

```
1 E:\Desktop\000\000\venv\Scripts\python.exe "D:\Bristol course\Data Science Dissertation\ExpBERT lab and thesis\BERT-IE-main\BERT-IE-main\Active Learning Strategies.py"
2 ds_add_1_818
3 len test: 1605
4 len train*val 3211
5 len unxep 11241
6 len train 2408
7 len val 803
8 Downloading and preparing dataset csv/default to C:/Users/admin/.cache/huggingface/datasets/csv/default-056550a7d1dd779d/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
bcc7ec513e1...
9 Downloading data files: 100%|██████████| 1/1 [00:00
<?, ?it/s]
10 Extracting data files: 100%|██████████| 1/1 [00:00<00
:00, 2.86it/s]
11 0%|          | 0/1 [00:00<?, ?it/s]Dataset csv
downloaded and prepared to C:/Users/admin/.cache/
huggingface/datasets/csv/default-056550a7d1dd779d/0.0
.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
bcc7ec513e1. Subsequent calls will reuse this data.
12 100%|██████████| 1/1 [00:00<00:00, 8.77it/s]
13 11241
14 torch.Size([11241, 27])
15 Downloading data files: 100%|██████████| 1/1 [00:00
<?, ?it/s]
16 Extracting data files: 100%|██████████| 1/1 [00:00<00
:00, 124.96it/s]
17 Downloading and preparing dataset csv/default to C:/Users/admin/.cache/huggingface/datasets/csv/default-733142cc9f9e5a6d/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
bcc7ec513e1...
18 Dataset csv downloaded and prepared to C:/Users/admin/.cache/huggingface/datasets/csv/default-
733142cc9f9e5a6d/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
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18 bcc7ec513e1. Subsequent calls will reuse this data.
19 100%|██████████| 1/1 [00:00<00:00, 97.09it/s]
20 Downloading data files: 100%|██████████| 1/1 [00:00
-<, ?it/s]
21 Downloading and preparing dataset csv/default to C:/Users/admin/.cache/huggingface/datasets/csv/default-536bdc940f0bde0e/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
bcc7ec513e1...
22 Extracting data files: 100%|██████████| 1/1 [00:00<00
:00, 109.08it/s]
23 100%|██████████| 1/1 [00:00<00:00, 88.60it/s]
24 Dataset csv downloaded and prepared to C:/Users/admin/.cache/huggingface/datasets/csv/default-536bdc940f0bde0e/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
bcc7ec513e1. Subsequent calls will reuse this data.
25 noexp_df.shape[0] last 11241
26 unexplained dataset length is:
27 11241
28 embedding begin
29 trian and val dataset length: 21060
30 ds_add_1_818
31 ds_add_1_818
32 ds_add_1_818
33 ds_add_1_818
34 ds_add_1_818
35 ds_add_1_818
36 ds_add_1_818
37 ds_add_1_818
38 234.0
39 ./embeddings/NEW_bertie_embeddings_textattack/bert-base-uncased-MNLI_subset_1.pt
40 Downloading and preparing dataset csv/default to C:/Users/admin/.cache/huggingface/datasets/csv/default-ff0c4e58693729a6/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
bcc7ec513e1...
41 Dataset csv downloaded and prepared to C:/Users/admin/.cache/huggingface/datasets/csv/default-ff0c4e58693729a6/0.0.0/
```

```
41      6954658bab30a358235fa864b05cf819af0e179325c740e4bc853  
bcc7ec513e1. Subsequent calls will reuse this data.  
42 Downloading data files: 100%|██████████| 1/1 [00:00  
<?, ?it/s]  
43 Extracting data files: 100%|██████████| 1/1 [00:00<00  
:00, 2008.77it/s]  
44 100%|██████████| 1/1 [00:00<00:00, 95.19it/s]  
45 test len 14445  
46 Downloading and preparing dataset csv/default to C:/  
Users/admin/.cache/huggingface/datasets/csv/default-  
c1539cb229b83cd4/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853  
bcc7ec513e1...  
47 Downloading data files: 100%|██████████| 1/1 [00:00  
<?, ?it/s]  
48 Extracting data files: 100%|██████████| 1/1 [00:00<00  
:00, 140.37it/s]  
49 100%|██████████| 1/1 [00:00<00:00, 71.07it/s]  
50 Dataset csv downloaded and prepared to C:/Users/admin  
.cache/huggingface/datasets/csv/default-  
c1539cb229b83cd4/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853  
bcc7ec513e1. Subsequent calls will reuse this data.  
51 preprocess_samples begin ...  
52 uncertainty shape: 1530  
53 ./test_embeddings/NEW_bertie_embeddings_textattack/  
bert-base-uncased-MNLI_subset_1.pt  
54 Downloading data files: 100%|██████████| 1/1 [00:00  
<?, ?it/s]  
55 Extracting data files: 100%|██████████| 1/1 [00:00<00  
:00, 999.60it/s]  
56 0%|          | 0/1 [00:00<?, ?it/s]Downloading and  
preparing dataset csv/default to C:/Users/admin/.  
cache/huggingface/datasets/csv/default-  
36551c5f9b434101/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853  
bcc7ec513e1...  
57 Dataset csv downloaded and prepared to C:/Users/admin  
.cache/huggingface/datasets/csv/default-  
36551c5f9b434101/0.0.0/
```

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57      6954658bab30a358235fa864b05cf819af0e179325c740e4bc853  
      bcc7ec513e1. Subsequent calls will reuse this data.  
58 100%|██████████| 1/1 [00:00<00:00, 99.24it/s]  
59 val len 7227  
60 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
61 Extracting data files: 100%|██████████| 1/1 [00:00<00  
:00, 156.73it/s]  
62 Generating train split: 0 examples [00:00, ? examples  
/s]Downloading and preparing dataset csv/default to C  
:/Users/admin/.cache/huggingface/datasets/csv/default  
-9a9d14b596ff71cb/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853  
bcc7ec513e1...  
63 100%|██████████| 1/1 [00:00<00:00, 98.57it/s]  
64 Dataset csv downloaded and prepared to C:/Users/admin  
/.cache/huggingface/datasets/csv/default-  
9a9d14b596ff71cb/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853  
bcc7ec513e1. Subsequent calls will reuse this data.  
65 preprocess_samples begin ...  
66 uncertainty shape: 720  
67 ./val_embeddings/NEW_bertie_embeddings_textattack/  
bert-base-uncased-MNLI_subset_1.pt  
68 classify begin  
69 2408  
70 0%|          | 0/20 [00:00<?, ?it/s]ds_add_1_818  
71 5%|█         | 1/20 [00:04<01:17,  4.07s/it]  
    ds_add_1_818  
72 239it [00:04, 135.08it/s]ds_add_1_818  
73 ds_add_1_818  
74 ds_add_1_818  
75 ds_add_1_818  
76 535it [00:14, 60.17it/s]ds_add_1_818  
77 ds_add_1_818  
78 ds_add_1_818  
79 ds_add_1_818  
80 859it [00:24, 59.80it/s]ds_add_1_818  
81 ds_add_1_818  
82 ds_add_1_818
```

```
83 ds_add_1_818
84 1101it [00:34, 43.19it/s]ds_add_1_818
85 ds_add_1_818
86 ds_add_1_818
87 1173it [00:43, 19.49it/s]ds_add_1_818
88 1397it [00:43, 53.30it/s]ds_add_1_818
89 ds_add_1_818
90 ds_add_1_818
91 1466it [00:52, 20.29it/s]ds_add_1_818
92 1693it [00:53, 57.34it/s]ds_add_1_818
93 ds_add_1_818
94 ds_add_1_818
95 1759it [01:02, 20.48it/s]ds_add_1_818
96 1982it [01:02, 57.65it/s]ds_add_1_818
97 ds_add_1_818
98 ds_add_1_818
99 2052it [01:12, 20.16it/s]ds_add_1_818
100 2267it [01:12, 54.84it/s]ds_add_1_818
101 ds_add_1_818
102 ds_add_1_818
103 2345it [01:21, 20.62it/s]ds_add_1_818
104 2631it [01:22, 77.31it/s]ds_add_1_818
105 ds_add_1_818
106 ds_add_1_818
107 ds_add_1_818
108 2860it [01:32, 43.41it/s]ds_add_1_818
109 ds_add_1_818
110 ds_add_1_818
111 2931it [01:41, 18.85it/s]ds_add_1_818
112 3221it [01:41, 71.65it/s]ds_add_1_818
113 ds_add_1_818
114 ds_add_1_818
115 ds_add_1_818
116 3454it [01:51, 43.08it/s]ds_add_1_818
117 ds_add_1_818
118 ds_add_1_818
119 ds_add_1_818
120 3792it [02:01, 58.28it/s]ds_add_1_818
121 ds_add_1_818
122 ds_add_1_818
123 ds_add_1_818
```

