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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.predictions.transform.dense.weight', 'cls.seq_relationship.bias', 'cls.predictions.transform.dense.
bias', 'cls.predictions.transform.LayerNorm.bias', 'cls.predictions.decoder.weight', 'cls.seq_relationship.weight
', '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.predictions.transform.dense.weight', 'cls.seq_relationship.bias', 'cls.predictions.transform.dense.
bias', 'cls.predictions.transform.LayerNorm.bias', 'cls.predictions.decoder.weight', 'cls.seq_relationship.weight
', '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.
bias', 'lm_head.layer_norm.weight', 'lm_head.layer_norm.bias', 'lm_head.decoder.weight', 'lm_head.dense.weight', '
lm_head.dense.bias']
- 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 = 100
max length = 84
max length = 98
max length = 80
127
0 tensor([[ 101, 2093, 3931, ..., 0, 0, 0],
          [ 101, 5095, 1010, ..., 0, 0, 0],
          [ 101, 2021, 2037, ..., 0, 0, 0],
          ...,
          [ 101, 2057, 2318, ..., 0, 0, 0],
          [ 101, 2074, 3442, ..., 0, 0, 0],
          [ 101, 2009, 2001, ..., 0, 0, 0]], device='cuda:0') tensor([[0, 0, 0, ..., 0, 0, 0],
          [0, 0, 0, ..., 0, 0, 0],
          [0, 0, 0, ..., 0, 0, 0],
          ...,
          [0, 0, 0, ..., 0, 0, 0],
          [0, 0, 0, ..., 0, 0, 0],
          [0, 0, 0, ..., 0, 0, 0]], device='cuda:0')
epoch0 :
avg_training_loss = 0.1457270224263349
used time = 20.36619472503662
tot_cnt=67650 acc_cnt=66030 true_cnt=2220 pred_cnt=2322 true_pred_cnt=993
acc.=0.976053 pre.=0.427649 rec.=0.447297 f1=0.437252
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epoch1 :
avg_training_loss = 0.05761598226592297
used time = 18.72582721710205
tot_cnt=67650 acc_cnt=66356 true_cnt=2220 pred_cnt=2308 true_pred_cnt=1258
acc.=0.980872 pre.=0.545061 rec.=0.566667 f1=0.555654
-----
epoch2 :
avg_training_loss = 0.04348931725569597
used time = 18.785269737243652
tot_cnt=67650 acc_cnt=66513 true_cnt=2220 pred_cnt=2306 true_pred_cnt=1391
acc.=0.983193 pre.=0.603209 rec.=0.626577 f1=0.614671
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epoch3 :
avg_training_loss = 0.033060535671204094
used time = 18.851765871047974
tot_cnt=67650 acc_cnt=66673 true_cnt=2220 pred_cnt=2287 true_pred_cnt=1538
acc.=0.985558 pre.=0.672497 rec.=0.692793 f1=0.682494
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epoch4 :

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avg_training_loss = 0.02532333276403232
used time = 18.897258520126343
tot_cnt=67650 acc_cnt=66630 true_cnt=2220 pred_cnt=2465 true_pred_cnt=1582
acc.=0.984922 pre.=0.641785 rec.=0.712613 f1=0.675347
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epoch5 :
avg_training_loss = 0.0199317800717091
used time = 18.92555546760559
tot_cnt=67650 acc_cnt=66730 true_cnt=2220 pred_cnt=2362 true_pred_cnt=1625
acc.=0.986401 pre.=0.687976 rec.=0.731982 f1=0.709297
-----

epoch6 :
avg_training_loss = 0.015513437000785286
used time = 18.92758870124817
tot_cnt=67650 acc_cnt=66700 true_cnt=2220 pred_cnt=2170 true_pred_cnt=1509
acc.=0.985957 pre.=0.695392 rec.=0.679730 f1=0.687472
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epoch7 :
avg_training_loss = 0.011884946522750253
used time = 18.94814968109131
tot_cnt=67650 acc_cnt=66696 true_cnt=2220 pred_cnt=2398 true_pred_cnt=1608
acc.=0.985898 pre.=0.670559 rec.=0.724324 f1=0.696405
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epoch8 :
avg_training_loss = 0.009829511792640987
used time = 18.94407081604004
tot_cnt=67650 acc_cnt=66692 true_cnt=2220 pred_cnt=2453 true_pred_cnt=1640
acc.=0.985839 pre.=0.668569 rec.=0.738739 f1=0.701905
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epoch9 :
avg_training_loss = 0.008479661828889621
used time = 18.95797038078308
tot_cnt=67650 acc_cnt=66716 true_cnt=2220 pred_cnt=2346 true_pred_cnt=1598
acc.=0.986194 pre.=0.681159 rec.=0.719820 f1=0.699956
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epoch10 :
avg_training_loss = 0.006549141538424755
used time = 18.987300634384155
tot_cnt=67650 acc_cnt=66714 true_cnt=2220 pred_cnt=2350 true_pred_cnt=1594
acc.=0.986164 pre.=0.678298 rec.=0.718018 f1=0.697593
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epoch11 :
avg_training_loss = 0.00535868472001684
used time = 19.019103288650513
tot_cnt=67650 acc_cnt=66725 true_cnt=2220 pred_cnt=2330 true_pred_cnt=1593
acc.=0.986327 pre.=0.683691 rec.=0.717568 f1=0.700220
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epoch12 :
avg_training_loss = 0.004961102027592697
used time = 18.988346815109253
tot_cnt=67650 acc_cnt=66787 true_cnt=2220 pred_cnt=2292 true_pred_cnt=1642
acc.=0.987243 pre.=0.716405 rec.=0.739640 f1=0.727837
-----

