc.=0.979665 pre.=0.424467 rec.=0.352851 f1=0.385360
-----

epoch2 :
avg_training_loss = 0.04563351387673236
used time = 15.47722864151001
tot_cnt=45980 acc_cnt=45293 true_cnt=1298 pred_cnt=1092 true_pred_cnt=708
acc.=0.985059 pre.=0.648352 rec.=0.545455 f1=0.592469
-----

epoch3 :
avg_training_loss = 0.03542468395638973
used time = 15.461615085601807
tot_cnt=45980 acc_cnt=45357 true_cnt=1298 pred_cnt=1156 true_pred_cnt=769
acc.=0.986451 pre.=0.665225 rec.=0.592450 f1=0.626732
-----

epoch4 :
```

```
avg_training_loss = 0.02892338215036595
used time = 15.478512525558472
tot_cnt=45980 acc_cnt=45371 true_cnt=1298 pred_cnt=1192 true_pred_cnt=794
acc.=0.986755 pre.=0.666107 rec.=0.611710 f1=0.637751
-----
```

```
epoch5 :
avg_training_loss = 0.023498857274968574
used time = 15.475888729095459
tot_cnt=45980 acc_cnt=45421 true_cnt=1298 pred_cnt=1159 true_pred_cnt=819
acc.=0.987843 pre.=0.706644 rec.=0.630971 f1=0.666667
-----
```

```
epoch6 :
avg_training_loss = 0.018671682540406572
used time = 15.476799726486206
tot_cnt=45980 acc_cnt=45456 true_cnt=1298 pred_cnt=1203 true_pred_cnt=853
acc.=0.988604 pre.=0.709061 rec.=0.657165 f1=0.682127
-----
```

```
epoch7 :
avg_training_loss = 0.014213800430297852
used time = 15.46218490600586
tot_cnt=45980 acc_cnt=45461 true_cnt=1298 pred_cnt=1286 true_pred_cnt=884
acc.=0.988712 pre.=0.687403 rec.=0.681048 f1=0.684211
-----
```

```
epoch8 :
avg_training_loss = 0.011159007853650033
used time = 15.467562913894653
tot_cnt=45980 acc_cnt=45465 true_cnt=1298 pred_cnt=1236 true_pred_cnt=858
acc.=0.988799 pre.=0.694175 rec.=0.661017 f1=0.677190
-----
```

```
epoch9 :
avg_training_loss = 0.00896760440887289
used time = 15.46755337715149
tot_cnt=45980 acc_cnt=45462 true_cnt=1298 pred_cnt=1186 true_pred_cnt=846
acc.=0.988734 pre.=0.713322 rec.=0.651772 f1=0.681159
-----
```

```
epoch10 :
avg_training_loss = 0.008023298167167826
used time = 15.484683752059937
tot_cnt=45980 acc_cnt=45479 true_cnt=1298 pred_cnt=1261 true_pred_cnt=882
acc.=0.989104 pre.=0.699445 rec.=0.679507 f1=0.689332
-----
```

```
epoch11 :
avg_training_loss = 0.00654873695779354
used time = 15.478657007217407
tot_cnt=45980 acc_cnt=45479 true_cnt=1298 pred_cnt=1190 true_pred_cnt=859
acc.=0.989104 pre.=0.721849 rec.=0.661787 f1=0.690514
-----
```

```
epoch12 :
avg_training_loss = 0.0062651856148496585
used time = 15.4762122631073
tot_cnt=45980 acc_cnt=45488 true_cnt=1298 pred_cnt=1281 true_pred_cnt=894
acc.=0.989300 pre.=0.697892 rec.=0.688752 f1=0.693292
-----
```

```
epoch13 :
avg_training_loss = 0.005355860324616128
used time = 15.469655513763428
tot_cnt=45980 acc_cnt=45483 true_cnt=1298 pred_cnt=1282 true_pred_cnt=897
acc.=0.989191 pre.=0.699688 rec.=0.691063 f1=0.695349
-----
```

```
epoch14 :
avg_training_loss = 0.004825648475200572
used time = 15.477137804031372
tot_cnt=45980 acc_cnt=45432 true_cnt=1298 pred_cnt=1133 true_pred_cnt=801
acc.=0.988082 pre.=0.706973 rec.=0.617103 f1=0.658988
-----
```

