

```
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\diversity_sampling_whole.py"
2 diversity_sampling
3 Downloading and preparing dataset csv/default to C:/Users/admin/.cache/huggingface/datasets/csv/default-5c8a58657712c3b4/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853bcc7ec513e1...
4 Downloading data files: 100%|██████████| 1/1 [00:00 <?, ?it/s]
5 Extracting data files: 100%|██████████| 1/1 [00:00<00:00, 8.88it/s]
6 0%|          | 0/1 [00:00<?, ?it/s]Dataset csv downloaded and prepared to C:/Users/admin/.cache/huggingface/datasets/csv/default-5c8a58657712c3b4/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853bcc7ec513e1. Subsequent calls will reuse this data.
7 100%|██████████| 1/1 [00:00<00:00, 28.65it/s]
8 11241
9 torch.Size([11241, 27])
10 Downloading and preparing dataset csv/default to C:/Users/admin/.cache/huggingface/datasets/csv/default-f6378722a76b3479/0.0.0/
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11 Downloading data files: 100%|██████████| 1/1 [00:00 <?, ?it/s]
12 Extracting data files: 100%|██████████| 1/1 [00:00<00:00, 125.43it/s]
13 100%|██████████| 1/1 [00:00<00:00, 90.11it/s]
14 Dataset csv downloaded and prepared to C:/Users/admin/.cache/huggingface/datasets/csv/default-f6378722a76b3479/0.0.0/
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15 Downloading data files: 100%|██████████| 1/1 [00:00 <?, ?it/s]
16 Extracting data files: 100%|██████████| 1/1 [00:00<00:00
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16 :00, 143.39it/s]
17 Generating train split: 0 examples [00:00, ? examples
/s]Downloading and preparing dataset csv/default to C:
/Users/admin/.cache/huggingface/datasets/csv/default-
-ee8c2ed8b36a83c9/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
bcc7ec513e1...
18 100%|██████████| 1/1 [00:00<00:00, 91.20it/s]
19 Dataset csv downloaded and prepared to C:/Users/admin
/.cache/huggingface/datasets/csv/default-
ee8c2ed8b36a83c9/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
bcc7ec513e1. Subsequent calls will reuse this data.
20 noexp_df.shape[0] last 11241
21 unexplained dataset length is:
22 11241
23 embedding begin
24 trian and val dataset length: 28350
25 diversity_sampling
26 diversity_sampling
27 diversity_sampling
28 diversity_sampling
29 diversity_sampling
30 diversity_sampling
31 diversity_sampling
32 diversity_sampling
33 315.0
34 ./embeddings/NEW_bertie_embeddings_textattack/bert-
base-uncased-MNLI_subset_1.pt
35 Downloading and preparing dataset csv/default to C:/
Users/admin/.cache/huggingface/datasets/csv/default-
1252d676eee1fef5/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
bcc7ec513e1...
36 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
37 Extracting data files: 100%|██████████| 1/1 [00:00<00
:00, 66.52it/s]
38 100%|██████████| 1/1 [00:00<00:00, 100.25it/s]
39 Dataset csv downloaded and prepared to C:/Users/admin
/.cache/huggingface/datasets/csv/default-
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39 1252d676eea1fef5/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
    bcc7ec513e1. Subsequent calls will reuse this data.
40 test len 14445
41 Downloading data files: 100%|██████████| 1/1 [00:00
    <?, ?it/s]
42 Extracting data files: 100%|██████████| 1/1 [00:00<00
    :00, 143.34it/s]
43 Generating train split: 0 examples [00:00, ? examples
    /s]Downloading and preparing dataset csv/default to C
    :/Users/admin/.cache/huggingface/datasets/csv/default-
    -3154798645948f21/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
    bcc7ec513e1...
44 100%|██████████| 1/1 [00:00<00:00, 71.67it/s]
45 Dataset csv downloaded and prepared to C:/Users/admin
    /.cache/huggingface/datasets/csv/default-
    3154798645948f21/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc853
    bcc7ec513e1. Subsequent calls will reuse this data.
46 preprocess_samples begin ...
47 uncertainty shape: 1530
48 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
49 classify begin
50 3211
51   0%|          | 0/20 [00:00<?, ?it/s]
        diversity_sampling
52 diversity_sampling
53 326it [00:07, 101.02it/s]diversity_sampling
54 diversity_sampling
55 diversity_sampling
56 diversity_sampling
57 652it [00:21, 51.00it/s]diversity_sampling
58 diversity_sampling
59 diversity_sampling
60 711it [00:33, 14.72it/s]diversity_sampling
61 974it [00:34, 47.07it/s]diversity_sampling
62 diversity_sampling
63 diversity_sampling
64 diversity_sampling
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65 1335it [00:47, 49.78it/s]diversity_sampling
66 diversity_sampling
67 diversity_sampling
68 diversity_sampling
69 1762it [01:00, 67.07it/s]diversity_sampling
70 diversity_sampling
71 diversity_sampling
72 1776it [01:12, 13.81it/s]diversity_sampling
73 2052it [01:13, 49.95it/s]diversity_sampling
74 diversity_sampling
75 diversity_sampling
76 diversity_sampling
77 2418it [01:26, 50.86it/s]diversity_sampling
78 diversity_sampling
79 diversity_sampling
80 diversity_sampling
81 2775it [01:39, 49.21it/s]diversity_sampling
82 diversity_sampling
83 diversity_sampling
84 2841it [01:51, 16.27it/s]diversity_sampling
85 3177it [01:52, 65.37it/s]diversity_sampling
86 diversity_sampling
87 diversity_sampling
88 diversity_sampling
89 3519it [02:05, 51.06it/s]diversity_sampling
90 diversity_sampling
91 diversity_sampling
92 diversity_sampling
93 3883it [02:18, 50.31it/s]diversity_sampling
94 diversity_sampling
95 diversity_sampling
96 diversity_sampling
97 4198it [02:31, 44.93it/s]diversity_sampling
98 diversity_sampling
99 diversity_sampling
100 4261it [02:43, 14.90it/s]diversity_sampling
101 4606it [02:44, 64.87it/s]diversity_sampling
102 diversity_sampling
103 diversity_sampling
104 diversity_sampling
105 4952it [02:57, 51.00it/s]diversity_sampling
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106 diversity_sampling
107 diversity_sampling
108 diversity_sampling
109 5310it [03:10, 49.97it/s]diversity_sampling
110 diversity_sampling
111 diversity_sampling
112 5326it [03:22, 13.45it/s]diversity_sampling
113 5677it [03:23, 66.53it/s]diversity_sampling
114 diversity_sampling
115 diversity_sampling
116 diversity_sampling
117 6012it [03:38, 43.26it/s]diversity_sampling
118 diversity_sampling
119 diversity_sampling
120 6035it [03:51, 43.26it/s]diversity_sampling
121 6358it [03:51, 59.65it/s]diversity_sampling
122 diversity_sampling
123 diversity_sampling
124 diversity_sampling
125 6694it [04:04, 49.25it/s]diversity_sampling
126 diversity_sampling
127 diversity_sampling
128 diversity_sampling
129 7048it [04:17, 49.32it/s]diversity_sampling
130 diversity_sampling
131 epoch number 19
132 diversity_sampling
133 diversity_sampling
134 7100it [04:31, 49.32it/s]diversity_sampling
135 diversity_sampling
136 global t is : 0
137 test epoch results {'accuracy': 0.5392156862745098
    , 'f1_weighted': 0.4939554215710343, 'f1_macro': 0.
    37401773727144544, 'f1': array([0.80693069, 0
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    0.04347826, 0.5033557 , 0.58989229, 0.
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    0.66666667, 0.60483871, 0.47152318, 0.
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    . , 0.18367347, 0.06451613, 0.53738318,
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140          0.02247191, 0.43103448, 0.78761062, 0.
        49489796])}
141 val epoch results {'accuracy': 0.5714285714285714, '
    f1_weighted': 0.522547618545668, 'f1_macro': 0.
    41390963004281167, 'f1': array([0.85365854, 0
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142           0.1           , 0.64615385, 0.61176471, 0.
    51428571]), 'precision': array([0.83333333, 0
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143           1.           , 0.72413793, 0.47852761, 0.6
    1], 'recall': array([0.875       , 0.
    0.36363636, 0.           , 0.52272727,
144           0.05263158, 0.58333333, 0.84782609, 0.45
    ])}

145 diversity len embedding 11241
146 MLP_1h(
147     (l1): Linear(in_features=27, out_features=100,
    bias=True)
148     (l2): Linear(in_features=100, out_features=9, bias
    =True)
149 )
150 7100it [04:32, 26.06it/s]
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00:00, 1003.42it/s]  
155 Extracting data files: 100%|██████████| 1/1 [00:00<  
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156 100%|██████████| 1/1 [00:00<00:00, 91.26it/s]  
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158 Downloading data files: 100%|██████████| 1/1 [00:00  
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159 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 141.82it/s]  
160 Generating train split: 0 examples [00:00, ?  
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161 100%|██████████| 1/1 [00:00<00:00, 90.89it/s]  
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163 Downloading data files: 100%|██████████| 1/1 [00:00  
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164 Extracting data files: 100%|██████████| 1/1 [00:00<  
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165 Downloading and preparing dataset csv/default to C:/
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3bcc7ec513e1. Subsequent calls will reuse this data.
167 100%|██████████| 1/1 [00:00<00:00, 99.91it/s]
168 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
169 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 143.06it/s]
170 Generating train split: 0 examples [00:00, ?
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3bcc7ec513e1...
171 100%|██████████| 1/1 [00:00<00:00, 100.22it/s]
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3bcc7ec513e1. Subsequent calls will reuse this data.
173 t is : 1
174 addlen is: 500
175 noexp_df.shape[0] last 8993
176 unexplained dataset length is:
177 8993
178 embedding begin
179 trian and val dataset length: 54000
180 diversity_sampling
181 diversity_sampling
182 diversity_sampling
183 diversity_sampling
184 diversity_sampling
185 diversity_sampling
186 diversity_sampling
187 diversity_sampling
```