epoch13 :
avg_training_loss = 0.004500816187520665
used time = 18.972463369369507
tot_cnt=67650 acc_cnt=66711 true_cnt=2220 pred_cnt=2476 true_pred_cnt=1670
acc.=0.986120 pre.=0.674475 rec.=0.752252 f1=0.711244
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epoch14 :
avg_training_loss = 0.0036672682274044967
used time = 19.0522198677063
tot_cnt=67650 acc_cnt=66789 true_cnt=2220 pred_cnt=2339 true_pred_cnt=1673
acc.=0.987273 pre.=0.715263 rec.=0.753604 f1=0.733933
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epoch15 :
avg_training_loss = 0.003125836060741755
used time = 19.27084493637085
tot_cnt=67650 acc_cnt=66783 true_cnt=2220 pred_cnt=2350 true_pred_cnt=1658
acc.=0.987184 pre.=0.705532 rec.=0.746847 f1=0.725602
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epoch16 :
avg_training_loss = 0.002638783511214369
used time = 19.03801727294922
tot_cnt=67650 acc_cnt=66720 true_cnt=2220 pred_cnt=2465 true_pred_cnt=1661
acc.=0.986253 pre.=0.673834 rec.=0.748198 f1=0.709071
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epoch17 :
avg_training_loss = 0.0027965950214956688
used time = 19.002411365509033
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tot_cnt=67650 acc_cnt=66747 true_cnt=2220 pred_cnt=2395 true_pred_cnt=1648
acc.=0.986652 pre.=0.688100 rec.=0.742342 f1=0.714193
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epoch18 :
avg_training_loss = 0.002649586501083975
used time = 19.029484272003174
tot_cnt=67650 acc_cnt=66740 true_cnt=2220 pred_cnt=2376 true_pred_cnt=1627
acc.=0.986548 pre.=0.684764 rec.=0.732883 f1=0.708007
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epoch19 :
avg_training_loss = 0.002239591024053378
used time = 19.002679347991943
tot_cnt=67650 acc_cnt=66730 true_cnt=2220 pred_cnt=2457 true_pred_cnt=1663
acc.=0.986401 pre.=0.676842 rec.=0.749099 f1=0.711140
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epoch20 :
avg_training_loss = 0.0022569836124660464
used time = 19.009256601333618
tot_cnt=67650 acc_cnt=66730 true_cnt=2220 pred_cnt=2351 true_pred_cnt=1608
acc.=0.986401 pre.=0.683964 rec.=0.724324 f1=0.703566
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epoch21 :
avg_training_loss = 0.001901812323435085
used time = 19.074809312820435
tot_cnt=67650 acc_cnt=66749 true_cnt=2220 pred_cnt=2329 true_pred_cnt=1615
acc.=0.986681 pre.=0.693431 rec.=0.727477 f1=0.710046
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```
epoch22 :
avg_training_loss = 0.0020052295500837913
used time = 18.99638080596924
tot_cnt=67650 acc_cnt=66761 true_cnt=2220 pred_cnt=2430 true_pred_cnt=1680
acc.=0.986859 pre.=0.691358 rec.=0.756757 f1=0.722581
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```
epoch23 :
avg_training_loss = 0.0017805579375094315
used time = 19.010782480239868
tot_cnt=67650 acc_cnt=66747 true_cnt=2220 pred_cnt=2474 true_pred_cnt=1686
acc.=0.986652 pre.=0.681487 rec.=0.759459 f1=0.718364
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epoch24 :
avg_training_loss = 0.0017457941151040747
used time = 19.027839183807373
tot_cnt=67650 acc_cnt=66724 true_cnt=2220 pred_cnt=2309 true_pred_cnt=1578
acc.=0.986312 pre.=0.683413 rec.=0.710811 f1=0.696843
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```
epoch25 :
avg_training_loss = 0.0018362678646102666
used time = 19.06658148765564
tot_cnt=67650 acc_cnt=66735 true_cnt=2220 pred_cnt=2358 true_pred_cnt=1633
acc.=0.986475 pre.=0.692536 rec.=0.735586 f1=0.713412
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epoch26 :
avg_training_loss = 0.0017908709490393091
used time = 18.99898672103882
tot_cnt=67650 acc_cnt=66709 true_cnt=2220 pred_cnt=2375 true_pred_cnt=1601
acc.=0.986090 pre.=0.674105 rec.=0.721171 f1=0.696844
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epoch27 :
avg_training_loss = 0.0014994132706499476
used time = 18.99818253517151
tot_cnt=67650 acc_cnt=66740 true_cnt=2220 pred_cnt=2299 true_pred_cnt=1596
acc.=0.986548 pre.=0.694215 rec.=0.718919 f1=0.706351
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```

```
epoch28 :
avg_training_loss = 0.0016374600919212882
used time = 19.043482542037964
tot_cnt=67650 acc_cnt=66742 true_cnt=2220 pred_cnt=2366 true_pred_cnt=1627
acc.=0.986578 pre.=0.687658 rec.=0.732883 f1=0.709551
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```
epoch29 :
avg_training_loss = 0.0015408819116006687
used time = 18.97998332977295
tot_cnt=67650 acc_cnt=66782 true_cnt=2220 pred_cnt=2462 true_pred_cnt=1717
acc.=0.987169 pre.=0.697400 rec.=0.773423 f1=0.733447
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epoch30 :
avg_training_loss = 0.0017948142421527172
used time = 19.058685064315796
tot_cnt=67650 acc_cnt=66735 true_cnt=2220 pred_cnt=2394 true_pred_cnt=1635
acc.=0.986475 pre.=0.682957 rec.=0.736486 f1=0.708713
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epoch31 :
avg_training_loss = 0.0017643719911575317
used time = 19.02643847465515
tot_cnt=67650 acc_cnt=66766 true_cnt=2220 pred_cnt=2273 true_pred_cnt=1600
acc.=0.986933 pre.=0.703916 rec.=0.720721 f1=0.712219
-----

epoch32 :
avg_training_loss = 0.0017160776797242052
used time = 19.02610492706299
tot_cnt=67650 acc_cnt=66752 true_cnt=2220 pred_cnt=2360 true_pred_cnt=1635
acc.=0.986726 pre.=0.692797 rec.=0.736486 f1=0.713974
-----

epoch33 :
avg_training_loss = 0.0018438466890590398
used time = 19.46292471885681
tot_cnt=67650 acc_cnt=66739 true_cnt=2220 pred_cnt=2344 true_pred_cnt=1615
acc.=0.986534 pre.=0.688993 rec.=0.727477 f1=0.707713
-----

epoch34 :
avg_training_loss = 0.001658325472215968
used time = 19.480185985565186
tot_cnt=67650 acc_cnt=66779 true_cnt=2220 pred_cnt=2388 true_pred_cnt=1669
acc.=0.987125 pre.=0.698911 rec.=0.751802 f1=0.724392
-----

epoch35 :
avg_training_loss = 0.0018511284289397592
used time = 19.383108615875244
tot_cnt=67650 acc_cnt=66720 true_cnt=2220 pred_cnt=2427 true_pred_cnt=1639
acc.=0.986253 pre.=0.675319 rec.=0.738288 f1=0.705401
-----

epoch36 :
avg_training_loss = 0.0027492076862515426
used time = 19.029256582260132
tot_cnt=67650 acc_cnt=66776 true_cnt=2220 pred_cnt=2355 true_pred_cnt=1658
acc.=0.987081 pre.=0.704034 rec.=0.746847 f1=0.724809
-----

epoch37 :
avg_training_loss = 0.002273056450791246
used time = 18.98073101043701
tot_cnt=67650 acc_cnt=66711 true_cnt=2220 pred_cnt=2462 true_pred_cnt=1651
acc.=0.986120 pre.=0.670593 rec.=0.743694 f1=0.705254
-----

epoch38 :
avg_training_loss = 0.001687664333290941
used time = 19.018425941467285
tot_cnt=67650 acc_cnt=66732 true_cnt=2220 pred_cnt=2364 true_pred_cnt=1617
acc.=0.986430 pre.=0.684010 rec.=0.728378 f1=0.705497
-----

epoch39 :
avg_training_loss = 0.0022851083222336656
used time = 19.02863121032715
tot_cnt=67650 acc_cnt=66727 true_cnt=2220 pred_cnt=2365 true_pred_cnt=1610
acc.=0.986356 pre.=0.680761 rec.=0.725225 f1=0.702290
-----

epoch0 :
avg_training_loss = 0.117081694715605
used time = 20.185698986053467
tot_cnt=67650 acc_cnt=66284 true_cnt=2220 pred_cnt=2227 true_pred_cnt=1195
acc.=0.979808 pre.=0.536596 rec.=0.538288 f1=0.537441
-----

epoch1 :
avg_training_loss = 0.05109330049649937
used time = 20.18138885498047
tot_cnt=67650 acc_cnt=66434 true_cnt=2220 pred_cnt=2236 true_pred_cnt=1311
acc.=0.982025 pre.=0.586315 rec.=0.590541 f1=0.588420
-----

epoch2 :
avg_training_loss = 0.038574376444178306
used time = 20.19851589202881
tot_cnt=67650 acc_cnt=66569 true_cnt=2220 pred_cnt=2335 true_pred_cnt=1468
acc.=0.984021 pre.=0.628694 rec.=0.661261 f1=0.644566
-----

epoch3 :
avg_training_loss = 0.029458973351426013
used time = 20.485232830047607
tot_cnt=67650 acc_cnt=66655 true_cnt=2220 pred_cnt=2418 true_pred_cnt=1588
acc.=0.985292 pre.=0.656741 rec.=0.715315 f1=0.684778
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epoch4 :
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avg_training_loss = 0.022257121529166153
used time = 20.58452010154724
tot_cnt=67650 acc_cnt=66704 true_cnt=2220 pred_cnt=2235 true_pred_cnt=1541
acc.=0.986016 pre.=0.689485 rec.=0.694144 f1=0.691807
-----

epoch5 :
avg_training_loss = 0.01732416603508897
used time = 20.525514364242554
tot_cnt=67650 acc_cnt=66705 true_cnt=2220 pred_cnt=2350 true_pred_cnt=1591
acc.=0.986031 pre.=0.677021 rec.=0.716667 f1=0.696280
-----

epoch6 :
avg_training_loss = 0.012859756552328275
used time = 20.532365560531616
tot_cnt=67650 acc_cnt=66701 true_cnt=2220 pred_cnt=2270 true_pred_cnt=1563
acc.=0.985972 pre.=0.688546 rec.=0.704054 f1=0.696214
-----

epoch7 :
avg_training_loss = 0.01039371621890331
used time = 20.4719979763031
tot_cnt=67650 acc_cnt=66693 true_cnt=2220 pred_cnt=2195 true_pred_cnt=1512
acc.=0.985854 pre.=0.688838 rec.=0.681081 f1=0.684938
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epoch8 :
avg_training_loss = 0.00843653434843529
used time = 20.50832223892212
tot_cnt=67650 acc_cnt=66717 true_cnt=2220 pred_cnt=2359 true_pred_cnt=1604
acc.=0.986208 pre.=0.679949 rec.=0.722523 f1=0.700590
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epoch9 :
avg_training_loss = 0.00646572741936511
used time = 20.408889055252075
tot_cnt=67650 acc_cnt=66744 true_cnt=2220 pred_cnt=2346 true_pred_cnt=1629
acc.=0.986608 pre.=0.694373 rec.=0.733784 f1=0.713535
-----

epoch10 :
avg_training_loss = 0.005749312442118727
used time = 20.389873504638672
tot_cnt=67650 acc_cnt=66718 true_cnt=2220 pred_cnt=2386 true_pred_cnt=1623
acc.=0.986223 pre.=0.680218 rec.=0.731081 f1=0.704733
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epoch11 :
avg_training_loss = 0.004685782072112316
used time = 20.387237548828125
tot_cnt=67650 acc_cnt=66731 true_cnt=2220 pred_cnt=2367 true_pred_cnt=1629
acc.=0.986415 pre.=0.688213 rec.=0.733784 f1=0.710268
-----

epoch12 :
avg_training_loss = 0.0036869241496709387
used time = 20.355875492095947
tot_cnt=67650 acc_cnt=66729 true_cnt=2220 pred_cnt=2415 true_pred_cnt=1644
acc.=0.986386 pre.=0.680745 rec.=0.740541 f1=0.709385
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epoch13 :
avg_training_loss = 0.0032498644092890223
used time = 20.373859882354736
tot_cnt=67650 acc_cnt=66732 true_cnt=2220 pred_cnt=2359 true_pred_cnt=1622
acc.=0.986430 pre.=0.687579 rec.=0.730631 f1=0.708452
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epoch14 :
avg_training_loss = 0.0026778039031141385
used time = 20.35811972618103
tot_cnt=67650 acc_cnt=66804 true_cnt=2220 pred_cnt=2204 true_pred_cnt=1617
acc.=0.987494 pre.=0.733666 rec.=0.728378 f1=0.731013
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epoch15 :
avg_training_loss = 0.0028179226897832917
used time = 20.354175090789795
tot_cnt=67650 acc_cnt=66734 true_cnt=2220 pred_cnt=2344 true_pred_cnt=1611
acc.=0.986460 pre.=0.687287 rec.=0.725676 f1=0.705960
-----

epoch16 :
avg_training_loss = 0.002380991545249158
used time = 20.341840267181396
tot_cnt=67650 acc_cnt=66737 true_cnt=2220 pred_cnt=2358 true_pred_cnt=1618
acc.=0.986504 pre.=0.686175 rec.=0.728829 f1=0.706859
-----

epoch17 :
avg_training_loss = 0.002736995773991262
used time = 20.32895827293396
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tot_cnt=67650 acc_cnt=66744 true_cnt=2220 pred_cnt=2294 true_pred_cnt=1592
acc.=0.986608 pre.=0.693984 rec.=0.717117 f1=0.705361
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epoch18 :
avg_training_loss = 0.0026822956058922716
used time = 20.35931897163391
tot_cnt=67650 acc_cnt=66722 true_cnt=2220 pred_cnt=2399 true_pred_cnt=1626
acc.=0.986282 pre.=0.677782 rec.=0.732432 f1=0.704048
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epoch19 :
avg_training_loss = 0.0022269562473447306
used time = 20.34985637664795
tot_cnt=67650 acc_cnt=66758 true_cnt=2220 pred_cnt=2165 true_pred_cnt=1547
acc.=0.986814 pre.=0.714550 rec.=0.696847 f1=0.705587
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epoch20 :
avg_training_loss = 0.0018345290046977245
used time = 20.36107325553894
tot_cnt=67650 acc_cnt=66765 true_cnt=2220 pred_cnt=2302 true_pred_cnt=1616
acc.=0.986918 pre.=0.701998 rec.=0.727928 f1=0.714728
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epoch21 :
avg_training_loss = 0.0016676372899783877
used time = 20.40421748161316
tot_cnt=67650 acc_cnt=66789 true_cnt=2220 pred_cnt=2257 true_pred_cnt=1620
acc.=0.987273 pre.=0.717767 rec.=0.729730 f1=0.723699
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```
epoch22 :
avg_training_loss = 0.0014565086036216555
used time = 20.35278868675232
tot_cnt=67650 acc_cnt=66781 true_cnt=2220 pred_cnt=2344 true_pred_cnt=1657
acc.=0.987154 pre.=0.706911 rec.=0.746396 f1=0.726117
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epoch23 :
avg_training_loss = 0.0018096401935487282
used time = 20.34953474998474
tot_cnt=67650 acc_cnt=66734 true_cnt=2220 pred_cnt=2374 true_pred_cnt=1635
acc.=0.986460 pre.=0.688711 rec.=0.736486 f1=0.711798
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```

