

```
1 ssh://sangsq@10.50.221.195:22/home/sangsq/anaconda3/bin/
  python -u /home/sangsq/flower/PSEP/model/main.py
2 loading data
3 remove 0 isolated drugs: []
4 remove finished
5 963 polypharmacy side effects
6 data has been loaded
7 cuda
8 model training ...
9   0    loss:1.3889    auprc:0.5029    auroc:0.5005    ap@50:0.
  5035
10   0    loss:1.3889    auprc:0.5053    auroc:0.5014    ap@50:0.
  5092    time:97.9
11
12   1    loss:1.3872    auprc:0.5043    auroc:0.5021    ap@50:0.
  5049
13   1    loss:1.3872    auprc:0.5062    auroc:0.5030    ap@50:0.
  5101    time:98.3
14
15   2    loss:1.3865    auprc:0.5061    auroc:0.5035    ap@50:0.
  5067
16   2    loss:1.3865    auprc:0.5078    auroc:0.5044    ap@50:0.
  5118    time:97.6
17
18   3    loss:1.3862    auprc:0.5091    auroc:0.5054    ap@50:0.
  5097
19   3    loss:1.3862    auprc:0.5108    auroc:0.5066    ap@50:0.
  5147    time:97.6
20
21   4    loss:1.3859    auprc:0.5136    auroc:0.5093    ap@50:0.
  5142
22   4    loss:1.3859    auprc:0.5156    auroc:0.5108    ap@50:0.
  5195    time:97.0
23
24   5    loss:1.3854    auprc:0.5218    auroc:0.5170    ap@50:0.
  5224
25   5    loss:1.3854    auprc:0.5250    auroc:0.5197    ap@50:0.
  5286    time:96.5
26
27   6    loss:1.3845    auprc:0.5348    auroc:0.5288    ap@50:0.
  5353
28   6    loss:1.3845    auprc:0.5400    auroc:0.5341    ap@50:0.
  5434    time:97.0
29
30   7    loss:1.3828    auprc:0.5528    auroc:0.5455    ap@50:0.
  5532
31   7    loss:1.3828    auprc:0.5598    auroc:0.5529    ap@50:0.
  5630    time:98.0
32
33   8    loss:1.3798    auprc:0.5740    auroc:0.5652    ap@50:0.
  5744
```

34	8	loss:1.3798	auprc:0.5828	auroc:0.5752	ap@50:0.
	5856	time:97.0			
35					
36	9	loss:1.3748	auprc:0.5971	auroc:0.5877	ap@50:0.
	5975				
37	9	loss:1.3748	auprc:0.6075	auroc:0.5998	ap@50:0.
	6100	time:98.5			
38					
39	10	loss:1.3664	auprc:0.6213	auroc:0.6122	ap@50:0.
	6216				
40	10	loss:1.3664	auprc:0.6333	auroc:0.6264	ap@50:0.
	6356	time:97.5			
41					
42	11	loss:1.3529	auprc:0.6467	auroc:0.6391	ap@50:0.
	6470				
43	11	loss:1.3529	auprc:0.6596	auroc:0.6541	ap@50:0.
	6617	time:97.0			
44					
45	12	loss:1.3326	auprc:0.6722	auroc:0.6670	ap@50:0.
	6725				
46	12	loss:1.3326	auprc:0.6860	auroc:0.6828	ap@50:0.
	6880	time:97.4			
47					
48	13	loss:1.3026	auprc:0.6995	auroc:0.6975	ap@50:0.
	6998				
49	13	loss:1.3026	auprc:0.7140	auroc:0.7141	ap@50:0.
	7158	time:96.9			
50					
51	14	loss:1.2613	auprc:0.7287	auroc:0.7310	ap@50:0.
	7289				
52	14	loss:1.2613	auprc:0.7436	auroc:0.7478	ap@50:0.
	7453	time:98.5			
53					
54	15	loss:1.2131	auprc:0.7565	auroc:0.7633	ap@50:0.
	7567				
55	15	loss:1.2131	auprc:0.7711	auroc:0.7796	ap@50:0.