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188 540.0
189 ./embeddings/NEW_bertie_embeddings_textattack/bert-
    base-uncased-MNLI_subset_1.pt
190 Found cached dataset csv (C:/Users/admin/.cache/
    huggingface/datasets/csv/default-1252d676eea1fef5/0.
    0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1)
191 100%|██████████| 1/1 [00:00<00:00, 1004.86it/s]
192 test len 16050
193 Downloading and preparing dataset csv/default to C:/_
    Users/admin/.cache/huggingface/datasets/csv/default-
    e2a5ed3af021a42a/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1...
194 Downloading data files: 100%|██████████| 1/1 [00:00
    <?, ?it/s]
195 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 143.13it/s]
196 100%|██████████| 1/1 [00:00<00:00, 66.43it/s]
197 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.
198 preprocess_samples begin ...
199 uncertainty shape: 1530
200 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
201 classify begin
202 5459
203 0%|          | 0/20 [00:00<?, ?it/s]
    diversity_sampling
204 diversity_sampling
205 567it [00:08, 265.08it/s]diversity_sampling
206 diversity_sampling
207 diversity_sampling
208 diversity_sampling
209 1150it [00:22, 147.15it/s]diversity_sampling
210 diversity_sampling
211 diversity_sampling
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212 diversity_sampling
213 1746it [00:35, 142.85it/s]diversity_sampling
214 diversity_sampling
215 diversity_sampling
216 1825it [00:49, 19.16it/s] diversity_sampling
217 2347it [00:49, 145.48it/s]diversity_sampling
218 diversity_sampling
219 diversity_sampling
220 diversity_sampling
221 2985it [01:03, 153.24it/s]diversity_sampling
222 diversity_sampling
223 diversity_sampling
224 diversity_sampling
225 3615it [01:16, 151.24it/s]diversity_sampling
226 diversity_sampling
227 diversity_sampling
228 3649it [01:29, 17.33it/s] diversity_sampling
229 4190it [01:30, 152.09it/s]diversity_sampling
230 diversity_sampling
231 diversity_sampling
232 diversity_sampling
233 4798it [01:43, 145.68it/s]diversity_sampling
234 diversity_sampling
235 diversity_sampling
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237 5391it [01:57, 142.09it/s]diversity_sampling
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241 6062it [02:10, 185.79it/s]diversity_sampling
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245 6595it [02:24, 111.25it/s]diversity_sampling
246 diversity_sampling
247 diversity_sampling
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249 7218it [02:38, 147.77it/s]diversity_sampling
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251 diversity_sampling
252 diversity_sampling
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255 diversity_sampling
256 diversity_sampling
257 8486it [03:05, 152.22it/s]diversity_sampling
258 diversity_sampling
259 diversity_sampling
260 8513it [03:17, 16.81it/s] diversity_sampling
261 9039it [03:18, 148.12it/s]diversity_sampling
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263 diversity_sampling
264 diversity_sampling
265 9676it [03:32, 152.35it/s]diversity_sampling
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268 diversity_sampling
269 10266it [03:45, 145.55it/s]diversity_sampling
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272 10336it [03:56, 145.55it/s]diversity_sampling
273 10923it [03:59, 189.24it/s]diversity_sampling
274 diversity_sampling
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276 diversity_sampling
277 11517it [04:12, 145.19it/s]diversity_sampling
278 diversity_sampling
279 diversity_sampling
280 diversity_sampling
281 12147it [04:26, 150.80it/s]diversity_sampling
282 diversity_sampling
283 epoch number 19
284 diversity_sampling
285 diversity_sampling
286 12160it [04:37, 150.80it/s]diversity_sampling
287 diversity_sampling
288 global t is : 1
289 test epoch results {'accuracy': 0.5490196078431373
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296      0.          , 0.37704918, 0.75496689, 0.
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297 diversity new embedding 8993
298 diversity len embedding 8993
299 MLP_1h(
300     (l1): Linear(in_features=30, out_features=100,
bias=True)
301     (l2): Linear(in_features=100, out_features=9, bias
=True)
302 )
303 12160it [04:41, 43.25it/s]
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307 Downloading data files: 100%|██████████| 1/1 [00:00  
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00:00, 144.15it/s]
309 100%|██████████| 1/1 [00:00<00:00, 99.84it/s]
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311 Downloading data files: 100%|██████████| 1/1 [00:00
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<, ?it/s]
322 Extracting data files: 100%|██████████| 1/1 [00:00<
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326 t is : 2
327 addlen is: 1000
328 noexp_df.shape[0] last 7195
329 unexplained dataset length is:
330 7195
331 embedding begin
332 trian and val dataset length: 79200
333 diversity_sampling
334 diversity_sampling
335 diversity_sampling
336 diversity_sampling
337 diversity_sampling
338 diversity_sampling
339 diversity_sampling
340 diversity_sampling
341 720.0
342 ./embeddings/NEW_bertie_embeddings_textattack/bert-
base-uncased-MNLI_subset_1.pt
343 Found cached dataset csv (C:/Users/admin/.cache/
huggingface/datasets/csv/default-1252d676eea1fef5/0.
0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1)
344 100%|██████████| 1/1 [00:00<00:00, 89.56it/s]
345 test len 17655
346 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
347 Extracting data files: 100%|██████████| 1/1 [00:00<
```

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347 00:00, 143.32it/s]
348 Generating train split: 0 examples [00:00, ?
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3bcc7ec513e1...
349 0%|          | 0/1 [00:00<?, ?it/s]Dataset csv
downloaded and prepared to C:/Users/admin/.cache/
huggingface/datasets/csv/default-1dd77a6690df52e3/0.
0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1. Subsequent calls will reuse this data.
350 100%|██████| 1/1 [00:00<00:00, 47.78it/s]
351 preprocess_samples begin ...
352 uncertainty shape: 1530
353 ./test_embeddings/NEW_bertie_embeddings_textattack/
bert-base-uncased-MNLI_subset_1.pt
354 classify begin
355 7257
356 0%|          | 0/20 [00:00<?, ?it/s]
    diversity_sampling
357 diversity_sampling
358 758it [00:18, 398.38it/s]diversity_sampling
359 diversity_sampling
360 diversity_sampling
361 diversity_sampling
362 1547it [00:33, 264.30it/s]diversity_sampling
363 diversity_sampling
364 diversity_sampling
365 1621it [00:46, 20.33it/s] diversity_sampling
366 2421it [00:47, 333.92it/s]diversity_sampling
367 diversity_sampling
368 diversity_sampling
369 diversity_sampling
370 3229it [01:02, 298.11it/s]diversity_sampling
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374 3999it [01:17, 312.32it/s]diversity_sampling
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381 4860it [01:45, 331.75it/s]diversity_sampling
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405 diversity_sampling
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407 diversity_sampling
408 diversity_sampling
409 10531it [03:26, 18.28it/s] diversity_sampling
410 11255it [03:27, 268.23it/s]diversity_sampling
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413 diversity_sampling
414 12080it [03:41, 269.52it/s]diversity_sampling
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426 14529it [04:25, 289.63it/s]diversity_sampling
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429 14580it [04:35, 289.63it/s]diversity_sampling
430 15374it [04:40, 335.00it/s]diversity_sampling
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452 diversity len embedding 7195
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456 )
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3bcc7ec513e1...  
460 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
461 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 143.17it/s]  
462 100%|██████████| 1/1 [00:00<00:00, 62.69it/s]  
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3bcc7ec513e1. Subsequent calls will reuse this data.  
464 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
465 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 125.26it/s]  
466 Generating train split: 0 examples [00:00, ?]
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default to C:/Users/admin/.cache/huggingface/
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3bcc7ec513e1...
467 100%|██████████| 1/1 [00:00<00:00, 59.01it/s]
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3bcc7ec513e1. Subsequent calls will reuse this data.
469 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
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472 100%|██████████| 1/1 [00:00<00:00, 100.33it/s]
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3bcc7ec513e1. Subsequent calls will reuse this data.
474 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
475 Extracting data files: 100%|██████████| 1/1 [00:00<
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478 100%|██████████| 1/1 [00:00<00:00, 111.05it/s]
```

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479 t is : 3
480 addlen is: 1500
481 noexp_df.shape[0] last 5756
482 unexplained dataset length is:
483 5756
484 embedding begin
485 trian and val dataset length: 103680
486 diversity_sampling
487 diversity_sampling
488 diversity_sampling
489 diversity_sampling
490 diversity_sampling
491 diversity_sampling
492 diversity_sampling
493 diversity_sampling
494 864.0
495 ./embeddings/NEW_bertie_embeddings_textattack/bert-
base-uncased-MNLI_subset_1.pt
496 Found cached dataset csv (C:/Users/admin/.cache/
huggingface/datasets/csv/default-1252d676eea1fef5/0.
0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1)
497 100%|██████████| 1/1 [00:00<00:00, 91.17it/s]
498 test len 19260
499 Downloading and preparing dataset csv/default to C:/_
Users/admin/.cache/huggingface/datasets/csv/default-
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3bcc7ec513e1...
500 Downloading data files: 100%|██████████| 1/1 [00:00<
00:00, 1002.94it/s]
501 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 167.25it/s]
502 0%|          | 0/1 [00:00<?, ?it/s]Dataset csv
downloaded and prepared to C:/Users/admin/.cache/
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0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1. Subsequent calls will reuse this data.
503 100%|██████████| 1/1 [00:00<00:00, 40.13it/s]
```