```
epoch24 :
avg_training_loss = 0.002083693667659609
used time = 20.36208438873291
tot_cnt=67650 acc_cnt=66673 true_cnt=2220 pred_cnt=2505 true_pred_cnt=1648
acc.=0.985558 pre.=0.657884 rec.=0.742342 f1=0.697566
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```
epoch25 :
avg_training_loss = 0.003921159843760212
used time = 20.35926127433777
tot_cnt=67650 acc_cnt=66734 true_cnt=2220 pred_cnt=2335 true_pred_cnt=1607
acc.=0.986460 pre.=0.688223 rec.=0.723874 f1=0.705598
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```
epoch26 :
avg_training_loss = 0.002722016000372218
used time = 20.373665809631348
tot_cnt=67650 acc_cnt=66745 true_cnt=2220 pred_cnt=2343 true_pred_cnt=1622
acc.=0.986622 pre.=0.692275 rec.=0.730631 f1=0.710936
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```
epoch27 :
avg_training_loss = 0.00198782874843267
used time = 20.37200403213501
tot_cnt=67650 acc_cnt=66732 true_cnt=2220 pred_cnt=2407 true_pred_cnt=1637
acc.=0.986430 pre.=0.680100 rec.=0.737387 f1=0.707586
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```
epoch28 :
avg_training_loss = 0.0015684213694625014
used time = 20.373369693756104
tot_cnt=67650 acc_cnt=66760 true_cnt=2220 pred_cnt=2321 true_pred_cnt=1622
acc.=0.986844 pre.=0.698837 rec.=0.730631 f1=0.714380
-----
```