	7726	time:98.4			
56					
57	16	loss:1.1531	auprc:0.7791	auroc:0.7902	ap@50:0.
	7794				
58	16	loss:1.1531	auprc:0.7933	auroc:0.8057	ap@50:0.
	7948	time:97.8			
59					
60	17	loss:1.0862	auprc:0.7955	auroc:0.8109	ap@50:0.
	7957				
61	17	loss:1.0862	auprc:0.8093	auroc:0.8255	ap@50:0.
	8108	time:97.4			
62					
63	18	loss:1.0249	auprc:0.8109	auroc:0.8309	ap@50:0.
	8111				
64	18	loss:1.0249	auprc:0.8244	auroc:0.8444	ap@50:0.

64	8258	time:97.9			
65					
66	19	loss:0.9656	auprc:0.8280	auroc:0.8522	ap@50:0.
	8283				
67	19	loss:0.9656	auprc:0.8409	auroc:0.8640	ap@50:0.
	8423	time:96.3			
68					
69	20	loss:0.9177	auprc:0.8450	auroc:0.8713	ap@50:0.
	8452				
70	20	loss:0.9177	auprc:0.8568	auroc:0.8816	ap@50:0.
	8582	time:96.8			
71					
72	21	loss:0.8700	auprc:0.8564	auroc:0.8840	ap@50:0.
	8566				
73	21	loss:0.8700	auprc:0.8675	auroc:0.8932	ap@50:0.
	8689	time:96.8			
74					
75	22	loss:0.8277	auprc:0.8682	auroc:0.8959	ap@50:0.
	8684				
76	22	loss:0.8277	auprc:0.8785	auroc:0.9038	ap@50:0.
	8798	time:97.8			
77					
78	23	loss:0.7880	auprc:0.8837	auroc:0.9094	ap@50:0.
	8839				
79	23	loss:0.7880	auprc:0.8921	auroc:0.9153	ap@50:0.
	8933	time:97.3			
80					
81	24	loss:0.7549	auprc:0.8970	auroc:0.9199	ap@50:0.
	8971				
82	24	loss:0.7549	auprc:0.9040	auroc:0.9244	ap@50:0.
	9049	time:96.7			
83					
84	25	loss:0.7267	auprc:0.9061	auroc:0.9268	ap@50:0.
	9063				
85	25	loss:0.7267	auprc:0.9122	auroc:0.9307	ap@50:0.
	9130	time:96.7			
86					
87	26	loss:0.7042	auprc:0.9140	auroc:0.9327	ap@50:0.
	9141				
88	26	loss:0.7042	auprc:0.9192	auroc:0.9361	ap@50:0.
	9199	time:96.8			
89					
90	27	loss:0.6869	auprc:0.9209	auroc:0.9380	ap@50:0.
	9210				
91	27	loss:0.6869	auprc:0.9255	auroc:0.9408	ap@50:0.
	9261	time:96.2			
92					
93	28	loss:0.6727	auprc:0.9261	auroc:0.9419	ap@50:0.
	9262				
94	28	loss:0.6727	auprc:0.9299	auroc:0.9442	ap@50:0.
	9304	time:96.7			

95					
96	29	loss:0.6617	auprc:0.9296	auroc:0.9447	ap@50:0.
	9297				
97	29	loss:0.6617	auprc:0.9329	auroc:0.9465	ap@50:0.
	9334	time:97.2			
98					
99	30	loss:0.6526	auprc:0.9328	auroc:0.9470	ap@50:0.
	9329				
100	30	loss:0.6526	auprc:0.9356	auroc:0.9484	ap@50:0.
	9360	time:97.2			
101					
102	31	loss:0.6449	auprc:0.9349	auroc:0.9485	ap@50:0.
	9349				
103	31	loss:0.6449	auprc:0.9374	auroc:0.9498	ap@50:0.
	9379	time:96.7			
104					
105	32	loss:0.6369	auprc:0.9364	auroc:0.9498	ap@50:0.
	9365				
106	32	loss:0.6369	auprc:0.9385	auroc:0.9507	ap@50:0.