```
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505 uncertainty shape: 1530
506 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
507 classify begin
508 8696
509 0%|          | 0/20 [00:00<?, ?it/s]
    diversity_sampling
510 diversity_sampling
511 896it [00:15, 395.01it/s]diversity_sampling
512 diversity_sampling
513 diversity_sampling
514 diversity_sampling
515 1903it [00:30, 423.91it/s]diversity_sampling
516 diversity_sampling
517 diversity_sampling
518 diversity_sampling
519 2912it [00:45, 456.00it/s]diversity_sampling
520 diversity_sampling
521 diversity_sampling
522 diversity_sampling
523 3841it [01:00, 384.92it/s]diversity_sampling
524 diversity_sampling
525 diversity_sampling
526 diversity_sampling
527 4847it [01:15, 447.59it/s]diversity_sampling
528 diversity_sampling
529 diversity_sampling
530 diversity_sampling
531 5781it [01:31, 383.25it/s]diversity_sampling
532 diversity_sampling
533 diversity_sampling
534 diversity_sampling
535 6793it [01:46, 439.96it/s]diversity_sampling
536 diversity_sampling
537 diversity_sampling
538 6805it [02:00, 12.98it/s] diversity_sampling
539 7712it [02:01, 413.88it/s]diversity_sampling
540 diversity_sampling
541 diversity_sampling
542 diversity_sampling
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547 9633it [02:30, 348.47it/s]diversity_sampling
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577 diversity_sampling
578 diversity_sampling
579 17493it [04:29, 424.57it/s]diversity_sampling
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582 diversity_sampling
583 18456it [04:45, 432.16it/s]diversity_sampling
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587 19392it [05:00, 389.91it/s]diversity_sampling
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<?, ?it/s]  
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622 Downloading data files: 100%|██████████| 1/1 [00:00
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626 100%|██████████| 1/1 [00:00<00:00, 71.38it/s]
627 Downloading data files: 100%|██████████| 1/1 [00:00
<?, ?it/s]
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630 100%|██████████| 1/1 [00:00<00:00, 99.96it/s]
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632 t is : 4
633 addlen is: 2000
634 noexp_df.shape[0] last 4605
635 unexplained dataset length is:
636 4605
637 embedding begin
```

```
638 trian and val dataset length: 127530
639 diversity_sampling
640 diversity_sampling
641 diversity_sampling
642 diversity_sampling
643 diversity_sampling
644 diversity_sampling
645 diversity_sampling
646 diversity_sampling
647 981.0
648 ./embeddings/NEW_bertie_embeddings_textattack/bert-
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649 Found cached dataset csv (C:/Users/admin/.cache/
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    0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1)
650 100%|██████████| 1/1 [00:00<00:00, 501.95it/s]
651 test len 20865
652 Downloading and preparing dataset csv/default to C:/_
    Users/admin/.cache/huggingface/datasets/csv/default-
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6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1...
653 Downloading data files: 100%|██████████| 1/1 [00:00
    <?, ?it/s]
654 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 167.18it/s]
655 100%|██████████| 1/1 [00:00<00:00, 49.30it/s]
656 Dataset csv downloaded and prepared to C:/Users/
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6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
3bcc7ec513e1. Subsequent calls will reuse this data.
657 preprocess_samples begin ...
658 uncertainty shape: 1530
659 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
660 classify begin
661 9847
662 0% | 0/20 [00:00<?, ?it/s]
```

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663 diversity_sampling
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665 diversity_sampling
666 1104it [00:20, 572.36it/s]diversity_sampling
667 diversity_sampling
668 2159it [00:26, 538.30it/s]diversity_sampling
669 diversity_sampling
670 diversity_sampling
671 2209it [00:40, 12.91it/s] diversity_sampling
672 3305it [00:42, 548.61it/s]diversity_sampling
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680 5503it [01:13, 559.15it/s]diversity_sampling
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692 8817it [02:00, 525.86it/s]diversity_sampling
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700 11000it [02:32, 524.94it/s]diversity_sampling
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723 diversity_sampling
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735 19873it [04:53, 10.81it/s] diversity_sampling
736 20963it [04:54, 532.50it/s]diversity_sampling
737 diversity_sampling
738 diversity_sampling
739 diversity_sampling
740 22043it [05:10, 500.66it/s]diversity_sampling
741 diversity_sampling
742 epoch number 19
743 22080it [05:20, 500.66it/s]diversity_sampling
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745 diversity_sampling
746 diversity_sampling
747 global t is : 4
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756 22080it [05:28, 67.31it/s]
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758 diversity len embedding 4605
759 MLP_1h(
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        bias=True)
761     (l2): Linear(in_features=100, out_features=9, bias
        =True)
762 )
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785 t is : 5
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786 addlen is: 2500
787 noexp_df.shape[0] last 3684
788 unexplained dataset length is:
789 3684
790 embedding begin
791 trian and val dataset length: 149940
792 diversity_sampling
793 diversity_sampling
794 diversity_sampling
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796 diversity_sampling
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798 diversity_sampling
799 diversity_sampling
800 1071.0
801 ./embeddings/NEW_bertie_embeddings_textattack/bert-
    base-uncased-MNLI_subset_1.pt
802 Found cached dataset csv (C:/Users/admin/.cache/
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    3bcc7ec513e1)
803 100%|██████████| 1/1 [00:00<00:00, 43.61it/s]
804 test len 22470
805 Downloading data files: 100%|██████████| 1/1 [00:00<
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806 Extracting data files: 100%|██████████| 1/1 [00:00<
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807 Generating train split: 0 examples [00:00, ?
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808 100%|██████████| 1/1 [00:00<00:00, 98.75it/s]
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810 preprocess_samples begin ...
```

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811 uncertainty shape: 1530
812 ./test_embeddings/NEW_bertie_embeddings_textattack/
     bert-base-uncased-MNLI_subset_1.pt
813 classify begin
814 10768
815    0%|           | 0/20 [00:00<?, ?it/s]
     diversity_sampling
816 diversity_sampling
817 1131it [00:15, 614.19it/s]diversity_sampling
818 diversity_sampling
819 diversity_sampling
820 1206it [00:28, 21.32it/s] diversity_sampling
821 2403it [00:29, 631.66it/s]diversity_sampling
822 diversity_sampling
823 diversity_sampling
824 diversity_sampling
825 3589it [00:45, 534.46it/s]diversity_sampling
826 diversity_sampling
827 diversity_sampling
828 3616it [00:59, 12.56it/s] diversity_sampling
829 4814it [01:00, 542.65it/s]diversity_sampling
830 diversity_sampling
831 diversity_sampling
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833 6007it [01:16, 559.96it/s]diversity_sampling
834 diversity_sampling
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836 6025it [01:27, 559.96it/s]diversity_sampling
837 7208it [01:32, 495.05it/s]diversity_sampling
838 diversity_sampling
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840 diversity_sampling
841 8367it [01:47, 602.57it/s]diversity_sampling
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843 diversity_sampling
844 diversity_sampling
845 9568it [02:02, 624.00it/s]diversity_sampling
846 diversity_sampling
847 diversity_sampling
848 diversity_sampling
849 10768it [02:16, 626.25it/s]diversity_sampling
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853 12005it [02:31, 499.98it/s] diversity_sampling
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856 diversity_sampling
857 13246it [02:46, 563.21it/s] diversity_sampling
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860 13256it [03:00, 11.00it/s] diversity_sampling
861 14425it [03:02, 563.11it/s] diversity_sampling
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865 15638it [03:17, 565.52it/s] diversity_sampling
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868 diversity_sampling
869 16824it [03:33, 518.34it/s] diversity_sampling
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873 18066it [03:48, 580.84it/s] diversity_sampling
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877 19273it [04:03, 629.57it/s] diversity_sampling
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881 20412it [04:17, 566.25it/s] diversity_sampling
882 diversity_sampling
883 diversity_sampling
884 diversity_sampling
885 21684it [04:33, 542.51it/s] diversity_sampling
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887 diversity_sampling
888 diversity_sampling
889 22868it [04:48, 550.49it/s] diversity_sampling
890 diversity_sampling
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892 diversity_sampling
893 24067it [05:04, 557.14it/s]diversity_sampling
894 diversity_sampling
895 epoch number 19
896 diversity_sampling
897 diversity_sampling
898 24100it [05:17, 557.14it/s]diversity_sampling
899 diversity_sampling
900 global t is : 5
901 test epoch results {'accuracy': 0.611764705882353, 'f1_weighted': 0.5896994303094317, 'f1_macro': 0.5154355999099345, 'f1': array([0.85643564, 0.28571429, 0.55319149, 0.3190184 , 0.63438257, 0.11111111, 0.64848485, 0.61844485, 0.6121372]), 'precision': array([0.8277512 , 0.34615385, 0.57777778, 0.66666667, 0.65829146, 0.31578947, 0.68589744, 0.52293578, 0.63387978]), 'recall': array([0.88717949, 0.24324324, 0.53061224, 0.20967742, 0.61214953, 0.06741573, 0.61494253, 0.75663717, 0.59183673])}
905 val epoch results {'accuracy': 0.611577964519141, 'f1_weighted': 0.5906337199692391, 'f1_macro': 0.4875250811522585, 'f1': array([0.86335404, 0.17647059, 0.28      , 0.42857143, 0.63636364, 0.2      , 0.61802575, 0.62269129, 0.562249]), 'precision': array([0.81764706, 0.3      , 0.41176471, 0.6      , 0.65      , 0.58333333, 0.64285714, 0.52561247, 0.63063063]), 'recall': array([0.91447368, 0.125      , 0.21212121, 0.33333333, 0.62328767, 0.12068966, 0.59504132, 0.76375405, 0.50724638])}
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910 diversity new embedding 3684
911 diversity len embedding 3684
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914     bias=True)
914     (l2): Linear(in_features=100, out_features=9, bias
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923 Downloading data files: 100%|██████████| 1/1 [00:00  
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930 Extracting data files: 100%|██████████| 1/1 [00:00<
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931 100%|██████████| 1/1 [00:00<00:00, 110.99it/s]
932 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    747fcb3ed23d8ba3/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1. Subsequent calls will reuse this data.
933 Downloading data files: 100%|██████████| 1/1 [00:00
    <, ?it/s]
934 Downloading and preparing dataset csv/default to C:/
    Users/admin/.cache/huggingface/datasets/csv/default-
    4dad0557c7551074/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1...
935 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 144.51it/s]
936 100%|██████████| 1/1 [00:00<00:00, 60.17it/s]
937 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    4dad0557c7551074/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1. Subsequent calls will reuse this data.
938 t is : 6
939 addlen is: 3000
940 noexp_df.shape[0] last 2948
941 unexplained dataset length is:
942 2948
943 embedding begin
944 trian and val dataset length: 171450
945 diversity_sampling
946 diversity_sampling
947 diversity_sampling
948 diversity_sampling
949 diversity_sampling
950 diversity_sampling
951 diversity_sampling
952 diversity_sampling
953 1143.0
954 ./embeddings/NEW_bertie_embeddings_textattack/bert-
```