```
epoch29 :
avg_training_loss = 0.0014875305919196662
used time = 20.391974925994873
tot_cnt=67650 acc_cnt=66753 true_cnt=2220 pred_cnt=2357 true_pred_cnt=1634
acc.=0.986741 pre.=0.693254 rec.=0.736036 f1=0.714005
-----
```

```
epoch30 :
avg_training_loss = 0.0018447467426615438
used time = 20.390028476715088
tot_cnt=67650 acc_cnt=66688 true_cnt=2220 pred_cnt=2387 true_pred_cnt=1584
acc.=0.985780 pre.=0.663594 rec.=0.713514 f1=0.687649
```

```
-----
epoch31 :
avg_training_loss = 0.001564040662735466
used time = 20.357713222503662
tot_cnt=67650 acc_cnt=66731 true_cnt=2220 pred_cnt=2368 true_pred_cnt=1627
acc.=0.986415 pre.=0.687078 rec.=0.732883 f1=0.709241
-----

epoch32 :
avg_training_loss = 0.001341002663289468
used time = 20.32495403289795
tot_cnt=67650 acc_cnt=66733 true_cnt=2220 pred_cnt=2374 true_pred_cnt=1634
acc.=0.986445 pre.=0.688290 rec.=0.736036 f1=0.711363
-----

epoch33 :
avg_training_loss = 0.0011600718254179466
used time = 20.389355897903442
tot_cnt=67650 acc_cnt=66735 true_cnt=2220 pred_cnt=2271 true_pred_cnt=1585
acc.=0.986475 pre.=0.697930 rec.=0.713964 f1=0.705856
-----

epoch34 :
avg_training_loss = 0.001488754599113164
used time = 20.374290704727173
tot_cnt=67650 acc_cnt=66741 true_cnt=2220 pred_cnt=2439 true_pred_cnt=1675
acc.=0.986563 pre.=0.686757 rec.=0.754505 f1=0.719038
-----

epoch35 :
avg_training_loss = 0.0014333764868458426
used time = 20.32474374771118
tot_cnt=67650 acc_cnt=66722 true_cnt=2220 pred_cnt=2394 true_pred_cnt=1631
acc.=0.986282 pre.=0.681287 rec.=0.734685 f1=0.706979
-----

epoch36 :
avg_training_loss = 0.001598027278119185
used time = 20.35878586769104
tot_cnt=67650 acc_cnt=66755 true_cnt=2220 pred_cnt=2374 true_pred_cnt=1649
acc.=0.986770 pre.=0.694608 rec.=0.742793 f1=0.717893
-----

epoch37 :
avg_training_loss = 0.001462674751056461
used time = 20.398638010025024
tot_cnt=67650 acc_cnt=66753 true_cnt=2220 pred_cnt=2383 true_pred_cnt=1649
acc.=0.986741 pre.=0.691985 rec.=0.742793 f1=0.716489
-----

epoch38 :
avg_training_loss = 0.001522851623888091
used time = 20.35741877555847
tot_cnt=67650 acc_cnt=66717 true_cnt=2220 pred_cnt=2355 true_pred_cnt=1596
acc.=0.986208 pre.=0.677707 rec.=0.718919 f1=0.697705
-----