```
epoch15 :
avg_training_loss = 0.004335834624919485
used time = 15.446037769317627
tot_cnt=45980 acc_cnt=45482 true_cnt=1298 pred_cnt=1269 true_pred_cnt=882
acc.=0.989169 pre.=0.695035 rec.=0.679507 f1=0.687183
-----
```

```
epoch16 :
avg_training_loss = 0.004259750564047631
used time = 15.46236777305603
tot_cnt=45980 acc_cnt=45504 true_cnt=1298 pred_cnt=1266 true_pred_cnt=902
acc.=0.989648 pre.=0.712480 rec.=0.694915 f1=0.703588
-----
```

```
epoch17 :
avg_training_loss = 0.004329412224444937
used time = 15.476908206939697
```

```
tot_cnt=45980 acc_cnt=45449 true_cnt=1298 pred_cnt=1121 true_pred_cnt=814
acc.=0.988452 pre.=0.726137 rec.=0.627119 f1=0.673005
-----
```

```
epoch18 :
avg_training_loss = 0.0038079397475465817
used time = 15.4606454372406
tot_cnt=45980 acc_cnt=45504 true_cnt=1298 pred_cnt=1250 true_pred_cnt=901
acc.=0.989648 pre.=0.720800 rec.=0.694145 f1=0.707221
-----
```

```
epoch19 :
avg_training_loss = 0.0035773927861071646
used time = 15.462554216384888
tot_cnt=45980 acc_cnt=45524 true_cnt=1298 pred_cnt=1226 true_pred_cnt=909
acc.=0.990083 pre.=0.741436 rec.=0.700308 f1=0.720285
-----
```

```
epoch20 :
avg_training_loss = 0.0029793026599478213
used time = 15.487222909927368
tot_cnt=45980 acc_cnt=45511 true_cnt=1298 pred_cnt=1200 true_pred_cnt=887
acc.=0.989800 pre.=0.739167 rec.=0.683359 f1=0.710168
-----
```

```
epoch21 :
avg_training_loss = 0.0035343991315111203
used time = 15.458537578582764
tot_cnt=45980 acc_cnt=45510 true_cnt=1298 pred_cnt=1224 true_pred_cnt=893
acc.=0.989778 pre.=0.729575 rec.=0.687982 f1=0.708168
-----
```

```
epoch22 :
avg_training_loss = 0.002696759206183413
used time = 15.476051807403564
tot_cnt=45980 acc_cnt=45471 true_cnt=1298 pred_cnt=1173 true_pred_cnt=845
acc.=0.988930 pre.=0.720375 rec.=0.651002 f1=0.683934
-----
```

```
epoch23 :
avg_training_loss = 0.0028467130787829136
used time = 15.463528871536255
tot_cnt=45980 acc_cnt=45484 true_cnt=1298 pred_cnt=1197 true_pred_cnt=867
acc.=0.989213 pre.=0.724311 rec.=0.667951 f1=0.694990
-----
```

```
epoch24 :
avg_training_loss = 0.0028888415148917664
used time = 15.4767587184906
tot_cnt=45980 acc_cnt=45494 true_cnt=1298 pred_cnt=1180 true_pred_cnt=873
acc.=0.989430 pre.=0.739831 rec.=0.672573 f1=0.704600
-----
```

```
epoch25 :
avg_training_loss = 0.0033703807820665076
used time = 15.49466061592102
tot_cnt=45980 acc_cnt=45474 true_cnt=1298 pred_cnt=1144 true_pred_cnt=848
acc.=0.988995 pre.=0.741259 rec.=0.653313 f1=0.694513
-----
```

```
epoch26 :
avg_training_loss = 0.003255159930979952
used time = 15.461942195892334
tot_cnt=45980 acc_cnt=45451 true_cnt=1298 pred_cnt=1219 true_pred_cnt=835
acc.=0.988495 pre.=0.684988 rec.=0.643297 f1=0.663488
-----
```

```
epoch27 :
avg_training_loss = 0.003052780602840667
used time = 15.491591215133667
tot_cnt=45980 acc_cnt=45503 true_cnt=1298 pred_cnt=1191 true_pred_cnt=881
acc.=0.989626 pre.=0.739715 rec.=0.678737 f1=0.707915
-----
```