```
954 base-uncased-MNLI_subset_1.pt
955 Found cached dataset csv (C:/Users/admin/.cache/
    huggingface/datasets/csv/default-1252d676eea1fef5/0.
    0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1)
956 100%|██████████| 1/1 [00:00<00:00, 31.82it/s]
957 test len 24075
958 Downloading and preparing dataset csv/default to C:/Users/admin/.cache/huggingface/datasets/csv/default-14bfa8b97bef0d20/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1...
959 Downloading data files: 100%|██████████| 1/1 [00:00<00:00, 1025.25it/s]
960 Extracting data files: 100%|██████████| 1/1 [00:00<00:00, 131.54it/s]
961 100%|██████████| 1/1 [00:00<00:00, 83.54it/s]
962 Dataset csv downloaded and prepared to C:/Users/admin/.cache/huggingface/datasets/csv/default-14bfa8b97bef0d20/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc85
    3bcc7ec513e1. Subsequent calls will reuse this data.
963 preprocess_samples begin ...
964 uncertainty shape: 1530
965 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
966 classify begin
967 11504
968 0%|          | 0/20 [00:00<?, ?it/s]
    diversity_sampling
969 diversity_sampling
970 1249it [00:22, 362.52it/s]diversity_sampling
971 diversity_sampling
972 diversity_sampling
973 diversity_sampling
974 2524it [00:43, 461.33it/s]diversity_sampling
975 diversity_sampling
976 diversity_sampling
977 2572it [01:02, 461.33it/s]diversity_sampling
978 3831it [01:06, 491.37it/s]diversity_sampling
```

```
979 diversity_sampling
980 diversity_sampling
981 3858it [01:22, 491.37it/s]diversity_sampling
982 5097it [01:26, 482.47it/s]diversity_sampling
983 diversity_sampling
984 diversity_sampling
985 5144it [01:42, 482.47it/s]diversity_sampling
986 6428it [01:50, 354.87it/s]diversity_sampling
987 diversity_sampling
988 6430it [02:02, 354.87it/s]diversity_sampling
989 diversity_sampling
990 7712it [02:16, 338.72it/s]diversity_sampling
991 diversity_sampling
992 diversity_sampling
993 7716it [02:32, 338.72it/s]diversity_sampling
994 8961it [02:36, 478.02it/s]diversity_sampling
995 diversity_sampling
996 diversity_sampling
997 9003it [02:53, 9.18it/s] diversity_sampling
998 10279it [02:58, 294.55it/s]diversity_sampling
999 diversity_sampling
1000 diversity_sampling
1001 10289it [03:14, 5.04it/s] diversity_sampling
1002 11562it [03:18, 499.00it/s]diversity_sampling
1003 diversity_sampling
1004 11574it [03:32, 499.00it/s]diversity_sampling
1005 diversity_sampling
1006 12825it [03:41, 492.94it/s]diversity_sampling
1007 diversity_sampling
1008 12860it [03:52, 492.94it/s]diversity_sampling
1009 diversity_sampling
1010 14103it [04:00, 475.93it/s]diversity_sampling
1011 diversity_sampling
1012 diversity_sampling
1013 14146it [04:12, 475.93it/s]diversity_sampling
1014 15384it [04:18, 479.03it/s]diversity_sampling
1015 diversity_sampling
1016 diversity_sampling
1017 15432it [04:32, 479.03it/s]diversity_sampling
1018 16667it [04:37, 507.40it/s]diversity_sampling
1019 diversity_sampling
```

```
1020 diversity_sampling
1021 16718it [04:52, 507.40it/s]diversity_sampling
1022 17991it [04:55, 467.06it/s]diversity_sampling
1023 diversity_sampling
1024 diversity_sampling
1025 diversity_sampling
1026 19275it [05:13, 492.40it/s]diversity_sampling
1027 diversity_sampling
1028 diversity_sampling
1029 diversity_sampling
1030 20537it [05:32, 390.85it/s]diversity_sampling
1031 diversity_sampling
1032 20576it [05:42, 390.85it/s]diversity_sampling
1033 diversity_sampling
1034 21847it [05:50, 476.66it/s]diversity_sampling
1035 diversity_sampling
1036 21862it [06:02, 476.66it/s]diversity_sampling
1037 diversity_sampling
1038 23140it [06:13, 271.80it/s]diversity_sampling
1039 diversity_sampling
1040 diversity_sampling
1041 23149it [06:40, 2.96it/s] diversity_sampling
1042 24384it [06:42, 521.92it/s]diversity_sampling
1043 diversity_sampling
1044 24434it [06:52, 521.92it/s]diversity_sampling
1045 diversity_sampling
1046 25720it [07:00, 529.85it/s]diversity_sampling
1047 diversity_sampling
1048 epoch number 19
1049 diversity_sampling
1050 25720it [07:12, 529.85it/s]diversity_sampling
1051 diversity_sampling
1052 diversity_sampling
1053 global t is : 6
1054 test epoch results {'accuracy': 0.6169934640522876
, 'f1_weighted': 0.5938044578604793, 'f1_macro': 0.
5224509634152184, 'f1': array([0.86445013, 0.
31578947, 0.58947368, 0.35087719, 0.64351852,
1055 0.06060606, 0.65486726, 0.62194016, 0.
60053619]), 'precision': array([0.8622449 , 0.45
, 0.60869565, 0.63829787, 0.63761468,
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```

1056      0.3      , 0.67272727, 0.52688172, 0.
       63276836]), 'recall': array([0.86666667, 0.24324324
       , 0.57142857, 0.24193548, 0.64953271,
1057      0.03370787, 0.63793103, 0.75884956, 0.
       57142857])}
1058 val epoch results {'accuracy': 0.6412948381452318
       , 'f1_weighted': 0.6216483519104299, 'f1_macro': 0.
       545807639556502, 'f1': array([0.89908257, 0.3902439
       , 0.49180328, 0.48571429, 0.6295082 ,
1059      0.11428571, 0.61960784, 0.64698647, 0.
       6350365 ], 'precision': array([0.88023952, 0.
       57142857, 0.57692308, 0.75555556, 0.64
       ,
1060      0.57142857, 0.63709677, 0.54451346, 0.
       68503937]), 'recall': array([0.91875 , 0.2962963
       , 0.42857143, 0.35789474, 0.61935484,
1061      0.06349206, 0.60305344, 0.7969697 , 0.
       59183673])}
1062 25720it [07:20, 58.41it/s]
1063 diversity new embedding 2948
1064 diversity len embedding 2948
1065 MLP_1h(
1066     (l1): Linear(in_features=45, out_features=100,
       bias=True)
1067     (l2): Linear(in_features=100, out_features=9,
       bias=True)
1068 )
1069 [1868, 1043, 656, 94, 2106, 71, 2015, 1431, 1554,
       2191, 1386, 1059, 1326, 2947, 2351, 2205, 2619,
       1327, 635, 2769, 1364, 2607, 2484, 1782, 748, 1676
       , 2586, 492, 2571, 890, 693, 2788, 326, 638, 2426,
       906, 874, 2301, 909, 871, 1289, 306, 181, 1686, 29
       , 33, 573, 2825, 501, 908, 2520, 1709, 1906, 791,
       907, 1186, 680, 541, 2589, 1805, 6, 1288, 2231,
       2533, 984, 1580, 1148, 400, 1639, 354, 209, 674,
       1834, 149, 610, 1613, 1609, 1734, 70, 613, 2272,
       270, 877, 461, 24, 1603, 1037, 63, 1034, 1399, 2566
       , 2465, 1224, 1916, 2187, 2428, 632, 286, 943, 1016
       , 940, 1802, 2219, 1756, 1441, 1579, 1379, 355,
       1524, 175, 2666, 2861, 2383, 2854, 2458, 1209, 339
       , 974, 517, 1626, 348, 2374, 2628, 68, 357, 1862,
       1381, 2554, 705, 2398, 2716, 1035, 2328, 457, 1610