epoch39 :
avg_training_loss = 0.0021552605422463004
used time = 20.388168573379517
tot_cnt=67650 acc_cnt=66754 true_cnt=2220 pred_cnt=2364 true_pred_cnt=1638
acc.=0.986755 pre.=0.692893 rec.=0.737838 f1=0.714660
-----

epoch0 :
avg_training_loss = 0.17040474959245816
used time = 19.74772310256958
tot_cnt=67650 acc_cnt=65913 true_cnt=2268 pred_cnt=1736 true_pred_cnt=777
acc.=0.974324 pre.=0.447581 rec.=0.342593 f1=0.388112
-----

epoch1 :
avg_training_loss = 0.07018082536111667
used time = 19.80876588821411
tot_cnt=67650 acc_cnt=66290 true_cnt=2268 pred_cnt=2020 true_pred_cnt=1148
acc.=0.979897 pre.=0.568317 rec.=0.506173 f1=0.535448
-----

epoch2 :
avg_training_loss = 0.05595062661358691
used time = 19.671515703201294
tot_cnt=67650 acc_cnt=66350 true_cnt=2268 pred_cnt=2242 true_pred_cnt=1259
acc.=0.980783 pre.=0.561552 rec.=0.555115 f1=0.558315
-----

epoch3 :
avg_training_loss = 0.04509671278825895
used time = 19.69809055328369
tot_cnt=67650 acc_cnt=66543 true_cnt=2268 pred_cnt=2345 true_pred_cnt=1484
acc.=0.983636 pre.=0.632836 rec.=0.654321 f1=0.643399
-----

epoch4 :
```

```
avg_training_loss = 0.03512648710115688
used time = 19.689480781555176
tot_cnt=67650 acc_cnt=66636 true_cnt=2268 pred_cnt=2405 true_pred_cnt=1576
acc.=0.985011 pre.=0.655301 rec.=0.694885 f1=0.674513
-----

epoch5 :
avg_training_loss = 0.029147442870252713
used time = 19.648486375808716
tot_cnt=67650 acc_cnt=66678 true_cnt=2268 pred_cnt=2172 true_pred_cnt=1536
acc.=0.985632 pre.=0.707182 rec.=0.677249 f1=0.691892
-----

epoch6 :
avg_training_loss = 0.02522896781681091
used time = 19.73060417175293
tot_cnt=67650 acc_cnt=66800 true_cnt=2268 pred_cnt=2347 true_pred_cnt=1703
acc.=0.987435 pre.=0.725607 rec.=0.750882 f1=0.738028
-----

epoch7 :
avg_training_loss = 0.020036549080075242
used time = 19.696967124938965
tot_cnt=67650 acc_cnt=66769 true_cnt=2268 pred_cnt=2466 true_pred_cnt=1725
acc.=0.986977 pre.=0.699513 rec.=0.760582 f1=0.728771
-----

epoch8 :
avg_training_loss = 0.017182778185746803
used time = 19.66202688217163
tot_cnt=67650 acc_cnt=66739 true_cnt=2268 pred_cnt=2452 true_pred_cnt=1704
acc.=0.986534 pre.=0.694943 rec.=0.751323 f1=0.722034
-----

epoch9 :
avg_training_loss = 0.01445634440174253
used time = 19.622205018997192
tot_cnt=67650 acc_cnt=66799 true_cnt=2268 pred_cnt=2496 true_pred_cnt=1771
acc.=0.987421 pre.=0.709535 rec.=0.780864 f1=0.743493
-----

epoch10 :
avg_training_loss = 0.013461302584550512
used time = 19.63387894630432
tot_cnt=67650 acc_cnt=66766 true_cnt=2268 pred_cnt=2544 true_pred_cnt=1781
acc.=0.986933 pre.=0.700079 rec.=0.785273 f1=0.740233
-----

epoch11 :
avg_training_loss = 0.010897878586776613
used time = 19.650989532470703
tot_cnt=67650 acc_cnt=66824 true_cnt=2268 pred_cnt=2363 true_pred_cnt=1729
acc.=0.987790 pre.=0.731697 rec.=0.762346 f1=0.746707
-----

epoch12 :
avg_training_loss = 0.009617373699278344
used time = 19.66581439971924
tot_cnt=67650 acc_cnt=66767 true_cnt=2268 pred_cnt=2566 true_pred_cnt=1785
acc.=0.986948 pre.=0.695635 rec.=0.787037 f1=0.738519
-----

epoch13 :
avg_training_loss = 0.009549251691562923
used time = 19.69985604286194
tot_cnt=67650 acc_cnt=66778 true_cnt=2268 pred_cnt=2469 true_pred_cnt=1743
acc.=0.987110 pre.=0.705954 rec.=0.768519 f1=0.735909
-----

epoch14 :
avg_training_loss = 0.0073011062276644965
used time = 19.637871980667114
tot_cnt=67650 acc_cnt=66786 true_cnt=2268 pred_cnt=2494 true_pred_cnt=1764
acc.=0.987228 pre.=0.707298 rec.=0.777778 f1=0.740865
-----

epoch15 :
avg_training_loss = 0.006160886738244004
used time = 20.01233458518982
tot_cnt=67650 acc_cnt=66777 true_cnt=2268 pred_cnt=2524 true_pred_cnt=1771
acc.=0.987095 pre.=0.701664 rec.=0.780864 f1=0.739149
-----

epoch16 :
avg_training_loss = 0.005382298953889862
used time = 19.808823823928833
tot_cnt=67650 acc_cnt=66832 true_cnt=2268 pred_cnt=2447 true_pred_cnt=1777
acc.=0.987908 pre.=0.726195 rec.=0.783510 f1=0.753765
-----

epoch17 :
avg_training_loss = 0.005034395090238316
used time = 19.898486137390137
```



```
tot_cnt=67650 acc_cnt=66771 true_cnt=2268 pred_cnt=2414 true_pred_cnt=1691
acc.=0.987007 pre.=0.700497 rec.=0.745591 f1=0.722341
-----
```

```
epoch18 :
avg_training_loss = 0.0044001669395627
used time = 20.2500741481781
tot_cnt=67650 acc_cnt=66807 true_cnt=2268 pred_cnt=2432 true_pred_cnt=1743
acc.=0.987539 pre.=0.716694 rec.=0.768519 f1=0.741702
-----
```

```
epoch19 :
avg_training_loss = 0.003568630518875723
used time = 19.744449138641357
tot_cnt=67650 acc_cnt=66724 true_cnt=2268 pred_cnt=2500 true_pred_cnt=1702
acc.=0.986312 pre.=0.680800 rec.=0.750441 f1=0.713926
-----
```