	9389	time:97.8			
107					
108	33	loss:0.6305	auprc:0.9375	auroc:0.9506	ap@50:0.
	9376				
109	33	loss:0.6305	auprc:0.9395	auroc:0.9514	ap@50:0.
	9400	time:96.3			
110					
111	34	loss:0.6245	auprc:0.9385	auroc:0.9513	ap@50:0.
	9386				
112	34	loss:0.6245	auprc:0.9405	auroc:0.9522	ap@50:0.
	9410	time:96.9			
113					
114	35	loss:0.6190	auprc:0.9395	auroc:0.9520	ap@50:0.
	9395				
115	35	loss:0.6190	auprc:0.9413	auroc:0.9528	ap@50:0.
	9417	time:96.9			
116					
117	36	loss:0.6148	auprc:0.9399	auroc:0.9525	ap@50:0.
	9400				
118	36	loss:0.6148	auprc:0.9418	auroc:0.9533	ap@50:0.
	9422	time:96.7			
119					
120	37	loss:0.6102	auprc:0.9403	auroc:0.9529	ap@50:0.
	9404				
121	37	loss:0.6102	auprc:0.9423	auroc:0.9537	ap@50:0.
	9426	time:96.7			
122					
123	38	loss:0.6064	auprc:0.9410	auroc:0.9533	ap@50:0.
	9410				
124	38	loss:0.6064	auprc:0.9427	auroc:0.9540	ap@50:0.
	9430	time:96.8			
125					

126	39	loss:0.6033 9415	auprc:0.9414	auroc:0.9536	ap@50:0.
127	39	loss:0.6033 9434	auprc:0.9430 time:96.2	auroc:0.9543	ap@50:0.
128					
129	40	loss:0.6011 9417	auprc:0.9416	auroc:0.9539	ap@50:0.
130	40	loss:0.6011 9436	auprc:0.9433 time:96.8	auroc:0.9546	ap@50:0.
131					
132	41	loss:0.5981 9420	auprc:0.9420	auroc:0.9542	ap@50:0.
133	41	loss:0.5981 9439	auprc:0.9435 time:96.8	auroc:0.9548	ap@50:0.
134					
135	42	loss:0.5966 9419	auprc:0.9418	auroc:0.9542	ap@50:0.
136	42	loss:0.5966 9440	auprc:0.9436 time:96.3	auroc:0.9549	ap@50:0.
137					
138	43	loss:0.5940 9421	auprc:0.9420	auroc:0.9543	ap@50:0.
139	43	loss:0.5940 9441	auprc:0.9437 time:96.1	auroc:0.9550	ap@50:0.
140					
141	44	loss:0.5925 9425	auprc:0.9424	auroc:0.9546	ap@50:0.
142	44	loss:0.5925 9443	auprc:0.9439 time:96.3	auroc:0.9552	ap@50:0.
143					
144	45	loss:0.5914 9425	auprc:0.9424	auroc:0.9546	ap@50:0.
145	45	loss:0.5914 9444	auprc:0.9441 time:97.3	auroc:0.9553	ap@50:0.
146					
147	46	loss:0.5898 9424	auprc:0.9423	auroc:0.9547	ap@50:0.
148	46	loss:0.5898 9445	auprc:0.9441 time:97.8	auroc:0.9554	ap@50:0.
149					
150	47	loss:0.5884 9427	auprc:0.9426	auroc:0.9549	ap@50:0.
151	47	loss:0.5884 9446	auprc:0.9442 time:96.2	auroc:0.9555	ap@50:0.
152					
153	48	loss:0.5872 9427	auprc:0.9427	auroc:0.9549	ap@50:0.
154	48	loss:0.5872 9447	auprc:0.9443 time:96.8	auroc:0.9556	ap@50:0.
155					
156	49	loss:0.5859	auprc:0.9431	auroc:0.9551	ap@50:0.

156	9432				
157	49	loss:0.5859	auprc:0.9445	auroc:0.9557	ap@50:0.