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1069 , 1627, 185, 2603, 1967, 2268, 1472, 1542, 663, 1772, 2611, 2078, 2719, 2615, 2462, 488, 2120, 2688 , 1760, 384, 495, 470, 729, 1917, 2393, 341, 1628, 1501, 2027, 2642, 111, 337, 2591, 552, 1752, 1602, 695, 965, 591, 2223, 2933, 2487, 730, 2515, 86, 2094, 796, 2183, 414, 305, 2441, 1814, 1919, 1908, 1495, 2639, 446, 1719, 2509, 2266, 993, 1234, 269, 466, 1611, 2756, 851, 322, 58, 2622, 2290, 1257, 2553, 1809, 464, 1721, 1664, 1751, 198, 1830, 2074 , 2848, 684, 1072, 1133, 2498, 972, 2766, 1994, 147 , 1030, 2482, 1067, 1789, 2596, 1138, 2397, 122, 2102, 2604, 1531, 1293, 2062, 2451, 1075, 38, 1424 , 1705, 2384, 2326, 2830, 1250, 761, 2291, 626, 2305, 2863, 523, 2143, 2359, 2724, 2918, 2002, 2651 , 2394, 116, 444, 2136, 388, 2053, 2897, 16, 875, 1593, 2244, 2664, 2880, 1383, 1007, 139, 2752, 2447 , 216, 1243, 499, 2600, 1716, 750, 1201, 2324, 2886 , 319, 567, 1520, 1024, 2409, 1147, 1984, 1203, 715 , 1014, 620, 586, 793, 2034, 107, 1013, 1240, 1213 , 263, 1413, 44, 2442, 1206, 2801, 857, 190, 485, 576, 2841, 2354, 399, 2542, 2061, 927, 1656, 2785, 508, 2683, 361, 62, 2269, 2416, 625, 486, 2936, 1274, 896, 1587, 2391, 1452, 2810, 2278, 249, 950, 186, 1331, 103, 406, 621, 48, 2715, 1523, 2345, 2822, 1817, 2937, 2118, 2253, 2806, 780, 1, 1300, 775, 1017, 2226, 225, 1417, 2807, 36, 333, 969, 2707, 2943, 95, 1275, 2265, 276, 1152, 2745, 272, 1235, 2311, 291, 463, 1847, 431, 2352, 1144, 248, 74, 2320, 564, 2635, 690, 1641, 2169, 374, 764, 2455, 2261, 1244, 2582, 2653, 2018, 554, 2565, 512 , 2770, 2837, 49, 407, 2890, 2376, 911, 1913, 1843 , 1134, 1374, 1905, 2079, 990, 2549, 1089, 2069, 782, 1407, 506, 224, 76, 1294, 991, 646, 41, 2496, 2883, 1500, 2279, 751, 1046, 578, 1423, 2159, 1698 , 2624, 1813, 2590, 2734, 932, 2601, 2475, 550, 243 , 872, 2595, 450, 1104, 1539, 2229, 1675, 2071, 250 , 1167, 2797, 2621, 2885, 273, 977, 1560, 312, 926 , 2540, 737, 266, 311, 1622, 2070, 2593, 346, 1733 , 2155, 816, 2692, 1841, 727, 556, 2009, 510, 2559 , 2633, 2111, 338, 2, 2296, 2820, 1168, 2754, 1362 , 1020, 2718, 1679, 1550, 1427, 2561, 998, 604,

```
1069 2521, 1005, 241, 2921, 2230, 1898, 1160, 1833, 894  
, 1594, 1607, 1204, 325, 2834, 1271, 163, 1511,  
2494, 2126, 745, 662, 617, 805, 1081, 2058, 997,  
203, 1039, 673, 558, 661, 1697, 323, 2135, 1503,  
1010, 1949, 967, 206, 1000, 1469, 2497, 1882, 1988  
, 236, 2584, 2347, 2874, 1422, 1493, 2051, 2551,  
2029, 2110, 2689, 271, 2369, 868, 1223, 1928, 903,  
1551, 2170, 2782, 1582, 2112, 2129, 2108, 1893,  
2814, 23, 1137, 2704, 2091, 2454, 2572, 2919, 383,  
797, 12, 2736, 89, 2526, 2381, 238, 1832, 2655,  
1370, 884]  
1070 ['advice warning to be careful tips and can give  
guidance alert Watches\n']  
1071 Downloading and preparing dataset csv/default to C:  
:/Users/admin/.cache/huggingface/datasets/csv/  
default-e595f4592192e259/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1072 Downloading data files: 100%|██████████| 1/1 [00:00  
<?, ?it/s]  
1073 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 167.22it/s]  
1074 100%|██████████| 1/1 [00:00<00:00, 110.49it/s]  
1075 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
e595f4592192e259/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1076 Downloading data files: 100%|██████████| 1/1 [00:00  
<?, ?it/s]  
1077 Downloading and preparing dataset csv/default to C:  
:/Users/admin/.cache/huggingface/datasets/csv/  
default-2545924e6b5079f4/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1078 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 166.92it/s]  
1079 0%|          | 0/1 [00:00<?, ?it/s]Dataset csv  
downloaded and prepared to C:/Users/admin/.cache/  
huggingface/datasets/csv/default-2545924e6b5079f4/0
```

```
1079 .0.0/
 6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1080 100%|██████████| 1/1 [00:00<00:00, 26.24it/s]
1081 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
1082 Downloading and preparing dataset csv/default to C
:/Users/admin/.cache/huggingface/datasets/csv/
default-9f08463222ab32f4/0.0.0/
 6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1...
1083 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 125.54it/s]
1084 100%|██████████| 1/1 [00:00<00:00, 66.89it/s]
1085 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
9f08463222ab32f4/0.0.0/
 6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1086 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
1087 Downloading and preparing dataset csv/default to C
:/Users/admin/.cache/huggingface/datasets/csv/
default-94c0a46558158a6d/0.0.0/
 6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1...
1088 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 125.38it/s]
1089 100%|██████████| 1/1 [00:00<00:00, 89.11it/s]
1090 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
94c0a46558158a6d/0.0.0/
 6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1091 t is : 7
1092 addlen is: 3500
1093 noexp_df.shape[0] last 2359
1094 unexplained dataset length is:
```

```
1095 2359
1096 embedding begin
1097 trian and val dataset length: 192960
1098 diversity_sampling
1099 diversity_sampling
1100 diversity_sampling
1101 diversity_sampling
1102 diversity_sampling
1103 diversity_sampling
1104 diversity_sampling
1105 diversity_sampling
1106 1206.0
1107 ./embeddings/NEW_bertie_embeddings_textattack/bert-
    base-uncased-MNLI_subset_1.pt
1108 Found cached dataset csv (C:/Users/admin/.cache/
    huggingface/datasets/csv/default-1252d676eea1fef5/0
    .0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1)
1109 100%|██████████| 1/1 [00:00<00:00, 166.62it/s]
1110 test len 25680
1111 Downloading data files: 100%|██████████| 1/1 [00:00
    <, ?it/s]
1112 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 125.38it/s]
1113 Downloading and preparing dataset csv/default to C
    :/Users/admin/.cache/huggingface/datasets/csv/
    default-faeb51383b957128/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1...
1114 100%|██████████| 1/1 [00:00<00:00, 64.45it/s]
1115 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    faeb51383b957128/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1. Subsequent calls will reuse this
    data.
1116 preprocess_samples begin ...
1117 uncertainty shape: 1530
1118 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
```

```
1119 classify begin
1120 12093
1121 0% | 0/20 [00:00<?, ?it/s]
    diversity_sampling
1122 diversity_sampling
1123 1307it [00:10, 768.82it/s]diversity_sampling
1124 diversity_sampling
1125 diversity_sampling
1126 diversity_sampling
1127 2697it [00:24, 717.10it/s]diversity_sampling
1128 diversity_sampling
1129 diversity_sampling
1130 diversity_sampling
1131 4006it [00:38, 689.96it/s]diversity_sampling
1132 diversity_sampling
1133 diversity_sampling
1134 diversity_sampling
1135 5402it [00:53, 678.13it/s]diversity_sampling
1136 diversity_sampling
1137 diversity_sampling
1138 diversity_sampling
1139 6719it [01:07, 679.57it/s]diversity_sampling
1140 diversity_sampling
1141 diversity_sampling
1142 6786it [01:20, 19.65it/s] diversity_sampling
1143 8114it [01:22, 737.93it/s]diversity_sampling
1144 diversity_sampling
1145 diversity_sampling
1146 diversity_sampling
1147 9489it [01:36, 714.76it/s]diversity_sampling
1148 diversity_sampling
1149 diversity_sampling
1150 9500it [01:49, 16.42it/s] diversity_sampling
1151 10799it [01:50, 723.57it/s]diversity_sampling
1152 diversity_sampling
1153 diversity_sampling
1154 diversity_sampling
1155 12210it [02:05, 739.42it/s]diversity_sampling
1156 diversity_sampling
1157 diversity_sampling
1158 diversity_sampling
```

```
1159 13499it [02:19, 676.55it/s]diversity_sampling
1160 diversity_sampling
1161 diversity_sampling
1162 diversity_sampling
1163 14908it [02:33, 744.86it/s]diversity_sampling
1164 diversity_sampling
1165 diversity_sampling
1166 diversity_sampling
1167 16220it [02:48, 628.94it/s]diversity_sampling
1168 diversity_sampling
1169 diversity_sampling
1170 diversity_sampling
1171 17584it [03:03, 698.75it/s]diversity_sampling
1172 diversity_sampling
1173 diversity_sampling
1174 diversity_sampling
1175 18953it [03:17, 699.13it/s]diversity_sampling
1176 diversity_sampling
1177 diversity_sampling
1178 18999it [03:30, 17.75it/s] diversity_sampling
1179 20290it [03:32, 733.10it/s]diversity_sampling
1180 diversity_sampling
1181 diversity_sampling
1182 diversity_sampling
1183 21697it [03:46, 735.34it/s]diversity_sampling
1184 diversity_sampling
1185 diversity_sampling
1186 21713it [03:59, 16.80it/s] diversity_sampling
1187 23011it [04:00, 718.89it/s]diversity_sampling
1188 diversity_sampling
1189 diversity_sampling
1190 diversity_sampling
1191 24396it [04:15, 711.11it/s]diversity_sampling
1192 diversity_sampling
1193 diversity_sampling
1194 diversity_sampling
1195 25783it [04:29, 726.54it/s]diversity_sampling
1196 diversity_sampling
1197 diversity_sampling
1198 diversity_sampling
1199 27078it [04:43, 681.89it/s]diversity_sampling
```

```
1200 diversity_sampling
1201 epoch number 19
1202 diversity_sampling
1203 diversity_sampling
1204 27140it [04:58, 681.89it/s]diversity_sampling
1205 diversity_sampling
1206 global t is : 7
1207 test epoch results {'accuracy': 0.6196078431372549
, 'f1_weighted': 0.59822701277045, 'f1_macro': 0.
5281001448096863, 'f1': array([0.86734694, 0.
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1208 0.07843137, 0.68518519, 0.62877442, 0.
5994695 ], 'precision': array([0.86294416, 0.
41666667, 0.60869565, 0.59615385, 0.65803109,
1209 0.30769231, 0.74 , 0.52522255, 0.
62430939]), 'recall': array([0.87179487, 0.27027027
, 0.57142857, 0.25 , 0.59345794,
1210 0.04494382, 0.63793103, 0.78318584, 0.
57653061])}
1211 val epoch results {'accuracy': 0.6351575456053068
, 'f1_weighted': 0.6155620745063154, 'f1_macro': 0.
5514535249504168, 'f1': array([0.89212828, 0.
45454545, 0.52941176, 0.47058824, 0.62695925,
1212 0.10526316, 0.58634538, 0.63341067, 0.
66442953], 'precision': array([0.8547486 , 0.625
, 0.6 , 0.67924528, 0.64935065,
1213 0.5 , 0.66363636, 0.53216374, 0.
69230769]), 'recall': array([0.93292683, 0.35714286
, 0.47368421, 0.36 , 0.60606061,
1214 0.05882353, 0.52517986, 0.78223496, 0.
63870968])}
1215 diversity new embedding 2359
1216 diversity len embedding 2359
1217 MLP_1h(
1218     (l1): Linear(in_features=48, out_features=100,
bias=True)
1219     (l2): Linear(in_features=100, out_features=9,
bias=True)
1220 )
1221 27140it [04:59, 90.68it/s]
1222 [1780, 1295, 1473, 1879, 854, 1062, 563, 1139, 583
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1222 , 1269, 344, 2180, 550, 164, 968, 192, 124, 1672, 2114, 725, 1357, 880, 1017, 2154, 1250, 259, 356, 1438, 1373, 1177, 2283, 1654, 850, 1900, 1170, 134 , 1866, 464, 853, 2214, 2177, 1949, 619, 1090, 110 , 193, 1160, 663, 2144, 1580, 971, 1648, 862, 1936 , 255, 1092, 21, 272, 225, 613, 2165, 504, 62, 1427 , 187, 1725, 2279, 435, 1351, 1301, 2278, 1596, 717 , 379, 564, 2051, 1573, 215, 1333, 704, 441, 2251, 929, 1099, 131, 2352, 621, 460, 1464, 772, 1034, 440, 148, 790, 1352, 1887, 1232, 2172, 567, 1744, 1885, 2191, 995, 2347, 1715, 1332, 1518, 829, 308, 516, 1489, 1450, 1405, 791, 1889, 2099, 1441, 867, 594, 263, 1206, 1543, 779, 1316, 1097, 1262, 151, 1684, 2252, 61, 1697, 1683, 1668, 616, 296, 162, 1929, 1564, 2303, 386, 618, 881, 1860, 303, 1568, 443, 1054, 954, 998, 2328, 494, 1771, 941, 542, 1271, 1168, 2088, 469, 831, 248, 1185, 80, 126, 2179, 1280, 463, 758, 129, 1577, 1571, 999, 1754, 1331, 179, 1460, 992, 1315, 1323, 2149, 1371, 2227 , 1855, 2200, 1095, 1153, 2269, 442, 2295, 1545, 1673, 602, 1051, 1783, 1977, 253, 1525, 1146, 1469 , 2354, 972, 683, 1595, 803, 1611, 1281, 1779, 37, 340, 1136, 286, 251, 1145, 1521, 1896, 1029, 186, 1257, 11, 33, 2063, 2131, 1670, 635, 647, 673, 264 , 930, 1081, 975, 1263, 1047, 687, 840, 858, 944, 1039, 2062, 578, 983, 1439, 1067, 1773, 1093, 454, 985, 1979, 903, 1448, 1703, 767, 1597, 1840, 426, 1984, 1490, 1028, 1934, 91, 2166, 696, 543, 1634, 1566, 1547, 185, 1994, 1457, 806, 649, 1631, 981, 2218, 1157, 8, 1079, 1646, 1960, 1272, 1516, 2241, 368, 1284, 1114, 699, 1687, 1533, 1845, 1810, 1116 , 1890, 1996, 524, 1836, 306, 568, 119, 667, 808, 370, 923, 921, 2031, 1156, 1113, 1878, 757, 868, 737, 13, 2174, 792, 642, 748, 805, 1032, 152, 1676 , 315, 824, 1075, 1370, 1480, 216, 403, 566, 2324, 2234, 1706, 1440, 782, 1560, 414, 1422, 2130, 398, 2078, 918, 1477, 2142, 1718, 1877, 1393, 973, 945, 44, 1010, 875, 241, 2087, 552, 1966, 959, 586, 1233 , 1394, 744, 457, 224, 372, 1801, 378, 1040, 1537, 529, 894, 2285, 686, 1106, 587, 2187, 607, 2292, 1125, 1511, 865, 1158, 1600, 2032, 2003, 26, 816,