```
epoch20 :
avg_training_loss = 0.0038663453943147434
used time = 20.032726287841797
tot_cnt=67650 acc_cnt=66796 true_cnt=2268 pred_cnt=2395 true_pred_cnt=1717
acc.=0.987376 pre.=0.716910 rec.=0.757055 f1=0.736436
-----
```

```
epoch21 :
avg_training_loss = 0.004754914542821448
used time = 19.64909291267395
tot_cnt=67650 acc_cnt=66808 true_cnt=2268 pred_cnt=2363 true_pred_cnt=1712
acc.=0.987554 pre.=0.724503 rec.=0.754850 f1=0.739365
-----
```

```
epoch22 :
avg_training_loss = 0.0034493475448428177
used time = 20.17191767692566
tot_cnt=67650 acc_cnt=66828 true_cnt=2268 pred_cnt=2443 true_pred_cnt=1774
acc.=0.987849 pre.=0.726156 rec.=0.782187 f1=0.753131
-----
```

```
epoch23 :
avg_training_loss = 0.002368495454938393
used time = 20.05716061592102
tot_cnt=67650 acc_cnt=66838 true_cnt=2268 pred_cnt=2414 true_pred_cnt=1758
acc.=0.987997 pre.=0.728252 rec.=0.775132 f1=0.750961
-----
```

```
epoch24 :
avg_training_loss = 0.0024966222094738575
used time = 19.636120319366455
tot_cnt=67650 acc_cnt=66819 true_cnt=2268 pred_cnt=2403 true_pred_cnt=1741
acc.=0.987716 pre.=0.724511 rec.=0.767637 f1=0.745451
-----
```

```
epoch25 :
avg_training_loss = 0.002398345883437029
used time = 19.945592403411865
tot_cnt=67650 acc_cnt=66832 true_cnt=2268 pred_cnt=2459 true_pred_cnt=1781
acc.=0.987908 pre.=0.724278 rec.=0.785273 f1=0.753543
-----
```

```
epoch26 :
avg_training_loss = 0.0021541275846676563
used time = 19.747682332992554
tot_cnt=67650 acc_cnt=66854 true_cnt=2268 pred_cnt=2410 true_pred_cnt=1771
acc.=0.988234 pre.=0.734855 rec.=0.780864 f1=0.757161
-----
```

```
epoch27 :
avg_training_loss = 0.002589257214013047
used time = 19.65958547592163
tot_cnt=67650 acc_cnt=66813 true_cnt=2268 pred_cnt=2200 true_pred_cnt=1661
acc.=0.987627 pre.=0.755000 rec.=0.732363 f1=0.743509
-----
```

```
epoch28 :
avg_training_loss = 0.003788698141969095
used time = 19.663668870925903
tot_cnt=67650 acc_cnt=66792 true_cnt=2268 pred_cnt=2451 true_pred_cnt=1742
acc.=0.987317 pre.=0.710730 rec.=0.768078 f1=0.738292
-----
```

```
epoch29 :
avg_training_loss = 0.0043403534438666395
used time = 19.721548795700073
tot_cnt=67650 acc_cnt=66773 true_cnt=2268 pred_cnt=2458 true_pred_cnt=1741
acc.=0.987036 pre.=0.708299 rec.=0.767637 f1=0.736775
-----
```

```
epoch30 :
avg_training_loss = 0.002424973906494501
used time = 19.658242225646973
tot_cnt=67650 acc_cnt=66823 true_cnt=2268 pred_cnt=2393 true_pred_cnt=1747
acc.=0.987775 pre.=0.730046 rec.=0.770282 f1=0.749625
```

```
-----
epoch31 :
avg_training_loss = 0.0027029094264263242
used time = 19.63636589050293
tot_cnt=67650 acc_cnt=66825 true_cnt=2268 pred_cnt=2425 true_pred_cnt=1764
acc.=0.987805 pre.=0.727423 rec.=0.777778 f1=0.751758
-----

epoch32 :
avg_training_loss = 0.001997230325158187
used time = 19.628108739852905
tot_cnt=67650 acc_cnt=66797 true_cnt=2268 pred_cnt=2395 true_pred_cnt=1722
acc.=0.987391 pre.=0.718998 rec.=0.759259 f1=0.738580
-----

epoch33 :
avg_training_loss = 0.0018937553711763518
used time = 19.633179664611816
tot_cnt=67650 acc_cnt=66817 true_cnt=2268 pred_cnt=2328 true_pred_cnt=1707
acc.=0.987687 pre.=0.733247 rec.=0.752646 f1=0.742820
-----

epoch34 :
avg_training_loss = 0.0015188782937883391
used time = 19.650415658950806
tot_cnt=67650 acc_cnt=66818 true_cnt=2268 pred_cnt=2354 true_pred_cnt=1718
acc.=0.987701 pre.=0.729822 rec.=0.757496 f1=0.743401
-----

epoch35 :
avg_training_loss = 0.0013448491575211053
used time = 19.614678144454956
tot_cnt=67650 acc_cnt=66809 true_cnt=2268 pred_cnt=2373 true_pred_cnt=1728
acc.=0.987568 pre.=0.728192 rec.=0.761905 f1=0.744667
-----

epoch36 :
avg_training_loss = 0.0013040016720614095
used time = 19.63805842399597
tot_cnt=67650 acc_cnt=66829 true_cnt=2268 pred_cnt=2408 true_pred_cnt=1760
acc.=0.987864 pre.=0.730897 rec.=0.776014 f1=0.752780
-----

epoch37 :
avg_training_loss = 0.0011056128918655276
used time = 19.623454332351685
tot_cnt=67650 acc_cnt=66816 true_cnt=2268 pred_cnt=2437 true_pred_cnt=1753
acc.=0.987672 pre.=0.719327 rec.=0.772928 f1=0.745165
-----

epoch38 :
avg_training_loss = 0.0014460872946761725
used time = 19.633283615112305
tot_cnt=67650 acc_cnt=66784 true_cnt=2268 pred_cnt=2441 true_pred_cnt=1732
acc.=0.987199 pre.=0.709545 rec.=0.763668 f1=0.735613
-----

epoch39 :
avg_training_loss = 0.002216070421098724
used time = 19.641984224319458
tot_cnt=67650 acc_cnt=66743 true_cnt=2268 pred_cnt=2570 true_pred_cnt=1772
acc.=0.986593 pre.=0.689494 rec.=0.781305 f1=0.732534
-----