	9448	time:96.8			
158					
159	50	loss:0.5857	auprc:0.9427	auroc:0.9550	ap@50:0.
	9427				
160	50	loss:0.5857	auprc:0.9446	auroc:0.9558	ap@50:0.
	9449	time:96.8			
161					
162	51	loss:0.5843	auprc:0.9429	auroc:0.9551	ap@50:0.
	9430				
163	51	loss:0.5843	auprc:0.9447	auroc:0.9558	ap@50:0.
	9450	time:96.8			
164					
165	52	loss:0.5839	auprc:0.9429	auroc:0.9552	ap@50:0.
	9429				
166	52	loss:0.5839	auprc:0.9447	auroc:0.9559	ap@50:0.
	9451	time:96.2			
167					
168	53	loss:0.5826	auprc:0.9432	auroc:0.9554	ap@50:0.
	9433				
169	53	loss:0.5826	auprc:0.9449	auroc:0.9560	ap@50:0.
	9452	time:96.3			
170					
171	54	loss:0.5818	auprc:0.9431	auroc:0.9554	ap@50:0.
	9432				
172	54	loss:0.5818	auprc:0.9450	auroc:0.9561	ap@50:0.
	9453	time:96.1			
173					
174	55	loss:0.5813	auprc:0.9432	auroc:0.9554	ap@50:0.
	9433				
175	55	loss:0.5813	auprc:0.9450	auroc:0.9561	ap@50:0.
	9454	time:96.3			
176					
177	56	loss:0.5809	auprc:0.9432	auroc:0.9554	ap@50:0.
	9432				
178	56	loss:0.5809	auprc:0.9451	auroc:0.9562	ap@50:0.
	9454	time:97.3			
179					
180	57	loss:0.5803	auprc:0.9431	auroc:0.9555	ap@50:0.
	9432				
181	57	loss:0.5803	auprc:0.9451	auroc:0.9562	ap@50:0.
	9454	time:97.3			
182					
183	58	loss:0.5799	auprc:0.9435	auroc:0.9557	ap@50:0.
	9436				
184	58	loss:0.5799	auprc:0.9452	auroc:0.9563	ap@50:0.
	9456	time:96.7			
185					
186	59	loss:0.5798	auprc:0.9434	auroc:0.9556	ap@50:0.
	9434				

187	59	loss:0.5798 9455	aucroc:0.9452 time:99.3	auroc:0.9563	ap@50:0.
188	60	loss:0.5789 9436	aucroc:0.9435	auroc:0.9557	ap@50:0.
190	60	loss:0.5789 9456	aucroc:0.9453 time:96.8	auroc:0.9564	ap@50:0.
191	61	loss:0.5787 9434	aucroc:0.9433	auroc:0.9557	ap@50:0.
193	61	loss:0.5787 9456	aucroc:0.9453 time:96.7	auroc:0.9564	ap@50:0.
194	62	loss:0.5790 9435	aucroc:0.9434	auroc:0.9557	ap@50:0.
196	62	loss:0.5790 9458	aucroc:0.9455 time:97.2	auroc:0.9565	ap@50:0.
197	63	loss:0.5789 9436	aucroc:0.9435	auroc:0.9557	ap@50:0.
199	63	loss:0.5789 9457	aucroc:0.9454 time:96.3	auroc:0.9564	ap@50:0.
200	64	loss:0.5789 9436	aucroc:0.9435	auroc:0.9558	ap@50:0.
202	64	loss:0.5789 9458	aucroc:0.9455 time:97.2	auroc:0.9566	ap@50:0.
203	65	loss:0.5784 9436	aucroc:0.9435	auroc:0.9558	ap@50:0.
205	65	loss:0.5784 9457	aucroc:0.9454 time:97.7	auroc:0.9565	ap@50:0.
206	66	loss:0.5782 9438	aucroc:0.9438	auroc:0.9560	ap@50:0.
208	66	loss:0.5782 9460	aucroc:0.9456 time:97.8	auroc:0.9566	ap@50:0.
209	67	loss:0.5769 9437	aucroc:0.9436	auroc:0.9558	ap@50:0.