```
1222 1151, 410, 1897, 1491, 1835, 1702, 576, 2311, 2109  
, 706, 31, 1562, 2319, 654, 1180, 1727, 2034, 2272  
, 1344, 64, 579, 2229, 437, 822, 291, 1914, 1392,  
512, 1402, 1231, 521, 1902, 1504, 2235, 2222, 2171  
, 125, 1991, 1935, 87, 360, 2322, 2, 116, 996, 1899  
, 1583, 873, 18, 371, 515, 740, 1799, 702, 1906,  
1169, 2332, 1143, 434, 429, 505, 872, 1792, 2201,  
492, 2326, 20, 537, 1053, 16, 1018, 1449, 1967,  
1945, 432, 946, 1664, 1985, 1085, 2052, 1197, 949,  
1101, 2232, 600, 1730, 571, 1824, 1006, 557]  
1223 ['contains useful information helps to understand  
the situation is important\n']  
1224 Downloading and preparing dataset csv/default to C  
:/Users/admin/.cache/huggingface/datasets/csv/  
default-678498ec505fbc75/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1225 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1226 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 124.46it/s]  
1227 100%|██████████| 1/1 [00:00<00:00, 110.99it/s]  
1228 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
678498ec505fbc75/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1229 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1230 Downloading and preparing dataset csv/default to C  
:/Users/admin/.cache/huggingface/datasets/csv/  
default-ee4b569d8ac84193/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1231 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 149.51it/s]  
1232 100%|██████████| 1/1 [00:00<00:00, 59.02it/s]  
1233 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
ee4b569d8ac84193/0.0.0/
```

```
1233    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1234 Downloading data files: 100%|██████████| 1/1 [00:00  
<00:00, 1003.66it/s]  
1235 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 143.33it/s]  
1236 Generating train split: 0 examples [00:00, ?  
examples/s]Downloading and preparing dataset csv/  
default to C:/Users/admin/.cache/huggingface/  
datasets/csv/default-758044c20026c0ab/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1237 0%|          | 0/1 [00:00<?, ?it/s]Dataset csv  
downloaded and prepared to C:/Users/admin/.cache/  
huggingface/datasets/csv/default-758044c20026c0ab/0  
.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1238 100%|██████████| 1/1 [00:00<00:00, 45.61it/s]  
1239 Downloading data files: 100%|██████████| 1/1 [00:00  
<00:00, 1043.62it/s]  
1240 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 144.12it/s]  
1241 Downloading and preparing dataset csv/default to C  
:/Users/admin/.cache/huggingface/datasets/csv/  
default-a38d1a963770a2c3/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1242 100%|██████████| 1/1 [00:00<00:00, 57.39it/s]  
1243 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
a38d1a963770a2c3/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1244 t is : 8  
1245 addlen is: 4000  
1246 noexp_df.shape[0] last 1888
```

```
1247 unexplained dataset length is:  
1248 1888  
1249 embedding begin  
1250 trian and val dataset length: 212670  
1251 diversity_sampling  
1252 diversity_sampling  
1253 diversity_sampling  
1254 diversity_sampling  
1255 diversity_sampling  
1256 diversity_sampling  
1257 diversity_sampling  
1258 diversity_sampling  
1259 1251.0  
1260 ./embeddings/NEW_bertie_embeddings_textattack/bert-  
base-uncased-MNLI_subset_1.pt  
1261 Found cached dataset csv (C:/Users/admin/.cache/  
huggingface/datasets/csv/default-1252d676eea1fef5/0  
.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1)  
1262 100%|██████████| 1/1 [00:00<00:00, 60.44it/s]  
1263 test len 27285  
1264 Downloading and preparing dataset csv/default to C  
:/Users/admin/.cache/huggingface/datasets/csv/  
default-07c141f27b1785d7/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1265 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1266 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 142.58it/s]  
1267 100%|██████████| 1/1 [00:00<00:00, 100.52it/s]  
1268 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
07c141f27b1785d7/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1269 preprocess_samples begin ...  
1270 uncertainty shape: 1530  
1271 ./test_embeddings/NEW_bertie_embeddings_textattack/
```

```
1271 bert-base-uncased-MNLI_subset_1.pt
1272 classify begin
1273 12564
1274    0%          | 0/20 [00:00<?, ?it/s]
        diversity_sampling
1275 diversity_sampling
1276 1339it [00:16, 702.71it/s]diversity_sampling
1277 diversity_sampling
1278 diversity_sampling
1279 diversity_sampling
1280 2762it [00:31, 617.28it/s]diversity_sampling
1281 diversity_sampling
1282 diversity_sampling
1283 diversity_sampling
1284 4180it [00:47, 580.72it/s]diversity_sampling
1285 diversity_sampling
1286 diversity_sampling
1287 4224it [01:00, 580.72it/s]diversity_sampling
1288 5620it [01:03, 591.52it/s]diversity_sampling
1289 diversity_sampling
1290 diversity_sampling
1291 diversity_sampling
1292 7022it [01:19, 585.43it/s]diversity_sampling
1293 diversity_sampling
1294 diversity_sampling
1295 7041it [01:32, 12.11it/s] diversity_sampling
1296 8404it [01:34, 756.72it/s]diversity_sampling
1297 diversity_sampling
1298 diversity_sampling
1299 diversity_sampling
1300 9774it [01:48, 701.49it/s]diversity_sampling
1301 diversity_sampling
1302 diversity_sampling
1303 9857it [02:01, 20.97it/s] diversity_sampling
1304 11216it [02:03, 728.19it/s]diversity_sampling
1305 diversity_sampling
1306 diversity_sampling
1307 diversity_sampling
1308 12639it [02:18, 593.72it/s]diversity_sampling
1309 diversity_sampling
1310 diversity_sampling
```

```
1311 12673it [02:32, 12.98it/s] diversity_sampling
1312 14071it [02:34, 602.30it/s] diversity_sampling
1313 diversity_sampling
1314 diversity_sampling
1315 diversity_sampling
1316 15439it [02:50, 580.76it/s] diversity_sampling
1317 diversity_sampling
1318 diversity_sampling
1319 15489it [03:03, 14.39it/s] diversity_sampling
1320 16857it [03:05, 563.12it/s] diversity_sampling
1321 diversity_sampling
1322 diversity_sampling
1323 diversity_sampling
1324 18302it [03:21, 510.45it/s] diversity_sampling
1325 diversity_sampling
1326 diversity_sampling
1327 diversity_sampling
1328 19708it [03:36, 747.23it/s] diversity_sampling
1329 diversity_sampling
1330 diversity_sampling
1331 diversity_sampling
1332 21084it [03:51, 725.15it/s] diversity_sampling
1333 diversity_sampling
1334 diversity_sampling
1335 diversity_sampling
1336 22458it [04:05, 705.64it/s] diversity_sampling
1337 diversity_sampling
1338 diversity_sampling
1339 diversity_sampling
1340 23902it [04:21, 576.21it/s] diversity_sampling
1341 diversity_sampling
1342 diversity_sampling
1343 diversity_sampling
1344 25320it [04:36, 570.75it/s] diversity_sampling
1345 diversity_sampling
1346 diversity_sampling
1347 diversity_sampling
1348 26731it [04:52, 582.96it/s] diversity_sampling
1349 diversity_sampling
1350 diversity_sampling
1351 diversity_sampling
```