```
124 4042it [02:10, 43.98it/s]ds_add_1_818
125 ds_add_1_818
126 ds_add_1_818
127 ds_add_1_818
128 4378it [02:20, 57.96it/s]ds_add_1_818
129 ds_add_1_818
130 ds_add_1_818
131 ds_add_1_818
132 4624it [02:30, 43.48it/s]ds_add_1_818
133 ds_add_1_818
134 ds_add_1_818
135 ds_add_1_818
136 4959it [02:39, 57.55it/s]ds_add_1_818
137 ds_add_1_818
138 ds_add_1_818
139 ds_add_1_818
140 5209it [02:49, 44.17it/s]ds_add_1_818
141 ds_add_1_818
142 ds_add_1_818
143 ds_add_1_818
144 5546it [02:58, 58.20it/s]ds_add_1_818
145 ds_add_1_818
146 ds_add_1_818
147 ds_add_1_818
148 5837it [03:08, 53.43it/s]ds_add_1_818
149 ds_add_1_818
150 epoch number 19
151 ds_add_1_818
152 ds_add_1_818
153 5860it [03:22, 53.43it/s]ds_add_1_818
154 ds_add_1_818
155 global t is : 0
156 test epoch results {'accuracy': 0.4666666666666667
    , 'f1_weighted': 0.38275704654023945, 'f1_macro': 0.
    2584988681096172, 'f1': array([0.77806789, 0
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157      0.          , 0.40715884, 0.56652361, 0.
    47297297]), 'precision': array([0.79255319, 0
    .          , 0.          , 0.3          , 0.66666667,
158      0.          , 0.33333333, 0.41860465, 0.7
    ]), 'recall': array([0.76410256, 0.          ,
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158 0.          , 0.0483871 , 0.00934579,
159      0.          , 0.52298851, 0.87610619, 0.
      35714286])}
160 val epoch_results {'accuracy': 0.5805555555555556, 'f1_weighted': 0.49955475314849, 'f1_macro': 0.
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161      0.          , 0.5          , 0.68176101, 0.
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162      0.          , 0.52173913, 0.53557312, 0.
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.          , 0.          , 0.02597403, 0.02857143,
163      0.          , 0.48          , 0.93771626, 0.
26086957])}
164 diversity len embedding 11241
165 MLP_1h(
166     (l1): Linear(in_features=27, out_features=100,
bias=True)
167     (l2): Linear(in_features=100, out_features=9, bias
=True)
168 )
169 5860it [03:23, 28.77it/s]
170 [4828, 735, 355, 5575, 6248, 6722, 10424, 8715, 3216
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174 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 142.82it/s]  
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182 Downloading data files: 100%|██████████| 1/1 [00:00<  
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3bcc7ec513e1...  
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192 t is : 1  
193 addlen is: 500  
194 noexp_df.shape[0] last 8993  
195 unexplained dataset length is:  
196 8993  
197 embedding begin  
198 trian and val dataset length: 45900  
199 ds_add_1_818  
200 ds_add_1_818  
201 ds_add_1_818  
202 ds_add_1_818  
203 ds_add_1_818  
204 ds_add_1_818  
205 ds_add_1_818  
206 ds_add_1_818
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207 459.0
208 ./embeddings/NEW_bertie_embeddings_textattack/bert-
    base-uncased-MNLI_subset_1.pt
209 Found cached dataset csv (C:/Users/admin/.cache/
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    0/
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    3bcc7ec513e1)
210 100%|██████████| 1/1 [00:00<00:00, 86.95it/s]
211 test len 16050
212 Downloading and preparing dataset csv/default to C:/-
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    3bcc7ec513e1...
213 Downloading data files: 100%|██████████| 1/1 [00:00
    <?, ?it/s]
214 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 156.94it/s]
215 100%|██████████| 1/1 [00:00<00:00, 106.49it/s]
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217 preprocess_samples begin ...
218 uncertainty shape: 1530
219 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
220 Found cached dataset csv (C:/Users/admin/.cache/
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    3bcc7ec513e1)
221 100%|██████████| 1/1 [00:00<00:00, 91.00it/s]
222 val len 8030
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224 Downloading data files: 100%|██████████| 1/1 [00:00
    <?, ?it/s]
225 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 144.10it/s]
226 100%|██████████| 1/1 [00:00<00:00, 89.80it/s]
227 Dataset csv downloaded and prepared to C:/Users/
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    3bcc7ec513e1. Subsequent calls will reuse this data.
228 preprocess_samples begin ...
229 uncertainty shape: 720
230 ./val_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
231 classify begin
232 4656
233 0%|          | 0/20 [00:00<?, ?it/s]ds_add_1_818
234 ds_add_1_818
235 563it [00:14, 140.48it/s]ds_add_1_818
236 ds_add_1_818
237 ds_add_1_818
238 ds_add_1_818
239 1136it [00:28, 115.67it/s]ds_add_1_818
240 ds_add_1_818
241 ds_add_1_818
242 ds_add_1_818
243 1702it [00:41, 113.82it/s]ds_add_1_818
244 ds_add_1_818
245 ds_add_1_818
246 1722it [00:52, 113.82it/s]ds_add_1_818
247 2223it [00:55, 133.82it/s]ds_add_1_818
248 ds_add_1_818
249 ds_add_1_818
250 ds_add_1_818
251 2826it [01:08, 147.67it/s]ds_add_1_818
252 ds_add_1_818
253 ds_add_1_818
254 ds_add_1_818
255 3429it [01:22, 161.81it/s]ds_add_1_818
256 ds_add_1_818
257 ds_add_1_818
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258 3445it [01:35, 13.32it/s] ds_add_1_818
259 3985it [01:36, 149.99it/s]ds_add_1_818
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261 ds_add_1_818
262 ds_add_1_818
263 4543it [01:49, 116.16it/s]ds_add_1_818
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266 ds_add_1_818
267 5096it [02:02, 111.68it/s]ds_add_1_818
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270 ds_add_1_818
271 5735it [02:16, 153.22it/s]ds_add_1_818
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273 ds_add_1_818
274 ds_add_1_818
275 6299it [02:29, 118.93it/s]ds_add_1_818
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279 6861it [02:42, 108.53it/s]ds_add_1_818
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282 ds_add_1_818
283 7451it [02:56, 139.30it/s]ds_add_1_818
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286 ds_add_1_818
287 7956it [03:09, 103.95it/s]ds_add_1_818
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289 ds_add_1_818
290 8037it [03:22, 18.82it/s] ds_add_1_818
291 8523it [03:23, 136.96it/s]ds_add_1_818
292 ds_add_1_818
293 ds_add_1_818
294 ds_add_1_818
295 9142it [03:37, 147.67it/s]ds_add_1_818
296 ds_add_1_818
297 ds_add_1_818
298 ds_add_1_818
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301 ds_add_1_818
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303 10306it [04:04, 148.34it/s]ds_add_1_818
304 ds_add_1_818
305 ds_add_1_818
306 ds_add_1_818
307 10859it [04:17, 113.81it/s]ds_add_1_818
308 ds_add_1_818
309 ds_add_1_818
310 ds_add_1_818
311 11413it [04:30, 111.11it/s]ds_add_1_818
312 ds_add_1_818
313 epoch number 19
314 ds_add_1_818
315 ds_add_1_818
316 11480it [04:42, 111.11it/s]ds_add_1_818
317 ds_add_1_818
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371 639.0
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8bd21e27f81d26a2/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1...
388 Downloading data files: 100%|██████████| 1/1 [00:00
<?, ?it/s]
389 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 140.21it/s]
390 100%|██████████| 1/1 [00:00<00:00, 100.07it/s]
391 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
8bd21e27f81d26a2/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1. Subsequent calls will reuse this data.
392 preprocess_samples begin ...
393 uncertainty shape: 720
394 ./val_embeddings/NEW_bertie_embeddings_textattack/
bert-base-uncased-MNLI_subset_1.pt
395 classify begin
396 6454
397 0%|          | 0/20 [00:00<?, ?it/s]ds_add_1_818
398 ds_add_1_818
399 791it [00:08, 442.23it/s]ds_add_1_818
400 ds_add_1_818
401 ds_add_1_818
402 800it [00:21, 15.69it/s] ds_add_1_818
403 1532it [00:22, 279.82it/s]ds_add_1_818
404 ds_add_1_818
405 ds_add_1_818
406 ds_add_1_818
```

```
407 2328it [00:36, 263.96it/s]ds_add_1_818
408 ds_add_1_818
409 ds_add_1_818
410 ds_add_1_818
411 3180it [00:49, 321.19it/s]ds_add_1_818
412 ds_add_1_818
413 ds_add_1_818
414 3196it [01:00, 321.19it/s]ds_add_1_818
415 3942it [01:03, 318.55it/s]ds_add_1_818
416 ds_add_1_818
417 ds_add_1_818
418 ds_add_1_818
419 4752it [01:17, 274.65it/s]ds_add_1_818
420 ds_add_1_818
421 ds_add_1_818
422 ds_add_1_818
423 5555it [01:30, 272.06it/s]ds_add_1_818
424 ds_add_1_818
425 ds_add_1_818
426 ds_add_1_818
427 6311it [01:44, 220.06it/s]ds_add_1_818
428 ds_add_1_818
429 ds_add_1_818
430 ds_add_1_818
431 7150it [01:58, 276.32it/s]ds_add_1_818
432 ds_add_1_818
433 ds_add_1_818
434 7192it [02:11, 19.17it/s] ds_add_1_818
435 7940it [02:11, 282.74it/s]ds_add_1_818
436 ds_add_1_818
437 ds_add_1_818
438 ds_add_1_818
439 8754it [02:25, 280.42it/s]ds_add_1_818
440 ds_add_1_818
441 ds_add_1_818
442 ds_add_1_818
443 9571it [02:39, 314.14it/s]ds_add_1_818
444 ds_add_1_818
445 ds_add_1_818
446 9588it [02:50, 314.14it/s]ds_add_1_818
447 10345it [02:53, 326.26it/s]ds_add_1_818
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448 ds_add_1_818
449 ds_add_1_818
450 ds_add_1_818
451 11167it [03:07, 280.61it/s]ds_add_1_818
452 ds_add_1_818
453 ds_add_1_818
454 ds_add_1_818
455 11961it [03:21, 276.59it/s]ds_add_1_818
456 ds_add_1_818
457 ds_add_1_818
458 ds_add_1_818
459 12775it [03:34, 270.25it/s]ds_add_1_818
460 ds_add_1_818
461 ds_add_1_818
462 ds_add_1_818
463 13500it [03:48, 209.84it/s]ds_add_1_818
464 ds_add_1_818
465 ds_add_1_818
466 13584it [04:01, 21.08it/s] ds_add_1_818
467 14301it [04:02, 270.65it/s]ds_add_1_818
468 ds_add_1_818
469 ds_add_1_818
470 ds_add_1_818
471 15123it [04:15, 277.41it/s]ds_add_1_818
472 ds_add_1_818
473 ds_add_1_818
474 ds_add_1_818
475 15906it [04:29, 257.67it/s]ds_add_1_818
476 ds_add_1_818
477 epoch number 19
478 ds_add_1_818
479 ds_add_1_818
480 15980it [04:40, 257.67it/s]ds_add_1_818
481 ds_add_1_818
482 global t is : 2
483 test epoch results {'accuracy': 0.5470588235294118
, 'f1_weighted': 0.5078236460578942, 'f1_macro': 0.
38337745805467166, 'f1': array([0.82673267, 0
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484 0. , 0.49819495, 0.58216783, 0.5535248
]), 'precision': array([0.79904306, 0. , 0.5
```

```

484     , 0.30508475, 0.51503759,
485     0.          , 0.66990291, 0.48121387, 0.
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      .          , 0.14285714, 0.14516129, 0.64018692,
486     0.          , 0.39655172, 0.73672566, 0.
      54081633])}
487 val epoch results {'accuracy': 0.6152777777777778, 'f1_weighted': 0.5753782690896456, 'f1_macro': 0.
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488     0.          , 0.51851852, 0.70958512, 0.
45121951]), 'precision': array([0.82882883, 0
      .          , 1.          , 0.37837838, 0.4
489     0.          , 0.84848485, 0.60487805, 0.
51388889]), 'recall': array([0.87619048, 0
      .          , 0.2          , 0.18181818, 0.62857143,
490     0.          , 0.37333333, 0.85813149, 0.
40217391])}
491 15980it [04:44, 56.15it/s]
492 diversity new embedding 7195
493 diversity len embedding 7195
494 MLP_1h(
495     (l1): Linear(in_features=33, out_features=100,
        bias=True)
496     (l2): Linear(in_features=100, out_features=9, bias
        =True)
497 )
498 [1120, 6335, 1440, 953, 797, 6098, 3173, 4099, 3535
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499 ['people were displaced sent to shelters evacuated  
and relocated temporary\n']  
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502 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 133.21it/s]  
503 100%|██████████| 1/1 [00:00<00:00, 99.59it/s]
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3bcc7ec513e1. Subsequent calls will reuse this data.
505 Downloading data files: 100%|██████████| 1/1 [00:00<
00:00, 2101.35it/s]
506 Downloading and preparing dataset csv/default to C:/_
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6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1...
507 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 136.78it/s]
508 100%|██████████| 1/1 [00:00<00:00, 76.82it/s]
509 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
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6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1. Subsequent calls will reuse this data.
510 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
511 Downloading and preparing dataset csv/default to C:/_
Users/admin/.cache/huggingface/datasets/csv/default-
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6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1...
512 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 41.03it/s]
513 100%|██████████| 1/1 [00:00<00:00, 96.50it/s]
514 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
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6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1. Subsequent calls will reuse this data.
515 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
516 Downloading and preparing dataset csv/default to C:/_
Users/admin/.cache/huggingface/datasets/csv/default-
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6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
```