epoch0 :
avg_training_loss = 0.12968249583807517
used time = 20.81510853767395
tot_cnt=67650 acc_cnt=66086 true_cnt=2268 pred_cnt=1669 true_pred_cnt=887
acc.=0.976881 pre.=0.531456 rec.=0.391093 f1=0.450597
-----

epoch1 :
avg_training_loss = 0.061509049783541464
used time = 20.867717027664185
tot_cnt=67650 acc_cnt=66283 true_cnt=2268 pred_cnt=2427 true_pred_cnt=1298
acc.=0.979793 pre.=0.534817 rec.=0.572310 f1=0.552929
-----

epoch2 :
avg_training_loss = 0.04830701707854984
used time = 20.863290548324585
tot_cnt=67650 acc_cnt=66533 true_cnt=2268 pred_cnt=2329 true_pred_cnt=1482
acc.=0.983489 pre.=0.636325 rec.=0.653439 f1=0.644768
-----

epoch3 :
avg_training_loss = 0.037629288951243005
used time = 20.84022617340088
tot_cnt=67650 acc_cnt=66681 true_cnt=2268 pred_cnt=2248 true_pred_cnt=1580
acc.=0.985676 pre.=0.702847 rec.=0.696649 f1=0.699734
-----

epoch4 :
```

```
avg_training_loss = 0.029383636835053212
used time = 20.911086797714233
tot_cnt=67650 acc_cnt=66746 true_cnt=2268 pred_cnt=2408 true_pred_cnt=1674
acc.=0.986637 pre.=0.695183 rec.=0.738095 f1=0.715997
-----

epoch5 :
avg_training_loss = 0.02497761080584188
used time = 20.904234170913696
tot_cnt=67650 acc_cnt=66775 true_cnt=2268 pred_cnt=2448 true_pred_cnt=1718
acc.=0.987066 pre.=0.701797 rec.=0.757496 f1=0.728584
-----

epoch6 :
avg_training_loss = 0.019472850589301642
used time = 20.900968551635742
tot_cnt=67650 acc_cnt=66789 true_cnt=2268 pred_cnt=2443 true_pred_cnt=1727
acc.=0.987273 pre.=0.706918 rec.=0.761464 f1=0.733178
-----

epoch7 :
avg_training_loss = 0.015465058679655782
used time = 20.856398820877075
tot_cnt=67650 acc_cnt=66761 true_cnt=2268 pred_cnt=2419 true_pred_cnt=1689
acc.=0.986859 pre.=0.698222 rec.=0.744709 f1=0.720717
-----

epoch8 :
avg_training_loss = 0.012643612275912068
used time = 20.81657838821411
tot_cnt=67650 acc_cnt=66803 true_cnt=2268 pred_cnt=2436 true_pred_cnt=1737
acc.=0.987480 pre.=0.713054 rec.=0.765873 f1=0.738520
-----

epoch9 :
avg_training_loss = 0.011289223911255364
used time = 20.927775859832764
tot_cnt=67650 acc_cnt=66808 true_cnt=2268 pred_cnt=2474 true_pred_cnt=1772
acc.=0.987554 pre.=0.716249 rec.=0.781305 f1=0.747364
-----

epoch10 :
avg_training_loss = 0.01049070752511813
used time = 20.97152543067932
tot_cnt=67650 acc_cnt=66744 true_cnt=2268 pred_cnt=2453 true_pred_cnt=1689
acc.=0.986608 pre.=0.688545 rec.=0.744709 f1=0.715526
-----

epoch11 :
avg_training_loss = 0.009074712362815075
used time = 20.868788480758667
tot_cnt=67650 acc_cnt=66815 true_cnt=2268 pred_cnt=2397 true_pred_cnt=1745
acc.=0.987657 pre.=0.727993 rec.=0.769400 f1=0.748124
-----

epoch12 :
avg_training_loss = 0.0068476059305386285
used time = 20.91217279434204
tot_cnt=67650 acc_cnt=66803 true_cnt=2268 pred_cnt=2426 true_pred_cnt=1740
acc.=0.987480 pre.=0.717230 rec.=0.767196 f1=0.741372
-----

epoch13 :
avg_training_loss = 0.00599152412940198
used time = 20.864755392074585
tot_cnt=67650 acc_cnt=66810 true_cnt=2268 pred_cnt=2523 true_pred_cnt=1789
acc.=0.987583 pre.=0.709076 rec.=0.788801 f1=0.746817
-----

epoch14 :
avg_training_loss = 0.005246497984007587
used time = 20.875263452529907
tot_cnt=67650 acc_cnt=66783 true_cnt=2268 pred_cnt=2396 true_pred_cnt=1705
acc.=0.987184 pre.=0.711603 rec.=0.751764 f1=0.731132
-----

epoch15 :
avg_training_loss = 0.0053799274399524595
used time = 20.857672929763794
tot_cnt=67650 acc_cnt=66803 true_cnt=2268 pred_cnt=2411 true_pred_cnt=1735
acc.=0.987480 pre.=0.719618 rec.=0.764991 f1=0.741611
-----

epoch16 :
avg_training_loss = 0.004360652814699909
used time = 20.961605548858643
tot_cnt=67650 acc_cnt=66811 true_cnt=2268 pred_cnt=2419 true_pred_cnt=1730
acc.=0.987598 pre.=0.715172 rec.=0.762787 f1=0.738212
-----

epoch17 :
avg_training_loss = 0.003777061625728457
used time = 20.90565800666809
```

```
tot_cnt=67650 acc_cnt=66790 true_cnt=2268 pred_cnt=2471 true_pred_cnt=1738
acc.=0.987288 pre.=0.703359 rec.=0.766314 f1=0.733488
-----
```

```
epoch18 :
avg_training_loss = 0.0034701810108395074
used time = 20.873661756515503
tot_cnt=67650 acc_cnt=66793 true_cnt=2268 pred_cnt=2459 true_pred_cnt=1748
acc.=0.987332 pre.=0.710858 rec.=0.770723 f1=0.739581
-----
```

```
epoch19 :
avg_training_loss = 0.0031898995553414655
used time = 20.89775013923645
tot_cnt=67650 acc_cnt=66760 true_cnt=2268 pred_cnt=2511 true_pred_cnt=1735
acc.=0.986844 pre.=0.690960 rec.=0.764991 f1=0.726093
-----
```

```
epoch20 :
avg_training_loss = 0.004473980017534391
used time = 20.98536205291748
tot_cnt=67650 acc_cnt=66796 true_cnt=2268 pred_cnt=2451 true_pred_cnt=1743
acc.=0.987376 pre.=0.711138 rec.=0.768519 f1=0.738716
-----
```