```
1352 28115it [05:08, 567.18it/s]diversity_sampling
1353 diversity_sampling
1354 epoch number 19
1355 diversity_sampling
1356 diversity_sampling
1357 28160it [05:20, 567.18it/s]diversity_sampling
1358 diversity_sampling
1359 global t is : 8
1360 test epoch results {'accuracy': 0.6339869281045751
, 'f1_weighted': 0.6194212158317809, 'f1_macro': 0.
5509109967243558, 'f1': array([0.86513995, 0.3
, 0.58333333, 0.46938776, 0.65734266,
1361 0.15517241, 0.68059701, 0.63969897, 0.
60752688]), 'precision': array([0.85858586, 0.
39130435, 0.59574468, 0.63888889, 0.65581395,
1362 0.33333333, 0.70807453, 0.55646481, 0.
64204545]), 'recall': array([0.87179487, 0.24324324
, 0.57142857, 0.37096774, 0.6588785 ,
1363 0.1011236 , 0.65517241, 0.75221239, 0.
57653061])}
1364 val epoch results {'accuracy': 0.6346922462030375
, 'f1_weighted': 0.6182570170490789, 'f1_macro': 0.
5384119670448797, 'f1': array([0.88268156, 0.
25641026, 0.46875 , 0.44970414, 0.62790698,
1365 0.2173913 , 0.66909091, 0.63046045, 0.
6433121 ]), 'precision': array([0.83597884, 0.5
, 0.6 , 0.57575758, 0.62427746,
1366 0.47619048, 0.70229008, 0.55165289, 0.
66447368]), 'recall': array([0.93491124, 0.17241379
, 0.38461538, 0.36893204, 0.63157895,
1367 0.14084507, 0.63888889, 0.73553719, 0.
62345679])}
1368 28160it [05:25, 86.44it/s]
1369 diversity new embedding 1888
1370 diversity len embedding 1888
1371 MLP_1h(
1372     (l1): Linear(in_features=51, out_features=100,
bias=True)
1373     (l2): Linear(in_features=100, out_features=9,
bias=True)
1374 )
```

1375	[555, 134, 120, 1317, 567, 1635, 226, 876, 1315, 1015, 126, 1387, 863, 374, 1405, 206, 682, 1539, 1859, 30, 1453, 326, 1865, 1712, 1146, 1356, 587, 1673, 887, 647, 44, 1144, 1612, 1219, 437, 1792, 258, 1048, 1599, 491, 534, 1059, 202, 356, 922, 713, 238, 445, 277, 1883, 1476, 1717, 1075, 1497, 196, 1517, 1304, 234, 1565, 1265, 972, 1549, 1584, 1206, 447, 1348, 168, 1361, 105, 1420, 545, 1882, 988, 19, 12, 742, 469, 144, 480, 197, 35, 280, 1660, 1567, 1011, 1285, 106, 536, 1249, 1500, 158, 890, 646, 53, 989, 1308, 1098, 232, 943, 564, 820, 1299, 116, 1026, 1386, 315, 390, 1167, 282, 827, 924, 659, 1516, 705, 940, 1550, 1173, 1013, 1364, 1748, 1558, 173, 1198, 247, 1702, 930, 661, 620, 737, 1029, 570, 485, 1803, 1255, 270, 883, 844, 1587, 1559, 951, 208, 645, 261, 7, 704, 1518, 866, 1160, 300, 114, 125, 1001, 54, 25, 1522, 1472, 775, 630, 286, 141, 343, 1630, 731, 85, 1399, 76, 1661, 1196, 862, 919, 385, 1535, 914, 1122, 548, 373, 281, 1010, 1703, 963, 169, 1728, 1277, 1406, 1178, 800, 1799, 1780, 521, 893, 623, 1060, 497, 1781, 600, 1297, 153, 828, 1747, 41, 1617, 351, 601, 528, 730, 129, 574, 458, 299, 1825, 1609, 911, 210, 759, 1788, 15, 823, 593, 17, 1404, 871, 1714, 148, 966, 123, 1836, 80, 1130, 1121, 1783, 882, 77, 1246, 850, 36, 1100, 1418, 1533, 417, 658, 908, 681, 905, 81, 368, 1155, 1467, 312, 92, 1377, 1114, 1759, 1027, 715, 702, 1371, 927, 1616, 741, 1397, 1636, 1456, 1254, 1675, 1140, 825, 1808, 950, 1740, 663, 1656, 1373, 1062, 979, 39, 1769, 1090, 1618, 1005, 1451, 1408, 1484, 353, 660, 393, 483, 1403, 1671, 903, 606, 859, 1557, 1415, 781, 0, 1087, 968, 372, 1099, 1300, 977, 1175, 341, 910, 5, 1222, 847, 388, 1181, 1238, 1482, 410, 856, 231, 1214, 1374, 484, 706, 898, 975, 906, 133, 1149, 818, 809, 1725, 916, 256, 1137, 117, 1074, 143, 1111, 1729, 431, 748, 127, 1887, 1697, 709, 1329, 1513, 992, 350, 798, 461, 496, 1007, 6, 1290, 181, 918, 1188, 816, 48, 1305, 550, 342, 250, 678, 928, 55, 337, 720, 1400, 807, 1142, 821, 198, 227, 605, 806, 869, 73, 642, 194, 1789]
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```
1376 ['irrelevant not related']
1377 Downloading and preparing dataset csv/default to C
:/Users/admin/.cache/huggingface/datasets/csv/
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53bcc7ec513e1...
1378 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
1379 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 162.60it/s]
1380 100%|██████████| 1/1 [00:00<00:00, 90.68it/s]
1381 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
d381e0aca3a2ab45/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1382 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
1383 Downloading and preparing dataset csv/default to C
:/Users/admin/.cache/huggingface/datasets/csv/
default-56b9d82c40b6127e/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1...
1384 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 167.24it/s]
1385 100%|██████████| 1/1 [00:00<00:00, 61.64it/s]
1386 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
56b9d82c40b6127e/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1387 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
1388 Downloading and preparing dataset csv/default to C
:/Users/admin/.cache/huggingface/datasets/csv/
default-89a41365ea98190b/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1...
1389 Extracting data files: 100%|██████████| 1/1 [00:00<
```

```
1389 00:00, 32.91it/s]
1390 100%|██████████| 1/1 [00:00<00:00, 91.67it/s]
1391 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
89a41365ea98190b/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1392 Downloading data files: 100%|██████████| 1/1 [00:00
<, ?it/s]
1393 Downloading and preparing dataset csv/default to C
:/Users/admin/.cache/huggingface/datasets/csv/
default-59ba98484359d3de/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1...
1394 Extracting data files: 100%|██████████| 1/1 [00:00<
00:00, 167.16it/s]
1395 100%|██████████| 1/1 [00:00<00:00, 111.40it/s]
1396 Dataset csv downloaded and prepared to C:/Users/
admin/.cache/huggingface/datasets/csv/default-
59ba98484359d3de/0.0.0/
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
53bcc7ec513e1. Subsequent calls will reuse this
data.
1397 t is : 9
1398 addlen is: 4500
1399 noexp_df.shape[0] last 1511
1400 unexplained dataset length is:
1401 1511
1402 embedding begin
1403 trian and val dataset length: 231660
1404 diversity_sampling
1405 diversity_sampling
1406 diversity_sampling
1407 diversity_sampling
1408 diversity_sampling
1409 diversity_sampling
1410 diversity_sampling
1411 diversity_sampling
1412 1287.0
1413 ./embeddings/NEW_bertie_embeddings_textattack/bert-
```

```
1413 base-uncased-MNLI_subset_1.pt
1414 Found cached dataset csv (C:/Users/admin/.cache/
    huggingface/datasets/csv/default-1252d676eea1fef5/0
    .0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1)
1415 100%|██████████| 1/1 [00:00<00:00, 334.39it/s]
1416 test len 28890
1417 Downloading data files: 100%|██████████| 1/1 [00:00
    <00:00, 993.44it/s]
1418 Extracting data files: 100%|██████████| 1/1 [00:00<
    00:00, 143.50it/s]
1419 Generating train split: 0 examples [00:00, ?
    examples/s]Downloading and preparing dataset csv/
    default to C:/Users/admin/.cache/huggingface/
    datasets/csv/default-d49912a01ce9cdb1/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1...
1420 100%|██████████| 1/1 [00:00<00:00, 76.99it/s]
1421 Dataset csv downloaded and prepared to C:/Users/
    admin/.cache/huggingface/datasets/csv/default-
    d49912a01ce9cdb1/0.0.0/
    6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
    53bcc7ec513e1. Subsequent calls will reuse this
    data.
1422 preprocess_samples begin ...
1423 uncertainty shape: 1530
1424 ./test_embeddings/NEW_bertie_embeddings_textattack/
    bert-base-uncased-MNLI_subset_1.pt
1425 classify begin
1426 12941
1427     0%|          | 0/20 [00:00<?, ?it/s]
        diversity_sampling
1428 diversity_sampling
1429 1416it [00:10, 771.76it/s]diversity_sampling
1430 diversity_sampling
1431 diversity_sampling
1432 diversity_sampling
1433 2855it [00:25, 625.20it/s]diversity_sampling
1434 diversity_sampling
1435 diversity_sampling
```

```
1436 diversity_sampling
1437 4287it [00:40, 634.28it/s]diversity_sampling
1438 diversity_sampling
1439 diversity_sampling
1440 diversity_sampling
1441 5753it [00:55, 619.67it/s]diversity_sampling
1442 diversity_sampling
1443 diversity_sampling
1444 diversity_sampling
1445 7237it [01:11, 702.66it/s]diversity_sampling
1446 diversity_sampling
1447 diversity_sampling
1448 diversity_sampling
1449 8685it [01:25, 738.71it/s]diversity_sampling