```
516 3bcc7ec513e1...
517 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 124.45it/s]
518 100%|██████████| 1/1 [00:00<00:00, 92.34it/s]
519 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    99496edecae45a4f/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1. Subsequent calls will reuse this data.
520 t is : 3
521 addlen is: 1500
522 noexp_df.shape[0] last 5756
523 unexplained dataset length is:
524 5756
525 embedding begin
526 trian and val dataset length: 93960
527 ds_add_1_818
528 ds_add_1_818
529 ds_add_1_818
530 ds_add_1_818
531 ds_add_1_818
532 ds_add_1_818
533 ds_add_1_818
534 ds_add_1_818
535 783.0
536 ./embeddings/NEW_bertie_embeddings_textattack/bert-
    base-uncased-MNLI_subset_1.pt
537 Found cached dataset csv (C:/Users/admin/.cache/
    huggingface/datasets/csv/default-ff0c4e58693729a6/0.
    0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1)
538 100%|██████████| 1/1 [00:00<?, ?it/s]
539 test len 19260
540 Downloading and preparing dataset csv/default to C:/
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541 Downloading data files: 100%|██████████| 1/1 [00:00
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542 Extracting data files: 100%|██████████| 1/1 [00:00
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543 100%|██████████| 1/1 [00:00<00:00, 63.70it/s]
544 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
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    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1. Subsequent calls will reuse this data.
545 preprocess_samples begin ...
546 uncertainty shape: 1530
547 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
548 val len 9636
549 Found cached dataset csv (C:/Users/admin/.cache/
    huggingface/datasets/csv/default-36551c5f9b434101/0.
    0.0/
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    3bcc7ec513e1)
550 100%|██████████| 1/1 [00:00<?, ?it/s]
551 Downloading data files: 100%|██████████| 1/1 [00:00<
    00:00, 2047.00it/s]
552 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 125.48it/s]
553 Downloading and preparing dataset csv/default to C:/
    Users/admin/.cache/huggingface/datasets/csv/default-
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554 100%|██████████| 1/1 [00:00<00:00, 100.03it/s]
555 Dataset csv downloaded and prepared to C:/Users/
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    3bcc7ec513e1. Subsequent calls will reuse this data.
556 preprocess_samples begin ...
557 uncertainty shape: 720
558 ./val_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
559 classify begin
560 7893
561 0% | 0/20 [00:00<?, ?it/s]ds_add_1_818
```

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562 5% | 1/20 [00:07<02:29, 7.87s/it]
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563 918it [00:08, 524.13it/s]ds_add_1_818
564 ds_add_1_818
565 ds_add_1_818
566 ds_add_1_818
567 1944it [00:22, 433.98it/s]ds_add_1_818
568 ds_add_1_818
569 ds_add_1_818
570 ds_add_1_818
571 2842it [00:36, 339.60it/s]ds_add_1_818
572 ds_add_1_818
573 ds_add_1_818
574 ds_add_1_818
575 3881it [00:51, 499.65it/s]ds_add_1_818
576 ds_add_1_818
577 ds_add_1_818
578 ds_add_1_818
579 4883it [01:05, 462.76it/s]ds_add_1_818
580 ds_add_1_818
581 ds_add_1_818
582 4896it [01:19, 12.14it/s] ds_add_1_818
583 5815it [01:20, 448.59it/s]ds_add_1_818
584 ds_add_1_818
585 ds_add_1_818
586 ds_add_1_818
587 6840it [01:35, 484.21it/s]ds_add_1_818
588 ds_add_1_818
589 ds_add_1_818
590 6854it [01:49, 12.28it/s] ds_add_1_818
591 7740it [01:50, 414.46it/s]ds_add_1_818
592 ds_add_1_818
593 ds_add_1_818
594 7833it [02:02, 23.01it/s] ds_add_1_818
595 8803it [02:04, 475.67it/s]ds_add_1_818
596 ds_add_1_818
597 ds_add_1_818
598 8812it [02:16, 16.24it/s] ds_add_1_818
599 9697it [02:17, 416.96it/s]ds_add_1_818
600 ds_add_1_818
601 ds_add_1_818
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602 ds_add_1_818
603 10723it [02:31, 433.54it/s]ds_add_1_818
604 ds_add_1_818
605 ds_add_1_818
606 ds_add_1_818
607 11720it [02:45, 422.36it/s]ds_add_1_818
608 ds_add_1_818
609 ds_add_1_818
610 11748it [02:56, 422.36it/s]ds_add_1_818
611 12719it [03:00, 489.43it/s]ds_add_1_818
612 ds_add_1_818
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614 ds_add_1_818
615 13689it [03:15, 403.17it/s]ds_add_1_818
616 ds_add_1_818
617 ds_add_1_818
618 13707it [03:28, 12.10it/s] ds_add_1_818
619 14644it [03:29, 466.88it/s]ds_add_1_818
620 ds_add_1_818
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622 ds_add_1_818
623 15606it [03:44, 417.31it/s]ds_add_1_818
624 ds_add_1_818
625 ds_add_1_818
626 15665it [03:56, 20.68it/s] ds_add_1_818
627 16585it [03:58, 474.36it/s]ds_add_1_818
628 ds_add_1_818
629 ds_add_1_818
630 ds_add_1_818
631 17565it [04:11, 400.86it/s]ds_add_1_818
632 ds_add_1_818
633 ds_add_1_818
634 ds_add_1_818
635 18565it [04:25, 415.36it/s]ds_add_1_818
636 ds_add_1_818
637 ds_add_1_818
638 18602it [04:38, 18.75it/s] ds_add_1_818
639 19575it [04:39, 493.24it/s]ds_add_1_818
640 ds_add_1_818
641 epoch number 19
642 ds_add_1_818
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645 ds_add_1_818
646 global t is : 3
647 19580it [04:54, 66.41it/s]
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656 diversity new embedding 5756
657 diversity len embedding 5756
658 MLP_1h(
659   (l1): Linear(in_features=36, out_features=100,
bias=True)
660   (l2): Linear(in_features=100, out_features=9, bias
=True)
661 )
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663 ['people are praying god bless folded hands lord in  
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665 Extracting data files: 100%|██████████| 1/1 [00:00<  
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669 Downloading data files: 100%|██████████| 1/1 [00:00  
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672 100%|██████████| 1/1 [00:00<00:00, 66.64it/s]  
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677 100%|██████████| 1/1 [00:00<00:00, 91.07it/s]
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679 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
680 Extracting data files: 100%|██████████| 1/1 [00:00<
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3bcc7ec513e1. Subsequent calls will reuse this data.
683 100%|██████████| 1/1 [00:00<00:00, 79.85it/s]
684 t is : 4
685 addlen is: 2000
686 noexp_df.shape[0] last 4605
687 unexplained dataset length is:
688 4605
689 embedding begin
690 trian and val dataset length: 117000
691 ds_add_1_818
692 ds_add_1_818
693 ds_add_1_818
694 ds_add_1_818
695 ds_add_1_818
696 ds_add_1_818
697 ds_add_1_818
698 ds_add_1_818
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700 ./embeddings/NEW_bertie_embeddings_textattack/bert-
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701 Found cached dataset csv (C:/Users/admin/.cache/
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    0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1)
702 100%|██████████| 1/1 [00:00<00:00, 63.98it/s]
703 test len 20865
704 Downloading data files: 100%|██████████| 1/1 [00:00
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705 Extracting data files: 100%|██████████| 1/1 [00:00<
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    3bcc7ec513e1...
707 100%|██████████| 1/1 [00:00<00:00, 90.87it/s]
708 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    11ad5358b3cef553/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1. Subsequent calls will reuse this data.
709 preprocess_samples begin ...
710 uncertainty shape: 1530
711 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
712 Found cached dataset csv (C:/Users/admin/.cache/
    huggingface/datasets/csv/default-36551c5f9b434101/0.
    0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1)
713 100%|██████████| 1/1 [00:00<00:00, 98.35it/s]
714 val len 10439
715 Downloading and preparing dataset csv/default to C:/
    Users/admin/.cache/huggingface/datasets/csv/default-
    589b40a7e156e746/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1...
```

```
716 Downloading data files: 100%|██████████| 1/1 [00:00
    <?, ?it/s]
717 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 139.31it/s]
718 100%|██████████| 1/1 [00:00<00:00, 83.32it/s]
719 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    589b40a7e156e746/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1. Subsequent calls will reuse this data.
720 preprocess_samples begin ...
721 uncertainty shape: 720
722 ./val_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
723 classify begin
724 9044
725     0%|                 | 0/20 [00:00<?, ?it/s]ds_add_1_818
726 ds_add_1_818
727 1048it [00:15, 534.89it/s]ds_add_1_818
728 ds_add_1_818
729 ds_add_1_818
730 ds_add_1_818
731 2210it [00:30, 564.68it/s]ds_add_1_818
732 ds_add_1_818
733 ds_add_1_818
734 ds_add_1_818
735 3290it [00:44, 511.24it/s]ds_add_1_818
736 ds_add_1_818
737 ds_add_1_818
738 ds_add_1_818
739 4481it [00:58, 589.29it/s]ds_add_1_818
740 ds_add_1_818
741 ds_add_1_818
742 ds_add_1_818
743 5585it [01:12, 502.82it/s]ds_add_1_818
744 ds_add_1_818
745 ds_add_1_818
746 5626it [01:25, 19.33it/s] ds_add_1_818
747 6726it [01:26, 589.13it/s]ds_add_1_818
748 ds_add_1_818
749 ds_add_1_818
```

```
750 ds_add_1_818
751 7865it [01:41, 592.51it/s]ds_add_1_818
752 ds_add_1_818
753 ds_add_1_818
754 ds_add_1_818
755 8993it [01:55, 588.53it/s]ds_add_1_818
756 ds_add_1_818
757 ds_add_1_818
758 ds_add_1_818
759 10125it [02:09, 578.96it/s]ds_add_1_818
760 ds_add_1_818
761 ds_add_1_818
762 ds_add_1_818
763 11182it [02:23, 497.17it/s]ds_add_1_818
764 ds_add_1_818
765 ds_add_1_818
766 11251it [02:36, 20.60it/s] ds_add_1_818
767 12346it [02:37, 584.36it/s]ds_add_1_818
768 ds_add_1_818
769 ds_add_1_818
770 ds_add_1_818
771 13415it [02:51, 504.63it/s]ds_add_1_818
772 ds_add_1_818
773 ds_add_1_818
774 13501it [03:04, 22.13it/s] ds_add_1_818
775 14587it [03:05, 566.58it/s]ds_add_1_818
776 ds_add_1_818
777 ds_add_1_818
778 ds_add_1_818
779 15667it [03:19, 484.79it/s]ds_add_1_818
780 ds_add_1_818
781 ds_add_1_818
782 ds_add_1_818
783 16852it [03:33, 602.40it/s]ds_add_1_818
784 ds_add_1_818
785 ds_add_1_818
786 16876it [03:46, 17.15it/s] ds_add_1_818
787 17948it [03:47, 590.48it/s]ds_add_1_818
788 ds_add_1_818
789 ds_add_1_818
790 ds_add_1_818
```

```
791 19107it [04:01, 582.05it/s]ds_add_1_818
792 ds_add_1_818
793 ds_add_1_818
794 19126it [04:14, 15.98it/s] ds_add_1_818
795 20206it [04:15, 581.42it/s]ds_add_1_818
796 ds_add_1_818
797 ds_add_1_818
798 ds_add_1_818
799 21306it [04:29, 519.18it/s]ds_add_1_818
800 ds_add_1_818
801 ds_add_1_818
802 ds_add_1_818
803 22418it [04:43, 521.93it/s]ds_add_1_818
804 ds_add_1_818
805 epoch number 19
806 ds_add_1_818
807 ds_add_1_818
808 22500it [04:54, 521.93it/s]ds_add_1_818
809 ds_add_1_818
810 global t is : 4
811 test epoch results {'accuracy': 0.5947712418300654
, 'f1_weighted': 0.5660155316551307, 'f1_macro': 0.
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]), 'recall': array([0.8952381 , 0. , 0
. ])}  
816  
817
```

```
817 .5      , 0.14285714, 0.65714286,  
818       0.        , 0.6        , 0.89273356, 0.  
     39130435])}  
819 22500it [04:58, 75.33it/s]  
820 diversity new embedding 4605  
821 diversity len embedding 4605  
822 MLP_1h(  
823   (l1): Linear(in_features=39, out_features=100,  
     bias=True)  
824   (l2): Linear(in_features=100, out_features=9, bias  
     =True)  
825 )  
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827 ['there is significant damage homes losses no  
electricity water has been restored\n']  
828 Downloading data files: 100%|██████████| 1/1 [00:00<  
00:00, 1760.83it/s]  
829 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 136.01it/s]  
830 Generating train split: 0 examples [00:00, ?]
```

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830 examples/s]Downloading and preparing dataset csv/
default to C:/Users/admin/.cache/huggingface/
datasets/csv/default-04e9d0de3fd8e4/0.0.0/
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3bcc7ec513e1...
831 100%|██████████| 1/1 [00:00<00:00, 89.69it/s]
832 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
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6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1. Subsequent calls will reuse this data.
833 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
834 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 142.81it/s]
835 Generating train split: 0 examples [00:00, ?
examples/s]Downloading and preparing dataset csv/
default to C:/Users/admin/.cache/huggingface/
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3bcc7ec513e1...
836 0%|          | 0/1 [00:00<?, ?it/s]Dataset csv
downloaded and prepared to C:/Users/admin/.cache/
huggingface/datasets/csv/default-fd105af9434fb58e/0.
0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1. Subsequent calls will reuse this data.
837 100%|██████████| 1/1 [00:00<00:00, 52.63it/s]
838 Downloading data files: 100%|██████████| 1/1 [00:00<
00:00, 2099.25it/s]
839 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 117.71it/s]
840 Downloading and preparing dataset csv/default to C:/
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3bcc7ec513e1...
841 100%|██████████| 1/1 [00:00<00:00, 70.67it/s]
842 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
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842 6954658bab30a358235fa864b05cf819af0e179325c740e4bc85  
3bcc7ec513e1. Subsequent calls will reuse this data.  
843 Downloading data files: 100%|██████████| 1/1 [00:00  
<?, ?it/s]  
844 Downloading and preparing dataset csv/default to C:/  
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3bcc7ec513e1...  
845 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 121.17it/s]  
846 100%|██████████| 1/1 [00:00<00:00, 99.44it/s]  
847 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
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3bcc7ec513e1. Subsequent calls will reuse this data.  
848 t is : 5  
849 addlen is: 2500  
850 noexp_df.shape[0] last 3684  
851 unexplained dataset length is:  
852 3684  
853 embedding begin  
854 trian and val dataset length: 138600  
855 ds_add_1_818  
856 ds_add_1_818  
857 ds_add_1_818  
858 ds_add_1_818  
859 ds_add_1_818  
860 ds_add_1_818  
861 ds_add_1_818  
862 ds_add_1_818  
863 990.0  
864 ./embeddings/NEW_bertie_embeddings_textattack/bert-  
base-uncased-MNLI_subset_1.pt  
865 Found cached dataset csv (C:/Users/admin/.cache/  
huggingface/datasets/csv/default-ff0c4e58693729a6/0.  
0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85  
3bcc7ec513e1)
```