211	67	loss:0.5769 9459	aucroc:0.9455 time:97.8	auroc:0.9566	ap@50:0.
212	68	loss:0.5759 9440	aucroc:0.9439	auroc:0.9560	ap@50:0.
214	68	loss:0.5759 9460	aucroc:0.9456 time:96.2	auroc:0.9567	ap@50:0.
215	69	loss:0.5762 9438	aucroc:0.9437	auroc:0.9560	ap@50:0.
217	69	loss:0.5762	aucroc:0.9457	auroc:0.9567	ap@50:0.

217	9460	time:96.8			
218					
219	70	loss:0.5760	auprc:0.9439	auroc:0.9560	ap@50:0.
	9440				
220	70	loss:0.5760	auprc:0.9456	auroc:0.9567	ap@50:0.
	9460	time:98.3			
221					
222	71	loss:0.5762	auprc:0.9440	auroc:0.9561	ap@50:0.
	9440				
223	71	loss:0.5762	auprc:0.9458	auroc:0.9568	ap@50:0.
	9461	time:96.8			
224					
225	72	loss:0.5759	auprc:0.9440	auroc:0.9561	ap@50:0.
	9441				
226	72	loss:0.5759	auprc:0.9457	auroc:0.9567	ap@50:0.
	9460	time:97.3			
227					
228	73	loss:0.5755	auprc:0.9440	auroc:0.9561	ap@50:0.
	9441				
229	73	loss:0.5755	auprc:0.9458	auroc:0.9568	ap@50:0.
	9462	time:97.2			
230					
231	74	loss:0.5753	auprc:0.9439	auroc:0.9560	ap@50:0.
	9439				
232	74	loss:0.5753	auprc:0.9458	auroc:0.9568	ap@50:0.
	9461	time:97.3			
233					
234	75	loss:0.5746	auprc:0.9441	auroc:0.9562	ap@50:0.
	9442				
235	75	loss:0.5746	auprc:0.9458	auroc:0.9568	ap@50:0.
	9461	time:97.2			
236					
237	76	loss:0.5747	auprc:0.9440	auroc:0.9561	ap@50:0.
	9441				
238	76	loss:0.5747	auprc:0.9459	auroc:0.9568	ap@50:0.
	9462	time:96.8			
239					
240	77	loss:0.5748	auprc:0.9438	auroc:0.9560	ap@50:0.
	9439				
241	77	loss:0.5748	auprc:0.9458	auroc:0.9568	ap@50:0.
	9461	time:97.3			
242					
243	78	loss:0.5746	auprc:0.9444	auroc:0.9563	ap@50:0.
	9444				
244	78	loss:0.5746	auprc:0.9460	auroc:0.9569	ap@50:0.
	9463	time:96.8			
245					
246	79	loss:0.5743	auprc:0.9441	auroc:0.9562	ap@50:0.
	9442				
247	79	loss:0.5743	auprc:0.9458	auroc:0.9568	ap@50:0.
	9462	time:96.8			

248					
249	80	loss:0.5741	auprc:0.9443	auroc:0.9563	ap@50:0.
	9443				
250	80	loss:0.5741	auprc:0.9460	auroc:0.9569	ap@50:0.
	9463	time:96.8			
251					
252	81	loss:0.5740	auprc:0.9441	auroc:0.9562	ap@50:0.
	9441				
253	81	loss:0.5740	auprc:0.9459	auroc:0.9569	ap@50:0.
	9462	time:97.3			
254					
255	82	loss:0.5734	auprc:0.9442	auroc:0.9563	ap@50:0.
	9442				
256	82	loss:0.5734	auprc:0.9460	auroc:0.9570	ap@50:0.
	9463	time:96.8			
257					
258	83	loss:0.5729	auprc:0.9444	auroc:0.9564	ap@50:0.
	9444				
259	83	loss:0.5729	auprc:0.9460	auroc:0.9570	ap@50:0.
	9463	time:96.8			
260					
261	84	loss:0.5733	auprc:0.9442	auroc:0.9563	ap@50:0.