1450 diversity_sampling
1451 diversity_sampling
1452 diversity_sampling
1453 10135it [01:40, 761.73it/s]diversity_sampling
1454 diversity_sampling
1455 diversity_sampling
1456 diversity_sampling
1457 11548it [01:54, 724.54it/s]diversity_sampling
1458 diversity_sampling
1459 diversity_sampling
1460 11585it [02:07, 17.74it/s] diversity_sampling
1461 12981it [02:09, 753.98it/s]diversity_sampling
1462 diversity_sampling
1463 diversity_sampling
1464 diversity_sampling
1465 14422it [02:23, 711.67it/s]diversity_sampling
1466 diversity_sampling
1467 diversity_sampling
1468 14480it [02:35, 711.67it/s]diversity_sampling
1469 15881it [02:39, 646.11it/s]diversity_sampling
1470 diversity_sampling
1471 diversity_sampling
1472 diversity_sampling
1473 17332it [02:53, 611.30it/s]diversity_sampling
1474 diversity_sampling
1475 diversity_sampling
1476 17377it [03:07, 15.26it/s] diversity_sampling
```

```
1477 18824it [03:08, 739.62it/s]diversity_sampling
1478 diversity_sampling
1479 diversity_sampling
1480 diversity_sampling
1481 20268it [03:23, 739.63it/s]diversity_sampling
1482 diversity_sampling
1483 diversity_sampling
1484 20273it [03:36, 15.72it/s] diversity_sampling
1485 21640it [03:37, 744.80it/s]diversity_sampling
1486 diversity_sampling
1487 diversity_sampling
1488 diversity_sampling
1489 23122it [03:52, 732.82it/s]diversity_sampling
1490 diversity_sampling
1491 diversity_sampling
1492 diversity_sampling
1493 24547it [04:07, 744.71it/s]diversity_sampling
1494 diversity_sampling
1495 diversity_sampling
1496 diversity_sampling
1497 26021it [04:21, 583.33it/s]diversity_sampling
1498 diversity_sampling
1499 diversity_sampling
1500 diversity_sampling
1501 27500it [04:37, 437.25it/s]diversity_sampling
1502 diversity_sampling
1503 diversity_sampling
1504 diversity_sampling
1505 28959it [04:52, 648.32it/s]diversity_sampling
1506 diversity_sampling
1507 epoch number 19
1508 diversity_sampling
1509 diversity_sampling
1510 28960it [05:05, 648.32it/s]diversity_sampling
1511 diversity_sampling
1512 global t is : 9
1513 test epoch results {'accuracy': 0.6333333333333333,
   'f1_weighted': 0.6135858304767041, 'f1_macro': 0.
   546632934916432, 'f1': array([0.86956522, 0.
   31034483, 0.63917526, 0.38857143, 0.66359447,
1514           0.13084112, 0.68085106, 0.63949275, 0.
```

```
1514 59726027]), 'precision': array([0.86734694, 0.  
        42857143, 0.64583333, 0.66666667, 0.65454545,  
1515          0.38888889, 0.72258065, 0.54141104, 0.  
        64497041]), 'recall': array([0.87179487, 0.24324324  
        , 0.63265306, 0.27419355, 0.6728972 ,  
1516          0.07865169, 0.64367816, 0.78097345, 0.  
        55612245])}  
1517 val epoch results {'accuracy': 0.6348096348096348  
        , 'f1_weighted': 0.6176052138021862, 'f1_macro': 0.  
        5522062822032688, 'f1': array([0.89196676, 0.35  
        , 0.52777778, 0.46540881, 0.60326087,  
1518          0.25      , 0.62172285, 0.64332604, 0.  
        61639344]), 'precision': array([0.85185185, 0.7  
        , 0.61290323, 0.69811321, 0.58115183,  
1519          0.73333333, 0.69747899, 0.54444444, 0.  
        67625899]), 'recall': array([0.93604651, 0.23333333  
        , 0.46341463, 0.3490566 , 0.62711864,  
1520          0.15068493, 0.56081081, 0.78609626, 0.  
        56626506])}  
1521 28960it [05:08, 93.94it/s]  
1522 diversity new embedding 1511  
1523 diversity len embedding 1511  
1524 MLP_1h(  
1525     (l1): Linear(in_features=54, out_features=100,  
        bias=True)  
1526     (l2): Linear(in_features=100, out_features=9,  
        bias=True)  
1527 )  
1528 [244, 552, 663, 684, 907, 1193, 1051, 1334, 238,  
        411, 1269, 634, 461, 1456, 415, 44, 1314, 419, 221  
        , 1056, 1011, 273, 501, 1110, 153, 897, 580, 192,  
        1308, 298, 1112, 561, 1157, 506, 1108, 1448, 977,  
        776, 794, 476, 792, 928, 423, 142, 902, 122, 209,  
        1487, 758, 880, 658, 478, 1321, 838, 665, 99, 741,  
        182, 649, 225, 1478, 241, 629, 558, 1183, 270, 754  
        , 172, 1340, 334, 386, 168, 508, 565, 420, 1246,  
        686, 1158, 1452, 1123, 639, 291, 903, 47, 1066, 175  
        , 28, 253, 132, 1258, 731, 1088, 1389, 271, 368,  
        300, 672, 886, 615, 442, 842, 1438, 554, 682, 312,  
        1317, 636, 1007, 679, 163, 1245, 1182, 781, 916,  
        560, 191, 1423, 1124, 851, 1109, 410, 16, 647, 1029
```

```
1528 , 8, 824, 259, 675, 131, 1046, 803, 983, 274, 1229  
, 477, 666, 637, 911, 286, 705, 1294, 1170, 1247,  
524, 802, 485, 529, 704, 1393, 324, 255, 1469, 823  
, 966, 515, 930, 115, 489, 331, 677, 455, 1399,  
1218, 453, 1465, 1161, 77, 670, 222, 1337, 1365,  
1102, 537, 1350, 1020, 196, 604, 1015, 308, 744,  
488, 1379, 1149, 755, 876, 725, 513, 582, 970, 963  
, 1135, 224, 36, 1356, 1008, 735, 463, 1222, 985,  
1275, 393, 383, 173, 834, 1327, 623, 583, 234, 1315  
, 859, 287, 605, 884, 1500, 778, 865, 946, 1412,  
917, 93, 509, 96, 1287, 901, 162, 120, 1433, 510,  
345, 288, 1054, 141, 61, 1312, 642, 1059, 1343,  
1282, 520, 272, 439, 1392, 998, 1184, 577, 875,  
1457, 32, 75, 1510, 1004, 557, 596, 602, 203, 1031  
, 667, 314, 42, 1493, 957, 1, 1152, 482, 466, 1256  
, 1296, 1237, 0, 310, 1300, 653, 879, 988, 376,  
1203, 236, 39, 1099, 1195, 709, 167, 494, 891, 1090  
, 1409, 1496, 133, 1278, 832, 597, 833, 284, 1220,  
938, 697, 950, 1223, 1414, 1191, 608, 632]  
1529 []  
1530 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1531 Extracting data files: 100%|██████████| 1/1 [00:00<  
00:00, 106.69it/s]  
1532 Generating train split: 0 examples [00:00, ?  
examples/s]Downloading and preparing dataset csv/  
default to C:/Users/admin/.cache/huggingface/  
datasets/csv/default-e47fad94a79c5a67/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1...  
1533 100%|██████████| 1/1 [00:00<00:00, 99.84it/s]  
1534 Dataset csv downloaded and prepared to C:/Users/  
admin/.cache/huggingface/datasets/csv/default-  
e47fad94a79c5a67/0.0.0/  
6954658bab30a358235fa864b05cf819af0e179325c740e4bc8  
53bcc7ec513e1. Subsequent calls will reuse this  
data.  
1535 Downloading data files: 100%|██████████| 1/1 [00:00  
<, ?it/s]  
1536 Downloading and preparing dataset csv/default to C  
:/Users/admin/.cache/huggingface/datasets/csv/
```

```
1536 default-78ec0e2ff866eeda/0.0.0/
  6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
  53bcc7ec513e1...
1537 Extracting data files: 100%|██████████| 1/1 [00:00<
  00:00, 157.53it/s]
1538 100%|██████████| 1/1 [00:00<00:00, 62.45it/s]
1539 Dataset csv downloaded and prepared to C:/Users/
  admin/.cache/huggingface/datasets/csv/default-
  78ec0e2ff866eeda/0.0.0/
  6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
  53bcc7ec513e1. Subsequent calls will reuse this
  data.
1540 Downloading data files: 100%|██████████| 1/1 [00:00
  <, ?it/s]
1541 Extracting data files: 100%|██████████| 1/1 [00:00<
  00:00, 121.17it/s]
1542 Downloading and preparing dataset csv/default to C
  :/Users/admin/.cache/huggingface/datasets/csv/
  default-725043a64fd42022/0.0.0/
  6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
  53bcc7ec513e1...
1543 100%|██████████| 1/1 [00:00<00:00, 90.73it/s]
1544 Dataset csv downloaded and prepared to C:/Users/
  admin/.cache/huggingface/datasets/csv/default-
  725043a64fd42022/0.0.0/
  6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
  53bcc7ec513e1. Subsequent calls will reuse this
  data.
1545 Downloading data files: 100%|██████████| 1/1 [00:00
  <, ?it/s]
1546 Downloading and preparing dataset csv/default to C
  :/Users/admin/.cache/huggingface/datasets/csv/
  default-28475ad1939e617b/0.0.0/
  6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
  53bcc7ec513e1...
1547 Extracting data files: 100%|██████████| 1/1 [00:00<
  00:00, 71.78it/s]
1548 100%|██████████| 1/1 [00:00<00:00, 91.53it/s]
1549 Dataset csv downloaded and prepared to C:/Users/
  admin/.cache/huggingface/datasets/csv/default-
  28475ad1939e617b/0.0.0/
```

```
1549      6954658bab30a358235fa864b05cf819af0e179325c740e4bc8
      53bcc7ec513e1. Subsequent calls will reuse this
      data.
1550 t is : 10
1551 addlen is: 5000
1552
1553 Process finished with exit code 0
1554
```