```
866 100%|██████████| 1/1 [00:00<00:00, 1002.94it/s]
867 test len 22470
868 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
869 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 139.57it/s]
870 Generating train split: 0 examples [00:00, ?
examples/s]Downloading and preparing dataset csv/
default to C:/Users/admin/.cache/huggingface/
datasets/csv/default-cf6e63e190e49fde/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1...
871 100%|██████████| 1/1 [00:00<00:00, 74.56it/s]
872 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
cf6e63e190e49fde/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1. Subsequent calls will reuse this data.
873 preprocess_samples begin ...
874 uncertainty shape: 1530
875 ./test_embeddings/NEW_bertie_embeddings_textattack/
bert-base-uncased-MNLI_subset_1.pt
876 Found cached dataset csv (C:/Users/admin/.cache/
huggingface/datasets/csv/default-36551c5f9b434101/0.
0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1)
877 100%|██████████| 1/1 [00:00<00:00, 813.01it/s]
878 val len 11242
879 Downloading and preparing dataset csv/default to C:/
Users/admin/.cache/huggingface/datasets/csv/default-
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6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1...
880 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
881 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 142.83it/s]
882 100%|██████████| 1/1 [00:00<00:00, 90.46it/s]
883 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
```

```
883 9d48c8ffa6eadb01/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1. Subsequent calls will reuse this data.
884 preprocess_samples begin ...
885 uncertainty shape: 720
886 ./val_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
887 classify begin
888 9965
889 0%|          | 0/20 [00:00<?, ?it/s]ds_add_1_818
890 ds_add_1_818
891 1197it [00:09, 640.12it/s]ds_add_1_818
892 ds_add_1_818
893 ds_add_1_818
894 1239it [00:22, 15.00it/s] ds_add_1_818
895 2413it [00:24, 685.56it/s]ds_add_1_818
896 ds_add_1_818
897 ds_add_1_818
898 ds_add_1_818
899 3635it [00:38, 611.39it/s]ds_add_1_818
900 ds_add_1_818
901 ds_add_1_818
902 3715it [00:51, 21.29it/s] ds_add_1_818
903 4938it [00:52, 671.18it/s]ds_add_1_818
904 ds_add_1_818
905 ds_add_1_818
906 ds_add_1_818
907 6120it [01:07, 616.85it/s]ds_add_1_818
908 ds_add_1_818
909 ds_add_1_818
910 ds_add_1_818
911 7356it [01:21, 628.08it/s]ds_add_1_818
912 ds_add_1_818
913 ds_add_1_818
914 ds_add_1_818
915 8592it [01:35, 626.86it/s]ds_add_1_818
916 ds_add_1_818
917 ds_add_1_818
918 ds_add_1_818
919 9874it [01:49, 607.02it/s]ds_add_1_818
920 ds_add_1_818
```

```
921 ds_add_1_818
922 9904it [02:01, 607.02it/s]ds_add_1_818
923 11113it [02:04, 663.86it/s]ds_add_1_818
924 ds_add_1_818
925 ds_add_1_818
926 ds_add_1_818
927 12323it [02:18, 626.52it/s]ds_add_1_818
928 ds_add_1_818
929 ds_add_1_818
930 12380it [02:31, 626.52it/s]ds_add_1_818
931 13613it [02:32, 682.58it/s]ds_add_1_818
932 ds_add_1_818
933 ds_add_1_818
934 ds_add_1_818
935 14846it [02:46, 632.96it/s]ds_add_1_818
936 ds_add_1_818
937 ds_add_1_818
938 ds_add_1_818
939 16010it [03:01, 559.97it/s]ds_add_1_818
940 ds_add_1_818
941 ds_add_1_818
942 16095it [03:14, 22.07it/s] ds_add_1_818
943 17246it [03:15, 635.03it/s]ds_add_1_818
944 ds_add_1_818
945 ds_add_1_818
946 ds_add_1_818
947 18485it [03:29, 650.06it/s]ds_add_1_818
948 ds_add_1_818
949 ds_add_1_818
950 18571it [03:42, 22.74it/s] ds_add_1_818
951 19763it [03:43, 535.73it/s]ds_add_1_818
952 ds_add_1_818
953 ds_add_1_818
954 ds_add_1_818
955 20981it [03:58, 636.00it/s]ds_add_1_818
956 ds_add_1_818
957 ds_add_1_818
958 ds_add_1_818
959 22273it [04:12, 656.96it/s]ds_add_1_818
960 ds_add_1_818
961 ds_add_1_818
```

```

962 ds_add_1_818
963 23488it [04:26, 635.81it/s]ds_add_1_818
964 ds_add_1_818
965 ds_add_1_818
966 ds_add_1_818
967 24738it [04:40, 648.42it/s]ds_add_1_818
968 ds_add_1_818
969 epoch number 19
970 ds_add_1_818
971 ds_add_1_818
972 24760it [04:51, 648.42it/s]ds_add_1_818
973 ds_add_1_818
974 global t is : 5
975 test epoch results {'accuracy': 0.6163398692810458
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976 0.13592233, 0.6501548 , 0.62567812, 0.6
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982 0. , 0.64 , 0.87543253, 0.
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983 24760it [04:55, 83.69it/s]
984 diversity new embedding 3684
985 diversity len embedding 3684
986 MLP_1h(

```

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988         bias=True)
988     (l2): Linear(in_features=100, out_features=9,
989         bias=True)
989 )
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991 ['people are offering to help volunteering donate  
donations give $ money generously\n']  
992 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
993 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 144.96it/s]  
994 Generating train split: 0 examples [00:00, ?  
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default to C:/Users/admin/.cache/huggingface/  
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995 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
6d8ac9aaaf113e6bb/0.0.0/  
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53bcc7ec513e1. Subsequent calls will reuse this  
data.  
996 100%|██████████| 1/1 [00:00<00:00, 97.40it/s]  
997 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
998 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 150.51it/s]  
999 Generating train split: 0 examples [00:00, ?  
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1000 0%|          | 0/1 [00:00<, ?it/s]Dataset csv  
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```

```
1000 53bcc7ec513e1. Subsequent calls will reuse this
      data.
1001 100%|██████████| 1/1 [00:00<00:00, 63.22it/s]
1002 Downloading data files: 100%|██████████| 1/1 [00:00
      <, ?it/s]
1003 Downloading and preparing dataset csv/default to C
      :/Users/admin/.cache/huggingface/datasets/csv/
      default-e274c4676b69e4a2/0.0.0/
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      53bcc7ec513e1...
1004 Extracting data files: 100%|██████████| 1/1 [00:00<
      00:00, 127.78it/s]
1005 100%|██████████| 1/1 [00:00<00:00, 89.96it/s]
1006 Dataset csv downloaded and prepared to C:/Users/
      admin/.cache/huggingface/datasets/csv/default-
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      53bcc7ec513e1. Subsequent calls will reuse this
      data.
1007 Downloading data files: 100%|██████████| 1/1 [00:00
      <, ?it/s]
1008 Downloading and preparing dataset csv/default to C
      :/Users/admin/.cache/huggingface/datasets/csv/
      default-f5370a4b4429d4b2/0.0.0/
      6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
      53bcc7ec513e1...
1009 Extracting data files: 100%|██████████| 1/1 [00:00<
      00:00, 125.21it/s]
1010 100%|██████████| 1/1 [00:00<00:00, 89.09it/s]
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      admin/.cache/huggingface/datasets/csv/default-
      f5370a4b4429d4b2/0.0.0/
      6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
      53bcc7ec513e1. Subsequent calls will reuse this
      data.
1012 t is : 6
1013 addlen is: 3000
1014 noexp_df.shape[0] last 2948
1015 unexplained dataset length is:
1016 2948
1017 embedding begin
```

```
1018 trian and val dataset length: 159300
1019 ds_add_1_818
1020 ds_add_1_818
1021 ds_add_1_818
1022 ds_add_1_818
1023 ds_add_1_818
1024 ds_add_1_818
1025 ds_add_1_818
1026 ds_add_1_818
1027 1062.0
1028 ./embeddings/NEW_bertie_embeddings_textattack/bert-
    base-uncased-MNLI_subset_1.pt
1029 Found cached dataset csv (C:/Users/admin/.cache/
    huggingface/datasets/csv/default-ff0c4e58693729a6/0
    .0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1)
1030 100%|██████████| 1/1 [00:00<00:00, 43.48it/s]
1031 test len 24075
1032 Downloading data files: 100%|██████████| 1/1 [00:00
    <, ?it/s]
1033 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 133.02it/s]
1034 Generating train split: 0 examples [00:00, ?
    examples/s]Downloading and preparing dataset csv/
    default to C:/Users/admin/.cache/huggingface/
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    53bcc7ec513e1...
1035 100%|██████████| 1/1 [00:00<00:00, 90.80it/s]
1036 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    51e1b4e4b05c7da0/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1. Subsequent calls will reuse this
    data.
1037 preprocess_samples begin ...
1038 uncertainty shape: 1530
1039 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
1040 Found cached dataset csv (C:/Users/admin/.cache/
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```
1040 huggingface/datasets/csv/default-36551c5f9b434101/0  
    .0.0/  
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
    53bcc7ec513e1)  
1041 100%|██████████| 1/1 [00:00<00:00, 83.08it/s]  
1042 val len 12045  
1043 Downloading and preparing dataset csv/default to C  
    :/Users/admin/.cache/huggingface/datasets/csv/  
    default-7640cffbffffc1b52/0.0.0/  
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
    53bcc7ec513e1...  
1044 Downloading data files: 100%|██████████| 1/1 [00:00  
    <, ?it/s]  
1045 Extracting data files: 100%|██████████| 1/1 [00:00<  
    00:00, 124.42it/s]  
1046 100%|██████████| 1/1 [00:00<00:00, 84.16it/s]  
1047 Dataset csv downloaded and prepared to C:/Users/  
    admin/.cache/huggingface/datasets/csv/default-  
    7640cffbffffc1b52/0.0.0/  
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
    53bcc7ec513e1. Subsequent calls will reuse this  
    data.  
1048 preprocess_samples begin ...  
1049 uncertainty shape: 720  
1050 ./val_embeddings/NEW_bertie_embeddings_textattack/  
    bert-base-uncased-MNLI_subset_1.pt  
1051 classify begin  
1052 10701  
1053 0%|          | 0/20 [00:00<?, ?it/s]ds_add_1_818  
1054 ds_add_1_818  
1055 1250it [00:16, 687.29it/s]ds_add_1_818  
1056 ds_add_1_818  
1057 ds_add_1_818  
1058 ds_add_1_818  
1059 2615it [00:32, 689.88it/s]ds_add_1_818  
1060 ds_add_1_818  
1061 ds_add_1_818  
1062 2657it [00:45, 18.00it/s] ds_add_1_818  
1063 3927it [00:47, 687.74it/s]ds_add_1_818  
1064 ds_add_1_818  
1065 ds_add_1_818
```