	9442				
262	84	loss:0.5733	auprc:0.9460	auroc:0.9570	ap@50:0.
	9464	time:97.7			
263					
264	85	loss:0.5732	auprc:0.9444	auroc:0.9564	ap@50:0.
	9445				
265	85	loss:0.5732	auprc:0.9461	auroc:0.9570	ap@50:0.
	9464	time:97.7			
266					
267	86	loss:0.5726	auprc:0.9444	auroc:0.9564	ap@50:0.
	9445				
268	86	loss:0.5726	auprc:0.9460	auroc:0.9570	ap@50:0.
	9464	time:96.3			
269					
270	87	loss:0.5724	auprc:0.9446	auroc:0.9565	ap@50:0.
	9446				
271	87	loss:0.5724	auprc:0.9461	auroc:0.9571	ap@50:0.
	9465	time:96.8			
272					
273	88	loss:0.5732	auprc:0.9442	auroc:0.9563	ap@50:0.
	9443				
274	88	loss:0.5732	auprc:0.9461	auroc:0.9571	ap@50:0.
	9464	time:96.7			
275					
276	89	loss:0.5732	auprc:0.9444	auroc:0.9565	ap@50:0.
	9444				
277	89	loss:0.5732	auprc:0.9463	auroc:0.9572	ap@50:0.
	9466	time:97.1			
278					

File - main

279	90	loss:0.5742 9440	auprc:0.9440	auroc:0.9562	ap@50:0.
280	90	loss:0.5742 9464	auprc:0.9460 time:96.7	auroc:0.9571	ap@50:0.
281					
282	91	loss:0.5747 9445	auprc:0.9445	auroc:0.9566	ap@50:0.
283	91	loss:0.5747 9467	auprc:0.9464 time:96.8	auroc:0.9573	ap@50:0.
284					
285	92	loss:0.5741 9443	auprc:0.9443	auroc:0.9564	ap@50:0.
286	92	loss:0.5741 9464	auprc:0.9460 time:96.8	auroc:0.9571	ap@50:0.
287					
288	93	loss:0.5722 9448	auprc:0.9447	auroc:0.9567	ap@50:0.
289	93	loss:0.5722 9467	auprc:0.9464 time:96.2	auroc:0.9573	ap@50:0.
290					
291	94	loss:0.5709 9446	auprc:0.9446	auroc:0.9566	ap@50:0.
292	94	loss:0.5709 9466	auprc:0.9463 time:96.8	auroc:0.9573	ap@50:0.
293					
294	95	loss:0.5710 9444	auprc:0.9444	auroc:0.9566	ap@50:0.
295	95	loss:0.5710 9466	auprc:0.9462 time:97.3	auroc:0.9573	ap@50:0.
296					
297	96	loss:0.5722 9448	auprc:0.9447	auroc:0.9568	ap@50:0.
298	96	loss:0.5722 9468	auprc:0.9465 time:97.3	auroc:0.9574	ap@50:0.
299					
300	97	loss:0.5711 9445	auprc:0.9445	auroc:0.9566	ap@50:0.
301	97	loss:0.5711 9466	auprc:0.9463 time:96.3	auroc:0.9573	ap@50:0.
302					
303	98	loss:0.5698 9448	auprc:0.9448	auroc:0.9568	ap@50:0.
304	98	loss:0.5698 9468	auprc:0.9465 time:97.4	auroc:0.9574	ap@50:0.
305					
306	99	loss:0.5701 9448	auprc:0.9447	auroc:0.9568	ap@50:0.
307	99	loss:0.5701 9469	auprc:0.9466 time:96.8	auroc:0.9575	ap@50:0.