```
epoch28 :
avg_training_loss = 0.002884928216325476
used time = 15.49426817893982
tot_cnt=45980 acc_cnt=45423 true_cnt=1298 pred_cnt=1212 true_pred_cnt=804
acc.=0.987886 pre.=0.663366 rec.=0.619414 f1=0.640637
-----
```

```
epoch29 :
avg_training_loss = 0.0031765902296025704
used time = 15.478779554367065
tot_cnt=45980 acc_cnt=45460 true_cnt=1298 pred_cnt=1143 true_pred_cnt=829
acc.=0.988691 pre.=0.725284 rec.=0.638675 f1=0.679230
-----
```

```
epoch30 :
avg_training_loss = 0.0036191277681513036
used time = 15.469343423843384
tot_cnt=45980 acc_cnt=45511 true_cnt=1298 pred_cnt=1243 true_pred_cnt=891
acc.=0.989800 pre.=0.716814 rec.=0.686441 f1=0.701299
```

```
-----  
epoch31 :  
avg_training_loss = 0.0023070236152790964  
used time = 15.47767686843872  
tot_cnt=45980 acc_cnt=45503 true_cnt=1298 pred_cnt=1208 true_pred_cnt=883  
acc.=0.989626 pre.=0.730960 rec.=0.680277 f1=0.704709  
-----  
epoch32 :  
avg_training_loss = 0.0017778020589909655  
used time = 15.478474378585815  
tot_cnt=45980 acc_cnt=45534 true_cnt=1298 pred_cnt=1245 true_pred_cnt=920  
acc.=0.990300 pre.=0.738956 rec.=0.708783 f1=0.723555  
-----  
epoch33 :  
avg_training_loss = 0.001609686365787019  
used time = 15.494810342788696  
tot_cnt=45980 acc_cnt=45515 true_cnt=1298 pred_cnt=1256 true_pred_cnt=909  
acc.=0.989887 pre.=0.723726 rec.=0.700308 f1=0.711825  
-----  
epoch34 :  
avg_training_loss = 0.0012883427453801988  
used time = 15.463501214981079  
tot_cnt=45980 acc_cnt=45563 true_cnt=1298 pred_cnt=1263 true_pred_cnt=953  
acc.=0.990931 pre.=0.754553 rec.=0.734206 f1=0.744241  
-----  
epoch35 :  
avg_training_loss = 0.0015691705840699217  
used time = 15.500600576400757  
tot_cnt=45980 acc_cnt=45506 true_cnt=1298 pred_cnt=1187 true_pred_cnt=881  
acc.=0.989691 pre.=0.742207 rec.=0.678737 f1=0.709054  
-----  
epoch36 :  
avg_training_loss = 0.0018938746541104418  
used time = 15.471421480178833  
tot_cnt=45980 acc_cnt=45507 true_cnt=1298 pred_cnt=1188 true_pred_cnt=880  
acc.=0.989713 pre.=0.740741 rec.=0.677966 f1=0.707965  
-----  
epoch37 :  
avg_training_loss = 0.0014928043522733324  
used time = 15.461795568466187  
tot_cnt=45980 acc_cnt=45506 true_cnt=1298 pred_cnt=1220 true_pred_cnt=888  
acc.=0.989691 pre.=0.727869 rec.=0.684129 f1=0.705322  
-----  
epoch38 :  
avg_training_loss = 0.0017648290129418068  
used time = 15.49254035949707  
tot_cnt=45980 acc_cnt=45486 true_cnt=1298 pred_cnt=1275 true_pred_cnt=895  
acc.=0.989256 pre.=0.701961 rec.=0.689522 f1=0.695686  
-----  
epoch39 :  
avg_training_loss = 0.0022233753128254666  
used time = 15.46409296989441  
tot_cnt=45980 acc_cnt=45510 true_cnt=1298 pred_cnt=1223 true_pred_cnt=899  
acc.=0.989778 pre.=0.735078 rec.=0.692604 f1=0.713209  
-----  
max F1_measure for BertAndLinear = 0.6405  
max F1_measure for BertAndTransformer = 0.6562  
max F1_measure for RoBERTaAndLinear = 0.7199  
max F1_measure for RoBERTaAndTransformer = 0.7442
```