```
1066 ds_add_1_818
1067 5279it [01:02, 693.14it/s]ds_add_1_818
1068 ds_add_1_818
1069 ds_add_1_818
1070 ds_add_1_818
1071 6562it [01:17, 634.31it/s]ds_add_1_818
1072 ds_add_1_818
1073 ds_add_1_818
1074 ds_add_1_818
1075 7902it [01:33, 692.01it/s]ds_add_1_818
1076 ds_add_1_818
1077 ds_add_1_818
1078 ds_add_1_818
1079 9236it [01:48, 689.39it/s]ds_add_1_818
1080 ds_add_1_818
1081 ds_add_1_818
1082 ds_add_1_818
1083 10556it [02:02, 688.99it/s]ds_add_1_818
1084 ds_add_1_818
1085 ds_add_1_818
1086 ds_add_1_818
1087 11870it [02:17, 685.74it/s]ds_add_1_818
1088 ds_add_1_818
1089 ds_add_1_818
1090 ds_add_1_818
1091 13210it [02:32, 695.89it/s]ds_add_1_818
1092 ds_add_1_818
1093 ds_add_1_818
1094 13281it [02:46, 19.98it/s] ds_add_1_818
1095 14591it [02:47, 729.16it/s]ds_add_1_818
1096 ds_add_1_818
1097 ds_add_1_818
1098 ds_add_1_818
1099 15851it [03:02, 627.56it/s]ds_add_1_818
1100 ds_add_1_818
1101 ds_add_1_818
1102 ds_add_1_818
1103 17235it [03:18, 695.29it/s]ds_add_1_818
1104 ds_add_1_818
1105 ds_add_1_818
1106 ds_add_1_818
```

```
1107 18567it [03:33, 672.77it/s]ds_add_1_818
1108 ds_add_1_818
1109 ds_add_1_818
1110 ds_add_1_818
1111 19869it [03:49, 622.28it/s]ds_add_1_818
1112 ds_add_1_818
1113 ds_add_1_818
1114 ds_add_1_818
1115 21169it [04:03, 679.12it/s]ds_add_1_818
1116 ds_add_1_818
1117 ds_add_1_818
1118 ds_add_1_818
1119 22564it [04:18, 716.18it/s]ds_add_1_818
1120 ds_add_1_818
1121 ds_add_1_818
1122 ds_add_1_818
1123 23894it [04:32, 692.62it/s]ds_add_1_818
1124 ds_add_1_818
1125 ds_add_1_818
1126 ds_add_1_818
1127 25229it [04:48, 703.07it/s]ds_add_1_818
1128 ds_add_1_818
1129 ds_add_1_818
1130 ds_add_1_818
1131 26484it [05:03, 644.62it/s]ds_add_1_818
1132 ds_add_1_818
1133 epoch number 19
1134 ds_add_1_818
1135 ds_add_1_818
1136 ds_add_1_818
1137 ds_add_1_818
1138 global t is : 6
1139 test epoch results {'accuracy': 0.6183006535947713
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1141 0.33333333, 0.68518519, 0.53514377, 0.
58937198]), 'recall': array([0.85128205, 0.21621622
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1141 , 0.65306122, 0.27419355, 0.63084112,
1142      0.03370787, 0.63793103, 0.74115044, 0.
       62244898])}
1143 val epoch_results {'accuracy': 0.6555555555555556
, 'f1_weighted': 0.6163799807886431, 'f1_macro': 0.
4682511372538338, 'f1': array([0.875      , 0
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1144      0.        , 0.68085106, 0.72334294, 0.
51851852]), 'precision': array([0.88349515, 0
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1145      0.        , 0.72727273, 0.61975309, 0.6
]), 'recall': array([0.86666667, 0
.        , 0.6        , 0.14285714, 0.65714286,
1146      0.        , 0.64      , 0.86851211, 0.
45652174])}
1147 26560it [05:18, 83.43it/s]
1148 diversity new embedding 2948
1149 diversity len embedding 2948
1150 MLP_1h(
1151     (l1): Linear(in_features=45, out_features=100,
bias=True)
1152     (l2): Linear(in_features=100, out_features=9,
bias=True)
1153 )
1154 [2232, 1886, 665, 89, 2110, 1076, 965, 1609, 1568,
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1328, 1253, 1323, 2350, 2791, 2379, 418, 1479, 1125
, 2893, 1587, 1462, 945, 1963, 889, 2813, 315, 2774
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838, 544, 1837, 1004, 374, 2472, 369, 2141, 2365,
751, 1020, 1846, 2824, 1371, 19, 1627, 745, 1297,
176, 2445, 1039, 1022, 1239, 2465, 1758, 1599, 1250
, 324, 1406, 41, 1248, 1899, 1394, 28, 1148, 2151,
2659, 1503, 2009, 1829, 2283, 1551, 213, 2114, 1249
, 2019, 294, 2658, 2475, 763, 595, 2734, 1261, 1704
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1154 , 2617, 1998, 2620, 1184, 362, 1635, 2530, 2394, 785, 2444, 1308, 304, 1741, 975, 429, 972, 1669, 110, 1237, 1090, 686, 885, 1435, 1778, 2594, 1953, 2164, 608, 2124, 1996, 2795, 2263, 1197, 1461, 1350 , 2486, 2383, 2677, 2390, 1246, 1766, 293, 937, 925 , 68, 2640, 2541, 2490, 1811, 633, 40, 2014, 452, 1227, 827, 948, 1742, 195, 1709, 2729, 1316, 1335, 2314, 2287, 1729, 72, 1087, 2532, 1581, 2618, 2372 , 688, 1745, 1486, 2284, 417, 403, 1836, 2001, 1576 , 1338, 2271, 317, 344, 851, 1258, 1463, 2572, 766 , 2850, 735, 2409, 1108, 1547, 412, 500, 1095, 646 , 846, 2446, 2091, 1786, 2460, 1616, 1428, 752, 346 , 2826, 279, 2642, 808, 65, 38, 2607, 2905, 1538, 1199, 2181, 1047, 2037, 396, 750, 2025, 853, 879, 1981, 2251, 1143, 2138, 1119, 2549, 519, 2332, 2673 , 1557, 717, 2082, 2788, 10, 512, 1894, 1112, 877, 1441, 1637, 2827, 504, 311, 1589, 1731, 1084, 1097 , 33, 2591, 1776, 811, 2728, 2191, 792, 284, 1268, 451, 1194, 150, 1540, 537, 1033, 2766, 1629, 1687, 1890, 2926, 630, 2301, 1376, 171, 1493, 552, 1554, 2277, 694, 2657, 1923, 384, 2245, 783, 2423, 2783, 2224, 597, 2366, 2866, 1390, 2479, 1234, 2192, 589 , 1266, 108, 2829, 423, 1353, 721, 2352, 1, 42, 2195, 2888, 234, 541, 379, 457, 1499, 1405, 2583, 1178, 1516, 2040, 6, 2632, 1186, 1044, 283, 1496, 138, 895, 2923, 2637, 2052, 297, 225, 243, 1193, 571, 1034, 1652, 1719, 574, 2557, 2855, 2311, 1761 , 2927, 1014, 2592, 168, 2122, 556, 1102, 2547, 1987, 951, 107, 2071, 1922, 387, 2194, 1163, 2427, 2517, 1158, 123, 308, 822, 2900, 2108, 663, 2073, 1510, 2305, 1438, 354, 1764, 175, 2522, 90, 2370, 406, 850, 182, 1375, 44, 2727, 94, 727, 1035, 2520 , 55, 1521, 1802, 677, 2231, 1876, 1129, 2149, 2079 , 2624, 1692, 1785, 2403, 2548, 1826, 1607, 100, 1466, 2576, 1357, 1429, 697, 2539, 2733, 716, 923, 2843, 1980, 621, 638, 749, 2481, 616, 1161, 212, 2694, 2831, 1725, 158, 844, 2010, 27, 942, 1041, 2007, 800, 2878, 1936, 2411, 1593, 73, 620, 1928, 1272, 1437, 141, 2086, 1151, 1871, 1043, 679, 2315 , 2275, 194, 1559, 1555, 1275, 2218, 1094, 2185, 1752, 1807, 1970, 2705, 564, 1740, 528, 2421, 557,