```
epoch21 :
avg_training_loss = 0.002937803822239553
used time = 21.00289011001587
tot_cnt=67650 acc_cnt=66787 true_cnt=2268 pred_cnt=2481 true_pred_cnt=1747
acc.=0.987243 pre.=0.704152 rec.=0.770282 f1=0.735734
-----
```

```
epoch22 :
avg_training_loss = 0.0033234132556464726
used time = 21.05168318748474
tot_cnt=67650 acc_cnt=66774 true_cnt=2268 pred_cnt=2491 true_pred_cnt=1753
acc.=0.987051 pre.=0.703733 rec.=0.772928 f1=0.736709
-----
```

```
epoch23 :
avg_training_loss = 0.0056323240122457185
used time = 20.858499765396118
tot_cnt=67650 acc_cnt=66842 true_cnt=2268 pred_cnt=2347 true_pred_cnt=1734
acc.=0.988056 pre.=0.738816 rec.=0.764550 f1=0.751463
-----
```

```
epoch24 :
avg_training_loss = 0.00331511553816908
used time = 20.870206117630005
tot_cnt=67650 acc_cnt=66856 true_cnt=2268 pred_cnt=2452 true_pred_cnt=1778
acc.=0.988263 pre.=0.725122 rec.=0.783951 f1=0.753390
-----
```

```
epoch25 :
avg_training_loss = 0.0028173714641510973
used time = 20.85948944091797
tot_cnt=67650 acc_cnt=66845 true_cnt=2268 pred_cnt=2407 true_pred_cnt=1752
acc.=0.988101 pre.=0.727877 rec.=0.772487 f1=0.749519
-----
```

```
epoch26 :
avg_training_loss = 0.002309983405541247
used time = 20.88984990119934
tot_cnt=67650 acc_cnt=66795 true_cnt=2268 pred_cnt=2333 true_pred_cnt=1674
acc.=0.987361 pre.=0.717531 rec.=0.738095 f1=0.727668
-----
```

```
epoch27 :
avg_training_loss = 0.0023352050875115582
used time = 21.04912543296814
tot_cnt=67650 acc_cnt=66856 true_cnt=2268 pred_cnt=2402 true_pred_cnt=1756
acc.=0.988263 pre.=0.731057 rec.=0.774250 f1=0.752034
-----
```

```
epoch28 :
avg_training_loss = 0.0016567001896580374
used time = 20.91758418083191
tot_cnt=67650 acc_cnt=66852 true_cnt=2268 pred_cnt=2379 true_pred_cnt=1742
acc.=0.988204 pre.=0.732240 rec.=0.768078 f1=0.749731
-----
```

```
epoch29 :
avg_training_loss = 0.0019434346692768607
used time = 21.053404331207275
tot_cnt=67650 acc_cnt=66847 true_cnt=2268 pred_cnt=2410 true_pred_cnt=1756
acc.=0.988130 pre.=0.728631 rec.=0.774250 f1=0.750748
-----
```

```
epoch30 :
avg_training_loss = 0.0016465106113689152
used time = 20.970534324645996
tot_cnt=67650 acc_cnt=66828 true_cnt=2268 pred_cnt=2367 true_pred_cnt=1721
acc.=0.987849 pre.=0.727081 rec.=0.758818 f1=0.742611
```

```
-----  
epoch31 :  
avg_training_loss = 0.0024887846680138057  
used time = 20.970592975616455  
tot_cnt=67650 acc_cnt=66846 true_cnt=2268 pred_cnt=2416 true_pred_cnt=1756  
acc.=0.988115 pre.=0.726821 rec.=0.774250 f1=0.749787  
-----
```

```
epoch32 :  
avg_training_loss = 0.0032951547874240424  
used time = 20.93352723121643  
tot_cnt=67650 acc_cnt=66799 true_cnt=2268 pred_cnt=2375 true_pred_cnt=1695  
acc.=0.987421 pre.=0.713684 rec.=0.747354 f1=0.730131  
-----
```

```
epoch33 :  
avg_training_loss = 0.0027192493123332348  
used time = 21.038065671920776  
tot_cnt=67650 acc_cnt=66839 true_cnt=2268 pred_cnt=2434 true_pred_cnt=1761  
acc.=0.988012 pre.=0.723500 rec.=0.776455 f1=0.749043  
-----
```

```
epoch34 :  
avg_training_loss = 0.0018986995060612836  
used time = 20.901716232299805  
tot_cnt=67650 acc_cnt=66850 true_cnt=2268 pred_cnt=2407 true_pred_cnt=1761  
acc.=0.988174 pre.=0.731616 rec.=0.776455 f1=0.753369  
-----
```

```
epoch35 :  
avg_training_loss = 0.0019324915850256372  
used time = 20.85337543487549  
tot_cnt=67650 acc_cnt=66842 true_cnt=2268 pred_cnt=2453 true_pred_cnt=1780  
acc.=0.988056 pre.=0.725642 rec.=0.784832 f1=0.754078  
-----
```

```
epoch36 :  
avg_training_loss = 0.0015663487000728217  
used time = 21.0176203250885  
tot_cnt=67650 acc_cnt=66851 true_cnt=2268 pred_cnt=2424 true_pred_cnt=1771  
acc.=0.988189 pre.=0.730611 rec.=0.780864 f1=0.754902  
-----
```

```
epoch37 :  
avg_training_loss = 0.0015905824467891782  
used time = 20.995115756988525  
tot_cnt=67650 acc_cnt=66831 true_cnt=2268 pred_cnt=2412 true_pred_cnt=1743  
acc.=0.987894 pre.=0.722637 rec.=0.768519 f1=0.744872  
-----
```

```
epoch38 :  
avg_training_loss = 0.0011002078769713874  
used time = 20.842395782470703  
tot_cnt=67650 acc_cnt=66822 true_cnt=2268 pred_cnt=2377 true_pred_cnt=1723  
acc.=0.987761 pre.=0.724863 rec.=0.759700 f1=0.741873  
-----
```

```
epoch39 :  
avg_training_loss = 0.0012470084851182353  
used time = 20.855738401412964  
tot_cnt=67650 acc_cnt=66829 true_cnt=2268 pred_cnt=2408 true_pred_cnt=1741  
acc.=0.987864 pre.=0.723007 rec.=0.767637 f1=0.744654  
-----
```

```
max F1_measure for BertAndLinear = 0.7339  
max F1_measure for BertAndTransformer = 0.7310  
max F1_measure for RoBERTaAndLinear = 0.7572  
max F1_measure for RoBERTaAndTransformer = 0.7549
```

进程结束,退出