308					
309	File: /home/sangsq/flower/PSEP/model/main.py				

```

310 Function: train at line 188
311
312 Line # Max usage Peak usage diff max diff peak Line
   Contents
313 =====
=====
314     188                                     @profile
315     189                                     def train
    ():
316     190    344.51M      366.00M    59.13M    64.00M    model
    .train()
317     191
318     192    344.51M      366.00M    0.00B     0.00B
    optimizer.zero_grad()
319     193    853.30M      3.39G    508.80M    3.03G    z =
    model.encoder(data.d_feat, data.dd_train_idx, data.
    dd_train_et, data.dd_train_range, data.d_norm, data.p_feat
    , data.pp_train_indices, data.dp_edge_index, data.
    dp_range_list)
320     194
321     195    853.30M      870.00M    0.00B    -2.54G
    pos_index = data.dd_train_idx
322     196    979.30M      1.10G    126.00M    254.00M
    neg_index = negative_sampling(data.dd_train_idx, data.
    n_drug).to(device)
323     197
324     198    1010.73M      2.45G    31.42M    1.35G
    pos_score = checkpoint(model.decoder, z, pos_index, data.
    dd_train_et)
325     199      1.02G      2.94G    31.42M    504.00M
    neg_score = checkpoint(model.decoder, z, neg_index, data.
    dd_train_et)
326     200
327     201                                     #
    pos_loss = F.binary_cross_entropy(pos_score, torch.ones(
    pos_score.shape[0]).cuda())
328     202                                     #
    neg_loss = F.binary_cross_entropy(neg_score, torch.ones(
    neg_score.shape[0]).cuda())
329     203      1.05G      1.46G    31.42M    -1.48G
    pos_loss = -torch.log(pos_score + EPS).mean()
330     204      1.08G      1.46G    31.42M    0.00B
    neg_loss = -torch.log(1 - neg_score + EPS).mean()
331     205      1.08G      1.46G    512.00B    0.00B    loss
    = pos_loss + neg_loss
332     206                                     #
    loss = pos_loss
333     207
334     208    533.40M      7.37G    -571.61M    5.90G    loss.
    backward()
335     209    533.40M      996.00M    0.00B    -6.39G

```

```

335 optimizer.step()
336     210
337     211 533.40M    996.00M  0.00B  0.00B
      record = np.zeros((3, data.n_dd_et)) # auprc, auroc, ap
338     212 533.79M    996.00M  401.50K  0.00B      for i
      in range(data.dd_train_range.shape[0]):
339     213 533.79M    996.00M  0.00B  0.00B      [
      start, end] = data.dd_train_range[i]
340     214 533.79M    996.00M  0.00B  0.00B
      p_s = pos_score[start: end]
341     215 533.79M    996.00M  0.00B  0.00B
      n_s = neg_score[start: end]
342     216
343     217 533.79M    996.00M  0.00B  0.00B
      pos_target = torch.ones(p_s.shape[0])
344     218 533.79M    996.00M  0.00B  0.00B
      neg_target = torch.zeros(n_s.shape[0])
345     219
346     220 533.79M    996.00M  0.00B  0.00B
      score = torch.cat([p_s, n_s])
347     221 533.79M    996.00M  0.00B  0.00B
      target = torch.cat([pos_target, neg_target])
348     222
349     223 533.79M    996.00M  0.00B  0.00B
      record[0, i], record[1, i], record[2, i] = auprc_auroc_ap(
      target,
350     224 533.79M    996.00M  0.00B  0.00B

      score)

351     225
352     226 533.40M    996.00M -394.00K  0.00B
      train_record[epoch] = record
353     227 533.40M    996.00M  0.00B  0.00B      [
      auprc, auroc, ap] = record.sum(axis=1) / data.n_dd_et
354     228 533.40M    996.00M  0.00B  0.00B
      train_out[epoch] = [auprc, auroc, ap]
355     229
356     230 533.40M    996.00M  0.00B  0.00B      print
      ('{:3d}  loss:{:.4f}  auprc:{:.4f}  auroc:{:.4f}
      ap@50:{:.4f}')
357     231 533.40M    996.00M  0.00B  0.00B
      .format(epoch, loss.tolist(), auprc, auroc, ap
      ))
358     232 344.51M    996.00M -188.90M  0.00B
359     233 533.40M    996.00M  0.00B  0.00B
      return z, loss
360
361
362 Process finished with exit code 0
363

```