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1155 ['advice warning to be careful tips and can give  
guidance alert Watches\n']  
1156 Downloading data files: 100%|██████████| 1/1 [00:00  
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1157 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 133.37it/s]  
1158 Downloading and preparing dataset csv/default to C  
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53bcc7ec513e1...  
1159 100%|██████████| 1/1 [00:00<00:00, 68.25it/s]  
1160 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
5013c8b9c68f71c0/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1161 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1162 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 139.28it/s]  
1163 Generating train split: 0 examples [00:00, ?  
examples/s]Downloading and preparing dataset csv/  
default to C:/Users/admin/.cache/huggingface/  
datasets/csv/default-fedad2a0cbe54fc3c/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1164 100%|██████████| 1/1 [00:00<00:00, 62.09it/s]  
1165 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
fead2a0cbe54fc3c/0.0.0/  
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```

```
1165 53bcc7ec513e1. Subsequent calls will reuse this
      data.
1166 Downloading data files: 100%|██████████| 1/1 [00:00
      <, ?it/s]
1167 Extracting data files: 100%|██████████| 1/1 [00:00<
      00:00, 120.32it/s]
1168 Generating train split: 0 examples [00:00, ?
      examples/s]Downloading and preparing dataset csv/
      default to C:/Users/admin/.cache/huggingface/
      datasets/csv/default-a286e00e1703b334/0.0.0/
      6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
      53bcc7ec513e1...
1169 100%|██████████| 1/1 [00:00<00:00, 71.41it/s]
1170 Dataset csv downloaded and prepared to C:/Users/
      admin/.cache/huggingface/datasets/csv/default-
      a286e00e1703b334/0.0.0/
      6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
      53bcc7ec513e1. Subsequent calls will reuse this
      data.
1171 Downloading data files: 100%|██████████| 1/1 [00:00
      <, ?it/s]
1172 Downloading and preparing dataset csv/default to C
      :/Users/admin/.cache/huggingface/datasets/csv/
      default-9afb8ef6f80022ce/0.0.0/
      6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
      53bcc7ec513e1...
1173 Extracting data files: 100%|██████████| 1/1 [00:00<
      00:00, 133.33it/s]
1174 100%|██████████| 1/1 [00:00<00:00, 82.95it/s]
1175 Dataset csv downloaded and prepared to C:/Users/
      admin/.cache/huggingface/datasets/csv/default-
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      6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
      53bcc7ec513e1. Subsequent calls will reuse this
      data.
1176 t is : 7
1177 addlen is: 3500
1178 noexp_df.shape[0] last 2359
1179 unexplained dataset length is:
1180 2359
1181 embedding begin
```

```
1182 trian and val dataset length: 180000
1183 ds_add_1_818
1184 ds_add_1_818
1185 ds_add_1_818
1186 ds_add_1_818
1187 ds_add_1_818
1188 ds_add_1_818
1189 ds_add_1_818
1190 ds_add_1_818
1191 1125.0
1192 ./embeddings/NEW_bertie_embeddings_textattack/bert-
    base-uncased-MNLI_subset_1.pt
1193 Found cached dataset csv (C:/Users/admin/.cache/
    huggingface/datasets/csv/default-ff0c4e58693729a6/0
    .0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1)
1194 100%|██████████| 1/1 [00:00<00:00, 491.42it/s]
1195 test len 25680
1196 Downloading data files: 100%|██████████| 1/1 [00:00
    <00:00, 2000.14it/s]
1197 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 142.34it/s]
1198 Generating train split: 0 examples [00:00, ?
    examples/s]Downloading and preparing dataset csv/
    default to C:/Users/admin/.cache/huggingface/
    datasets/csv/default-0ba6f37bb8710ae2/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1...
1199 100%|██████████| 1/1 [00:00<00:00, 83.35it/s]
1200 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    0ba6f37bb8710ae2/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1. Subsequent calls will reuse this
    data.
1201 preprocess_samples begin ...
1202 uncertainty shape: 1530
1203 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
1204 Found cached dataset csv (C:/Users/admin/.cache/
```

```
1204 huggingface/datasets/csv/default-36551c5f9b434101/0
    .0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1)
1205 100%|██████████| 1/1 [00:00<00:00, 1013.61it/s]
1206 val len 12848
1207 Downloading and preparing dataset csv/default to C
    :/Users/admin/.cache/huggingface/datasets/csv/
    default-6e4c38a875d406da/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1...
1208 Downloading data files: 100%|██████████| 1/1 [00:00
    <, ?it/s]
1209 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 91.40it/s]
1210 100%|██████████| 1/1 [00:00<00:00, 80.73it/s]
1211 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    6e4c38a875d406da/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1. Subsequent calls will reuse this
    data.
1212 preprocess_samples begin ...
1213 uncertainty shape: 720
1214 ./val_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
1215 classify begin
1216 11290
1217 0%|          | 0/20 [00:00<?, ?it/s]ds_add_1_818
1218 ds_add_1_818
1219 1334it [00:11, 760.04it/s]ds_add_1_818
1220 ds_add_1_818
1221 ds_add_1_818
1222 ds_add_1_818
1223 2769it [00:27, 727.39it/s]ds_add_1_818
1224 ds_add_1_818
1225 ds_add_1_818
1226 2814it [00:37, 727.39it/s]ds_add_1_818
1227 4194it [00:42, 735.45it/s]ds_add_1_818
1228 ds_add_1_818
1229 ds_add_1_818
```

```
1230 ds_add_1_818
1231 5621it [00:56, 738.60it/s]ds_add_1_818
1232 ds_add_1_818
1233 ds_add_1_818
1234 5629it [01:09, 15.72it/s] ds_add_1_818
1235 7003it [01:11, 698.38it/s]ds_add_1_818
1236 ds_add_1_818
1237 ds_add_1_818
1238 ds_add_1_818
1239 8441it [01:26, 753.71it/s]ds_add_1_818
1240 ds_add_1_818
1241 ds_add_1_818
1242 8442it [01:37, 753.71it/s]ds_add_1_818
1243 9760it [01:41, 732.48it/s]ds_add_1_818
1244 ds_add_1_818
1245 ds_add_1_818
1246 ds_add_1_818
1247 11188it [01:56, 722.78it/s]ds_add_1_818
1248 ds_add_1_818
1249 ds_add_1_818
1250 11257it [02:10, 19.78it/s] ds_add_1_818
1251 12600it [02:12, 750.25it/s]ds_add_1_818
1252 ds_add_1_818
1253 ds_add_1_818
1254 ds_add_1_818
1255 14064it [02:27, 752.97it/s]ds_add_1_818
1256 ds_add_1_818
1257 ds_add_1_818
1258 14071it [02:41, 16.07it/s] ds_add_1_818
1259 15424it [02:42, 715.69it/s]ds_add_1_818
1260 ds_add_1_818
1261 ds_add_1_818
1262 ds_add_1_818
1263 16849it [02:57, 722.08it/s]ds_add_1_818
1264 ds_add_1_818
1265 ds_add_1_818
1266 16885it [03:10, 17.45it/s] ds_add_1_818
1267 18211it [03:11, 718.41it/s]ds_add_1_818
1268 ds_add_1_818
1269 ds_add_1_818
1270 ds_add_1_818
```

```
1271 19615it [03:26, 738.48it/s]ds_add_1_818
1272 ds_add_1_818
1273 ds_add_1_818
1274 19699it [03:40, 20.67it/s] ds_add_1_818
1275 21101it [03:42, 771.86it/s]ds_add_1_818
1276 ds_add_1_818
1277 ds_add_1_818
1278 ds_add_1_818
1279 22444it [03:57, 670.60it/s]ds_add_1_818
1280 ds_add_1_818
1281 ds_add_1_818
1282 22513it [04:11, 19.63it/s] ds_add_1_818
1283 23847it [04:13, 748.07it/s]ds_add_1_818
1284 ds_add_1_818
1285 ds_add_1_818
1286 ds_add_1_818
1287 25281it [04:28, 740.05it/s]ds_add_1_818
1288 ds_add_1_818
1289 ds_add_1_818
1290 ds_add_1_818
1291 26710it [04:43, 723.36it/s]ds_add_1_818
1292 ds_add_1_818
1293 ds_add_1_818
1294 ds_add_1_818
1295 28115it [04:58, 723.79it/s]ds_add_1_818
1296 ds_add_1_818
1297 epoch number 19
1298 ds_add_1_818
1299 ds_add_1_818
1300 ds_add_1_818
1301 ds_add_1_818
1302 global t is : 7
1303 test epoch results {'accuracy': 0.6196078431372549
, 'f1_weighted': 0.5984744187885965, 'f1_macro': 0.
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1304 0.07920792, 0.68666667, 0.62333037, 0.
59007833]), 'precision': array([0.88648649, 0.
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1305 0.33333333, 0.81746032, 0.52160954, 0.
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1305 , 0.53061224, 0.23387097, 0.69626168,
1306 0.04494382, 0.59195402, 0.77433628, 0.
    57653061])}
1307 val epoch_results {'accuracy': 0.6555555555555556
    , 'f1_weighted': 0.6137151488512553, 'f1_macro': 0.
    455607352390268, 'f1': array([0.87922705, 0
        . , 0.55555556, 0.2173913 , 0.52873563,
1308 0. , 0.67175573, 0.72881356, 0.
    51898734]), 'precision': array([0.89215686, 0
        . , 0.625 , 0.66666667, 0.44230769,
1309 0. , 0.78571429, 0.61575179, 0.
    62121212]), 'recall': array([0.86666667, 0
        . , 0.5 , 0.12987013, 0.65714286,
1310 0. , 0.58666667, 0.89273356, 0.
    44565217])}
1311 28140it [05:13, 89.83it/s]
1312 diversity new embedding 2359
1313 diversity len embedding 2359
1314 MLP_1h(
1315     (l1): Linear(in_features=48, out_features=100,
    bias=True)
1316     (l2): Linear(in_features=100, out_features=9,
    bias=True)
1317 )
1318 [2087, 1761, 1475, 1870, 885, 1751, 583, 1156, 603
    , 1271, 1391, 570, 170, 2080, 998, 1737, 1009, 749
    , 997, 1368, 2075, 125, 1968, 1398, 175, 212, 2224
    , 2064, 378, 600, 881, 1045, 553, 2221, 1659, 961,
    711, 1577, 1836, 564, 576, 2302, 829, 1783, 719,
    1668, 16, 486, 1021, 1225, 487, 944, 752, 925, 1397
    , 1342, 987, 2264, 2337, 1372, 2291, 1066, 184,
    2292, 108, 1586, 838, 75, 219, 201, 163, 1587, 121
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- 1318 [528, 572, 348, 234, 1196, 739, 1013, 918, 1481, 1875, 164, 28, 1026, 639, 1936, 1452, 1135, 1090, 696, 84, 262, 974, 1209, 955, 2303, 439, 765, 322, 841, 845, 2293, 1956, 708, 1803, 1173, 2190, 38, 1501, 336, 2044, 1744, 631, 185, 2019, 644, 2071, 1309, 116, 30, 1728, 1153, 337, 1771, 1618, 533, 2110, 207, 802, 2285, 291, 2158, 10, 959, 1175, 763, 1722, 1355, 1792, 1816, 1409, 1034, 1538, 647, 1037, 484, 2254, 2013, 423, 1755, 1250, 915, 1903, 1685, 839, 1539, 1958, 1970, 1631, 2088, 1107, 1613, 1977, 1159, 394, 2282, 1115, 1124, 2045, 758, 1575, 1174, 681, 1201, 2165, 15, 920, 1492, 424, 1478, 2296, 1041, 192, 900, 305, 2118, 14, 129, 2130, 2182, 1495, 2204, 1032, 1466, 2091, 50, 2265, 376, 511, 2199, 1313, 1141, 1580, 837, 1275, 1531, 742, 1770, 1396, 776, 1971, 2215, 1068, 1459, 1098, 1235, 817, 591, 2125, 39, 781, 615, 1704, 2197, 2070, 766, 1334, 34, 1320, 1023, 1953, 1094, 2306, 223, 1125, 255, 2287, 1417, 1027, 947, 95, 1177, 1491, 985, 2249, 832, 2037, 1218, 1121, 1137, 1614, 232, 2141, 1059, 1374, 2129, 2103, 1619, 590, 2192, 1428, 410, 1272, 545, 1731, 1180, 2243, 2195, 2353, 864, 1878, 1896, 1190, 92, 210, 2334, 1420, 1567, 474, 147, 1784, 1670, 517, 786, 2295, 2031, 1691, 1205, 1611, 197, 1321, 1463, 846, 1330, 1677, 849, 2351, 1488, 1743, 1978, 857, 796, 949, 1701, 1095, 1590, 2052, 2112, 2099, 620, 1217, 1674, 1104, 2119, 2180, 1663, 2329, 1243, 237, 685, 1585, 908, 2145, 556, 1902, 1242, 1991, 1129, 1553, 514, 436, 1088, 2051, 463, 901, 1349, 2171, 588, 953, 297, 1182, 830, 2271, 428, 331, 1051, 1219, 2240, 799, 173, 141, 555, 557, 1673, 1423, 64, 1181, 1373, 485, 783, 71, 1885, 978, 822, 1581, 1089, 1723, 1, 250, 1666, 1049, 499, 1304, 2227, 671, 1929, 640, 693, 814, 2211, 1739, 156, 958, 0, 1621, 356, 2147]
- 1319 ['contains useful information helps to understand the situation is important\n']
- 1320 Downloading and preparing dataset csv/default to C:/Users/admin/.cache/huggingface/datasets/csv/default-9a6fcf29a229cd33/0.0.0/

```
1320      6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
      53bcc7ec513e1...  
1321 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1322 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 110.93it/s]  
1323 100%|██████████| 1/1 [00:00<00:00, 90.91it/s]  
1324 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
9a6fcf29a229cd33/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1325 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1326 Downloading and preparing dataset csv/default to C  
:/Users/admin/.cache/huggingface/datasets/csv/  
default-999b222148c9faae/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1327 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 117.09it/s]  
1328 100%|██████████| 1/1 [00:00<00:00, 64.09it/s]  
1329 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
999b222148c9faae/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1330 Downloading data files: 100%|██████████| 1/1 [00:00  
<00:00, 2068.20it/s]  
1331 Downloading and preparing dataset csv/default to C  
:/Users/admin/.cache/huggingface/datasets/csv/  
default-27b7f98e4406f8b5/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1332 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 100.00it/s]  
1333 100%|██████████| 1/1 [00:00<00:00, 87.17it/s]  
1334 Dataset csv downloaded and prepared to C:/Users/
```

```
1334 admin/.cache/huggingface/datasets/csv/default-
    27b7f98e4406f8b5/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1. Subsequent calls will reuse this
    data.
1335 Downloading data files: 100%|██████████| 1/1 [00:00
    <?, ?it/s]
1336 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 142.57it/s]
1337 0%|          | 0/1 [00:00<?, ?it/s]Downloading
    and preparing dataset csv/default to C:/Users/admin
    /.cache/huggingface/datasets/csv/default-
    4d0b017dc9874fdf/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1...
1338 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    4d0b017dc9874fdf/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1. Subsequent calls will reuse this
    data.
1339 100%|██████████| 1/1 [00:00<00:00, 89.02it/s]
1340 t is : 8
1341 addlen is: 4000
1342 noexp_df.shape[0] last 1888
1343 unexplained dataset length is:
1344 1888
1345 embedding begin
1346 trian and val dataset length: 198900
1347 ds_add_1_818
1348 ds_add_1_818
1349 ds_add_1_818
1350 ds_add_1_818
1351 ds_add_1_818
1352 ds_add_1_818
1353 ds_add_1_818
1354 ds_add_1_818
1355 1170.0
1356 ./embeddings/NEW_bertie_embeddings_textattack/bert-
    base-uncased-MNLI_subset_1.pt
1357 Found cached dataset csv (C:/Users/admin/.cache/
```

```
1357 huggingface/datasets/csv/default-ff0c4e58693729a6/0  
    .0.0/  
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
    53bcc7ec513e1)  
1358 100%|██████████| 1/1 [00:00<00:00, 83.33it/s]  
1359 test len 27285  
1360 Downloading and preparing dataset csv/default to C  
    :/Users/admin/.cache/huggingface/datasets/csv/  
    default-45ae6f4c08c48ff3/0.0.0/  
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
    53bcc7ec513e1...  
1361 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1362 Extracting data files: 100%|██████████| 1/1 [00:00<  
    00:00, 142.89it/s]  
1363 100%|██████████| 1/1 [00:00<00:00, 96.65it/s]  
1364 Dataset csv downloaded and prepared to C:/Users/  
    admin/.cache/huggingface/datasets/csv/default-  
    45ae6f4c08c48ff3/0.0.0/  
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
    53bcc7ec513e1. Subsequent calls will reuse this  
    data.  
1365 preprocess_samples begin ...  
1366 uncertainty shape: 1530  
1367 ./test_embeddings/NEW_bertie_embeddings_textattack/  
    bert-base-uncased-MNLI_subset_1.pt  
1368 Found cached dataset csv (C:/Users/admin/.cache/  
    huggingface/datasets/csv/default-36551c5f9b434101/0  
    .0.0/  
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
    53bcc7ec513e1)  
1369 100%|██████████| 1/1 [00:00<00:00, 99.89it/s]  
1370 val len 13651  
1371 Downloading and preparing dataset csv/default to C  
    :/Users/admin/.cache/huggingface/datasets/csv/  
    default-09e4106839ad8c10/0.0.0/  
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
    53bcc7ec513e1...  
1372 Downloading data files: 100%|██████████| 1/1 [00:00  
<00:00, 1995.39it/s]  
1373 Extracting data files: 100%|██████████| 1/1 [00:00<
```

```
1373 00:00, 123.61it/s]
1374 100% [██████████] 1/1 [00:00<00:00, 71.16it/s]
1375 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    09e4106839ad8c10/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1. Subsequent calls will reuse this
    data.
1376 preprocess_samples begin ...
1377 uncertainty shape: 720
1378 ./val_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
1379 classify begin
1380 11761
1381 0% | 0/20 [00:00<?, ?it/s]ds_add_1_818
1382 ds_add_1_818
1383 1439it [00:17, 741.80it/s]ds_add_1_818
1384 ds_add_1_818
1385 ds_add_1_818
1386 1464it [00:31, 16.75it/s] ds_add_1_818
1387 2876it [00:32, 764.05it/s]ds_add_1_818
1388 ds_add_1_818
1389 ds_add_1_818
1390 ds_add_1_818
1391 4353it [00:48, 735.35it/s]ds_add_1_818
1392 ds_add_1_818
1393 ds_add_1_818
1394 4390it [01:02, 16.56it/s] ds_add_1_818
1395 5811it [01:03, 756.81it/s]ds_add_1_818
1396 ds_add_1_818
1397 ds_add_1_818
1398 ds_add_1_818
1399 7264it [01:19, 739.28it/s]ds_add_1_818
1400 ds_add_1_818
1401 ds_add_1_818
1402 ds_add_1_818
1403 8704it [01:34, 716.91it/s]ds_add_1_818
1404 ds_add_1_818
1405 ds_add_1_818
1406 ds_add_1_818
1407 10206it [01:49, 747.44it/s]ds_add_1_818
```

```
1408 ds_add_1_818
1409 ds_add_1_818
1410 ds_add_1_818
1411 11648it [02:03, 747.32it/s]ds_add_1_818
1412 ds_add_1_818
1413 ds_add_1_818
1414 ds_add_1_818
1415 13151it [02:18, 775.25it/s]ds_add_1_818
1416 ds_add_1_818
1417 ds_add_1_818
1418 13168it [02:32, 15.96it/s] ds_add_1_818
1419 14591it [02:34, 780.18it/s]ds_add_1_818
1420 ds_add_1_818
1421 ds_add_1_818
1422 ds_add_1_818
1423 16040it [02:49, 743.41it/s]ds_add_1_818
1424 ds_add_1_818
1425 ds_add_1_818
1426 ds_add_1_818
1427 17555it [03:04, 723.87it/s]ds_add_1_818
1428 ds_add_1_818
1429 ds_add_1_818
1430 ds_add_1_818
1431 18982it [03:19, 729.71it/s]ds_add_1_818
1432 ds_add_1_818
1433 ds_add_1_818
1434 ds_add_1_818
1435 20474it [03:35, 735.48it/s]ds_add_1_818
1436 ds_add_1_818
1437 ds_add_1_818
1438 ds_add_1_818
1439 21887it [03:49, 714.79it/s]ds_add_1_818
1440 ds_add_1_818
1441 ds_add_1_818
1442 ds_add_1_818
1443 23332it [04:04, 736.20it/s]ds_add_1_818
1444 ds_add_1_818
1445 ds_add_1_818
1446 ds_add_1_818
1447 24850it [04:19, 804.64it/s]ds_add_1_818
1448 ds_add_1_818
```

```
1449 ds_add_1_818
1450 ds_add_1_818
1451 26260it [04:34, 721.80it/s]ds_add_1_818
1452 ds_add_1_818
1453 ds_add_1_818
1454 ds_add_1_818
1455 27771it [04:50, 756.00it/s]ds_add_1_818
1456 ds_add_1_818
1457 ds_add_1_818
1458 ds_add_1_818
1459 29222it [05:05, 738.66it/s]ds_add_1_818
1460 ds_add_1_818
1461 epoch number 19
1462 ds_add_1_818
1463 ds_add_1_818
1464 29260it [05:19, 738.66it/s]ds_add_1_818
1465 ds_add_1_818
1466 global t is : 8
1467 test epoch results {'accuracy': 0.6183006535947713
, 'f1_weighted': 0.6012876412165336, 'f1_macro': 0.
5386069062964689, 'f1': array([0.86614173, 0.
33846154, 0.61702128, 0.3373494 , 0.64637002,
1468 0.15652174, 0.67867868, 0.62337662, 0.
58354115]), 'precision': array([0.88709677, 0.
39285714, 0.64444444, 0.66666667, 0.64788732,
1469 0.34615385, 0.71069182, 0.53674121, 0.
57073171]), 'recall': array([0.84615385, 0.2972973
, 0.59183673, 0.22580645, 0.64485981,
1470 0.1011236 , 0.64942529, 0.74336283, 0.
59693878])}
1471 val epoch results {'accuracy': 0.6625, 'f1_weighted'
: 0.6219575638162494, 'f1_macro': 0.
4768403435125203, 'f1': array([0.87378641, 0
.
, 0.6 , 0.20224719, 0.56790123,
1472 0.1 , 0.70921986, 0.73191489, 0.
50649351]), 'precision': array([0.89108911, 0
.
, 0.6 , 0.75 , 0.5
, 1473 0.28571429, 0.75757576, 0.62019231, 0.
62903226]), 'recall': array([0.85714286, 0
.
, 0.6 , 0.11688312, 0.65714286,
1474 0.06060606, 0.66666667, 0.89273356, 0.
```

```
1474 42391304])}
1475 29260it [05:20, 91.19it/s]
1476 diversity new embedding 1888
1477 diversity len embedding 1888
1478 MLP_1h(
1479     (l1): Linear(in_features=51, out_features=100,
      bias=True)
1480     (l2): Linear(in_features=100, out_features=9,
      bias=True)
1481 )
1482 [578, 1748, 1008, 1310, 1869, 802, 358, 897, 1308,
  1031, 998, 1857, 227, 395, 263, 1416, 710, 787,
  1850, 1330, 83, 1510, 582, 273, 931, 285, 1313,
  1783, 777, 768, 472, 68, 1773, 1795, 439, 1063,
  1372, 447, 1778, 946, 40, 1409, 515, 1558, 364, 633
  , 624, 196, 1091, 1583, 1301, 1841, 1133, 1826,
  1296, 690, 1828, 1870, 431, 102, 927, 1507, 646,
  1318, 186, 1189, 1290, 1781, 208, 906, 1049, 541,
  28, 645, 1289, 379, 586, 1214, 427, 162, 374, 687,
  704, 420, 35, 580, 1227, 310, 1574, 898, 1401, 1383
  , 932, 1655, 607, 1705, 150, 1027, 501, 911, 1636,
  1349, 602, 1270, 1482, 222, 1457, 850, 122, 1494,
  764, 1462, 1496, 556, 910, 334, 1665, 1370, 727,
  555, 1134, 1648, 1093, 1048, 1014, 945, 1005, 1662
  , 542, 293, 193, 99, 1395, 511, 1261, 1020, 1807,
  756, 598, 1703, 1366, 157, 1814, 884, 1572, 746,
  641, 187, 311, 860, 676, 1158, 896, 1673, 81, 1853
  , 1228, 276, 1024, 697, 1678, 1737, 1042, 1069, 706
  , 493, 1272, 197, 959, 913, 565, 1791, 1078, 707,
  394, 1193, 494, 1044, 1025, 1368, 1697, 342, 214,
  115, 836, 507, 992, 51, 985, 1758, 549, 1535, 1127
  , 14, 686, 1403, 1087, 1075, 1052, 845, 1530, 1516
  , 478, 1190, 934, 905, 879, 865, 274, 1860, 291,
  368, 1146, 1168, 1298, 215, 135, 1883, 1466, 1361,
  1464, 1491, 660, 258, 134, 1082, 1321, 242, 1179,
  97, 320, 1336, 1249, 863, 735, 57, 325, 978, 1753,
  1514, 1863, 821, 647, 1639, 463, 1374, 675, 486,
  496, 599, 1620, 1036, 767, 952, 417, 89, 490, 920,
  1563, 238, 816, 390, 1204, 1536, 1858, 557, 506,
  221, 1881, 790, 161, 182, 1624, 4, 1539, 1424, 939
  , 1367, 1445, 303, 871, 1335, 1355, 524, 243, 517,
```

```
1482 1411, 412, 306, 1670, 145, 1804, 592, 136, 1398,  
872, 25, 65, 758, 792, 1066, 1456, 804, 949, 1793,  
1731, 1142, 200, 1730, 708, 459, 497, 1459, 378,  
1030, 393, 1385, 654, 1284, 268, 1794, 1253, 1012,  
1109, 1469, 1570, 755, 1543, 665, 858, 1637, 1410,  
1835, 838, 1738, 1843, 1431, 886, 445, 1677, 1010,  
1266, 219, 414, 1371, 376, 363, 1297, 937, 782, 18  
, 1763, 1736, 370, 1382, 1546, 1805, 331, 1844,  
1269, 785, 1413, 1081, 127, 1875, 1350, 1513, 7,  
1102, 1169, 914, 1521, 1278, 1597, 1554, 235, 1420]  
1483 ['irrelevant not related']  
1484 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1485 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 137.69it/s]  
1486 Generating train split: 0 examples [00:00, ?  
examples/s]Downloading and preparing dataset csv/  
default to C:/Users/admin/.cache/huggingface/  
datasets/csv/default-39edbbfc0d1eec5d/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1487 100%|██████████| 1/1 [00:00<00:00, 82.56it/s]  
1488 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
39edbbfc0d1eec5d/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1489 Downloading data files: 100%|██████████| 1/1 [00:00  
<00:00, 998.17it/s]  
1490 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 139.29it/s]  
1491 Generating train split: 0 examples [00:00, ?  
examples/s]Downloading and preparing dataset csv/  
default to C:/Users/admin/.cache/huggingface/  
datasets/csv/default-907600d51f48b24d/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1492 0%|          | 0/1 [00:00<?, ?it/s]Dataset csv  
downloaded and prepared to C:/Users/admin/.cache/  
huggingface/datasets/csv/default-907600d51f48b24d/0
```

```
1492 .0.0/
 6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1493 100%|██████████| 1/1 [00:00<00:00, 55.56it/s]
1494 Downloading data files: 100%|██████████| 1/1 [00:00
<00:00, 1764.54it/s]
1495 Extracting data files:  0%|          | 0/1 [00:00
<?, ?it/s]Downloading and preparing dataset csv/
default to C:/Users/admin/.cache/huggingface/
datasets/csv/default-925fe3c6fb5a4e1/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1...
1496 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 33.39it/s]
1497 100%|██████████| 1/1 [00:00<00:00, 66.41it/s]
1498 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
925fe3c6fb5a4e1/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1499 Downloading data files: 100%|██████████| 1/1 [00:00
<00:00, 2070.24it/s]
1500 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 118.29it/s]
1501 Downloading and preparing dataset csv/default to C
:/Users/admin/.cache/huggingface/datasets/csv/
default-5fb7a613c55be983/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1...
1502 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
5fb7a613c55be983/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1503 100%|██████████| 1/1 [00:00<00:00, 94.94it/s]
1504 t is : 9
1505 addlen is: 4500
1506 noexp_df.shape[0] last 1511
```

```
1507 unexplained dataset length is:  
1508 1511  
1509 embedding begin  
1510 trian and val dataset length: 217080  
1511 ds_add_1_818  
1512 ds_add_1_818  
1513 ds_add_1_818  
1514 ds_add_1_818  
1515 ds_add_1_818  
1516 ds_add_1_818  
1517 ds_add_1_818  
1518 ds_add_1_818  
1519 1206.0  
1520 ./embeddings/NEW_bertie_embeddings_textattack/bert-  
base-uncased-MNLI_subset_1.pt  
1521 Found cached dataset csv (C:/Users/admin/.cache/  
huggingface/datasets/csv/default-ff0c4e58693729a6/0  
.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1)  
1522 100%|██████████| 1/1 [00:00<00:00, 82.76it/s]  
1523 test len 28890  
1524 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1525 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 120.14it/s]  
1526 Downloading and preparing dataset csv/default to C  
:/Users/admin/.cache/huggingface/datasets/csv/  
default-c1309c922037ac80/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1527 100%|██████████| 1/1 [00:00<00:00, 67.17it/s]  
1528 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
c1309c922037ac80/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1529 preprocess_samples begin ...  
1530 uncertainty shape: 1530  
1531 ./test_embeddings/NEW_bertie_embeddings_textattack/
```

```
1531 bert-base-uncased-MNLI_subset_1.pt
1532 Found cached dataset csv (C:/Users/admin/.cache/
    huggingface/datasets/csv/default-36551c5f9b434101/0
    .0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1)
1533 100%|██████████| 1/1 [00:00<00:00, 97.30it/s]
1534 val len 14454
1535 Downloading data files: 100%|██████████| 1/1 [00:00
    <, ?it/s]
1536 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 163.30it/s]
1537 Generating train split: 0 examples [00:00, ?
    examples/s]Downloading and preparing dataset csv/
    default to C:/Users/admin/.cache/huggingface/
    datasets/csv/default-9078a944ca75fd7e/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1...
1538 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    9078a944ca75fd7e/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1. Subsequent calls will reuse this
    data.
1539 100%|██████████| 1/1 [00:00<00:00, 109.00it/s]
1540 preprocess_samples begin ...
1541 uncertainty shape: 720
1542 ./val_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
1543 classify begin
1544 12138
1545     0%|          | 0/20 [00:00<?, ?it/s]ds_add_1_818
1546 ds_add_1_818
1547 1469it [00:20, 510.20it/s]ds_add_1_818
1548 ds_add_1_818
1549 ds_add_1_818
1550 1509it [00:39, 8.34it/s] ds_add_1_818
1551 2996it [00:45, 341.08it/s]ds_add_1_818
1552 ds_add_1_818
1553 ds_add_1_818
1554 3016it [00:57, 341.08it/s]ds_add_1_818
```

```
1555 4521it [01:06, 246.05it/s]ds_add_1_818
1556 ds_add_1_818
1557 4524it [01:17, 246.05it/s]ds_add_1_818
1558 ds_add_1_818
1559 6010it [01:28, 281.04it/s]ds_add_1_818
1560 ds_add_1_818
1561 ds_add_1_818
1562 ds_add_1_818
1563 7528it [01:52, 300.99it/s]ds_add_1_818
1564 ds_add_1_818
1565 ds_add_1_818
1566 7541it [02:11, 4.62it/s] ds_add_1_818
1567 9039it [02:16, 302.31it/s]ds_add_1_818
1568 ds_add_1_818
1569 9048it [02:27, 302.31it/s]ds_add_1_818
1570 ds_add_1_818
1571 10528it [02:35, 473.99it/s]ds_add_1_818
1572 ds_add_1_818
1573 ds_add_1_818
1574 10557it [02:49, 10.00it/s] ds_add_1_818
1575 12036it [02:52, 457.78it/s]ds_add_1_818
1576 ds_add_1_818
1577 ds_add_1_818
1578 12064it [03:07, 457.78it/s]ds_add_1_818
1579 13571it [03:14, 287.77it/s]ds_add_1_818
1580 ds_add_1_818
1581 ds_add_1_818
1582 13573it [03:31, 4.79it/s] ds_add_1_818
1583 15058it [03:36, 241.10it/s]ds_add_1_818
1584 ds_add_1_818
1585 15080it [03:47, 241.10it/s]ds_add_1_818
1586 ds_add_1_818
1587 16568it [03:54, 570.50it/s]ds_add_1_818
1588 ds_add_1_818
1589 ds_add_1_818
1590 16589it [04:11, 9.25it/s] ds_add_1_818
1591 18042it [04:14, 543.84it/s]ds_add_1_818
1592 ds_add_1_818
1593 ds_add_1_818
1594 18097it [04:28, 13.14it/s] ds_add_1_818
1595 19602it [04:31, 454.61it/s]ds_add_1_818
```

```
1596 ds_add_1_818
1597 ds_add_1_818
1598 ds_add_1_818
1599 21071it [04:49, 533.84it/s]ds_add_1_818
1600 ds_add_1_818
1601 ds_add_1_818
1602 ds_add_1_818
1603 22605it [05:09, 401.63it/s]ds_add_1_818
1604 ds_add_1_818
1605 ds_add_1_818
1606 ds_add_1_818
1607 24109it [05:26, 608.70it/s]ds_add_1_818
1608 ds_add_1_818
1609 24128it [05:37, 608.70it/s]ds_add_1_818
1610 ds_add_1_818
1611 25628it [05:45, 467.46it/s]ds_add_1_818
1612 ds_add_1_818
1613 ds_add_1_818
1614 25637it [06:00, 9.11it/s] ds_add_1_818
1615 27106it [06:02, 695.76it/s]ds_add_1_818
1616 ds_add_1_818
1617 ds_add_1_818
1618 27145it [06:19, 12.47it/s] ds_add_1_818
1619 28628it [06:23, 413.57it/s]ds_add_1_818
1620 ds_add_1_818
1621 ds_add_1_818
1622 28653it [06:39, 8.45it/s] ds_add_1_818
1623 30149it [06:43, 386.82it/s]ds_add_1_818
1624 ds_add_1_818
1625 epoch number 19
1626 ds_add_1_818
1627 ds_add_1_818
1628 30160it [06:57, 386.82it/s]ds_add_1_818
1629 ds_add_1_818
1630 global t is : 9
1631 test epoch results {'accuracy': 0.6274509803921569
, 'f1_weighted': 0.6127646297566317, 'f1_macro': 0.
5546497565783116, 'f1': array([0.8688946 , 0.
36666667, 0.63366337, 0.41142857, 0.65546218,
1632 0.16260163, 0.67295597, 0.63075416, 0.
58942065]), 'precision': array([0.87113402, 0.
```

```

1632 47826087, 0.61538462, 0.70588235, 0.59541985,
1633 0.29411765, 0.74305556, 0.5659051 , 0.
      58208955]), 'recall': array([0.86666667, 0.2972973
      , 0.65306122, 0.29032258, 0.72897196,
1634 0.11235955, 0.61494253, 0.71238938, 0.
      59693878])}
1635 val epoch results {'accuracy': 0.6805555555555556
      , 'f1_weighted': 0.6533063906796677, 'f1_macro': 0.
      518102781608982, 'f1': array([0.88571429, 0
      .          , 0.6          , 0.32989691, 0.6          ,
1636 0.25531915, 0.71428571, 0.73823529, 0.
      53947368]), 'precision': array([0.88571429, 0
      .          , 0.6          , 0.8          , 0.49090909,
1637 0.42857143, 0.76923077, 0.64194373, 0.
      68333333]), 'recall': array([0.88571429, 0
      .          , 0.6          , 0.20779221, 0.77142857,
1638 0.18181818, 0.66666667, 0.86851211, 0.
      44565217])}
1639 30160it [07:02, 71.34it/s]
1640 diversity new embedding 1511
1641 diversity len embedding 1511
1642 MLP_1h(
1643     (l1): Linear(in_features=54, out_features=100,
      bias=True)
1644     (l2): Linear(in_features=100, out_features=9,
      bias=True)
1645 )
1646 [35, 587, 694, 1385, 1295, 693, 569, 255, 418, 582
      , 761, 1510, 1285, 249, 376, 136, 743, 244, 1124,
      1087, 695, 1296, 513, 15, 1289, 66, 8, 292, 952,
      919, 1495, 1250, 637, 51, 468, 610, 1458, 324, 830
      , 107, 596, 955, 669, 680, 344, 353, 430, 1255, 47
      , 1312, 1336, 721, 398, 665, 568, 123, 1272, 719,
      261, 959, 1196, 297, 620, 588, 1355, 1080, 75, 609
      , 278, 621, 966, 631, 1346, 660, 273, 327, 88, 359
      , 1502, 1234, 154, 814, 698, 1310, 613, 608, 1298,
      1405, 1411, 1396, 811, 1450, 453, 733, 699, 152,
      944, 130, 1045, 114, 1174, 799, 903, 871, 476, 506
      , 1472, 827, 109, 459, 1269, 950, 810, 542, 471,
      1437, 517, 907, 288, 793, 1433, 42, 253, 545, 1074
      , 848, 1417, 266, 183, 112, 1429, 726, 860, 898,

```

```
1646 1420, 1408, 839, 1058, 861, 1104, 1165, 436, 105,  
584, 118, 1481, 1133, 1021, 1392, 1359, 808, 300,  
110, 58, 1406, 511, 65, 562, 1379, 37, 463, 59, 193  
, 720, 1257, 1287, 443, 407, 337, 875, 817, 1044,  
280, 804, 1283, 1175, 1291, 742, 357, 994, 1187,  
934, 807, 393, 38, 175, 767, 1129, 1395, 474, 1144  
, 1452, 999, 1443, 1064, 106, 484, 854, 1247, 1292  
, 18, 1212, 1100, 540, 731, 194, 1033, 82, 5, 1014  
, 1308, 909, 320, 522, 753, 440, 638, 874, 911, 184  
, 850, 485, 1084, 691, 1338, 975, 390, 519, 71, 925  
, 1263, 696, 902, 186, 388, 749, 1008, 373, 1024, 2  
, 1106, 1268, 210, 73, 554, 1022, 537, 1207, 134,  
1262, 927, 1026, 1309, 399, 592, 1278, 135, 639,  
844, 229, 1383, 69, 772, 865, 1451, 625, 565, 28,  
1504, 342, 1389, 526, 735, 263, 1173, 264, 1085,  
1156, 20, 980, 672, 1151, 424, 1170, 1162, 1299,  
922, 1363, 1251, 493, 1381, 1177, 1500, 549, 1508,  
1438, 1178, 1213, 128, 77, 732, 1466]  
1647 []  
1648 Downloading and preparing dataset csv/default to C  
:/Users/admin/.cache/huggingface/datasets/csv/  
default-823c59eccf205c6c/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1649 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1650 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 142.86it/s]  
1651 100%|██████████| 1/1 [00:00<00:00, 63.94it/s]  
1652 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
823c59eccf205c6c/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1653 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1654 Downloading and preparing dataset csv/default to C  
:/Users/admin/.cache/huggingface/datasets/csv/  
default-f8be2cdb6ed08aa0/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
```

```
1654 53bcc7ec513e1...
1655 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 124.70it/s]
1656 0% | 0/1 [00:00<?, ?it/s]Dataset csv
downloaded and prepared to C:/Users/admin/.cache/
huggingface/datasets/csv/default-f8be2cdb6ed08aa0/0
.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1657 100%|██████████| 1/1 [00:00<00:00, 45.46it/s]
1658 Downloading data files: 100%|██████████| 1/1 [00:00
<00:00, 1773.49it/s]
1659 Downloading and preparing dataset csv/default to C
:/Users/admin/.cache/huggingface/datasets/csv/
default-cc89bc8093c53431/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1...
1660 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 126.05it/s]
1661 100%|██████████| 1/1 [00:00<00:00, 87.04it/s]
1662 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
cc89bc8093c53431/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1663 Downloading data files: 100%|██████████| 1/1 [00:00
<?, ?it/s]
1664 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 99.40it/s]
1665 Downloading and preparing dataset csv/default to C
:/Users/admin/.cache/huggingface/datasets/csv/
default-8d0e06de6742c38e/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1...
1666 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
8d0e06de6742c38e/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
```

```
1666 data.  
1667 100%|██████████| 1/1 [00:00<00:00, 90.71it/s]  
1668 t is : 10  
1669 addlen is: 5000  
1670  
1671 Process finished with exit code 0  
1672
```