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1 C:\Users\mithr\venv\Scripts\python.exe "C:/Users/mithr/Desktop/Data Science Masters/DSC 680/Project 1/CNN/src/FastNet/start.py"
2 (10000, 6, 8, 8) (10000,) (2000, 6, 8, 8) (2000,)
3 starting iteration 0
4 Finished epoch 0 / 15: cost 4.158883, train: 0.513000, val 0
.460500, lr 1.500000e-03
5 starting iteration 10
6 starting iteration 20
7 starting iteration 30
8 Finished epoch 1 / 15: cost 4.130559, train: 0.514000, val 0
.501000, lr 1.498500e-03
9 starting iteration 40
10 starting iteration 50
11 starting iteration 60
12 starting iteration 70
13 Finished epoch 2 / 15: cost 4.101604, train: 0.508000, val 0
.460500, lr 1.497002e-03
14 starting iteration 80
15 starting iteration 90
16 starting iteration 100
17 starting iteration 110
18 Finished epoch 3 / 15: cost 4.072729, train: 0.493000, val 0
.501000, lr 1.495504e-03
19 starting iteration 120
20 starting iteration 130
21 starting iteration 140
22 starting iteration 150
23 Finished epoch 4 / 15: cost 4.044007, train: 0.455000, val 0
.501000, lr 1.494009e-03
24 starting iteration 160
25 starting iteration 170
26 starting iteration 180
27 starting iteration 190
28 Finished epoch 5 / 15: cost 4.015248, train: 0.501000, val 0
.501000, lr 1.492515e-03
29 starting iteration 200
30 starting iteration 210
31 starting iteration 220
32 starting iteration 230
33 Finished epoch 6 / 15: cost 3.986705, train: 0.498000, val 0
.501000, lr 1.491022e-03
34 starting iteration 240
35 starting iteration 250
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36 starting iteration 260
37 starting iteration 270
38 Finished epoch 7 / 15: cost 3.958200, train: 0.510000, val 0
    .501000, lr 1.489531e-03
39 starting iteration 280
40 starting iteration 290
41 starting iteration 300
42 starting iteration 310
43 Finished epoch 8 / 15: cost 3.929767, train: 0.519000, val 0
    .501000, lr 1.488042e-03
44 starting iteration 320
45 starting iteration 330
46 starting iteration 340
47 starting iteration 350
48 Finished epoch 9 / 15: cost 3.901396, train: 0.528000, val 0
    .501000, lr 1.486554e-03
49 starting iteration 360
50 starting iteration 370
51 starting iteration 380
52 starting iteration 390
53 Finished epoch 10 / 15: cost 3.873283, train: 0.490000, val
    0.501000, lr 1.485067e-03
54 starting iteration 400
55 starting iteration 410
56 starting iteration 420
57 starting iteration 430
58 Finished epoch 11 / 15: cost 3.845043, train: 0.504000, val
    0.501000, lr 1.483582e-03
59 starting iteration 440
60 starting iteration 450
61 starting iteration 460
62 starting iteration 470
63 Finished epoch 12 / 15: cost 3.816972, train: 0.528000, val
    0.501000, lr 1.482099e-03
64 starting iteration 480
65 starting iteration 490
66 starting iteration 500
67 starting iteration 510
68 Finished epoch 13 / 15: cost 3.789160, train: 0.489000, val
    0.501000, lr 1.480617e-03
69 starting iteration 520
70 starting iteration 530
71 starting iteration 540
72 starting iteration 550
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73 Finished epoch 14 / 15: cost 3.761151, train: 0.496000, val  
    0.501000, lr 1.479136e-03  
74 starting iteration 560  
75 starting iteration 570  
76 starting iteration 580  
77 starting iteration 590  
78 Finished epoch 15 / 15: cost 3.733787, train: 0.498000, val  
    0.501000, lr 1.477657e-03  
79 finished optimization. best validation accuracy: 0.501000  
80 (110449, 6, 8, 8) (110449,) (22090, 6, 8, 8) (22090,)  
81 starting iteration 0  
82 Finished epoch 0 / 15: cost 4.158883, train: 0.486000, val  
    0.374136, lr 1.500000e-03  
83 starting iteration 10  
84 starting iteration 20  
85 starting iteration 30  
86 starting iteration 40  
87 starting iteration 50  
88 starting iteration 60  
89 starting iteration 70  
90 starting iteration 80  
91 starting iteration 90  
92 starting iteration 100  
93 starting iteration 110  
94 starting iteration 120  
95 starting iteration 130  
96 starting iteration 140  
97 starting iteration 150  
98 starting iteration 160  
99 starting iteration 170  
100 starting iteration 180  
101 starting iteration 190  
102 starting iteration 200  
103 starting iteration 210  
104 starting iteration 220  
105 starting iteration 230  
106 starting iteration 240  
107 starting iteration 250  
108 starting iteration 260  
109 starting iteration 270  
110 starting iteration 280  
111 starting iteration 290  
112 starting iteration 300  
113 starting iteration 310
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114 starting iteration 320
115 starting iteration 330
116 starting iteration 340
117 starting iteration 350
118 starting iteration 360
119 starting iteration 370
120 starting iteration 380
121 starting iteration 390
122 starting iteration 400
123 starting iteration 410
124 starting iteration 420
125 starting iteration 430
126 starting iteration 440
127 Finished epoch 1 / 15: cost 3.855792, train: 0.508000, val
    0.500500, lr 1.498500e-03
128 starting iteration 450
129 starting iteration 460
130 starting iteration 470
131 starting iteration 480
132 starting iteration 490
133 starting iteration 500
134 starting iteration 510
135 starting iteration 520
136 starting iteration 530
137 starting iteration 540
138 starting iteration 550
139 starting iteration 560
140 starting iteration 570
141 starting iteration 580
142 starting iteration 590
143 starting iteration 600
144 starting iteration 610
145 starting iteration 620
146 starting iteration 630
147 starting iteration 640
148 starting iteration 650
149 starting iteration 660
150 starting iteration 670
151 starting iteration 680
152 starting iteration 690
153 starting iteration 700
154 starting iteration 710
155 starting iteration 720
156 starting iteration 730
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157 starting iteration 740
158 starting iteration 750
159 starting iteration 760
160 starting iteration 770
161 starting iteration 780
162 starting iteration 790
163 starting iteration 800
164 starting iteration 810
165 starting iteration 820
166 starting iteration 830
167 starting iteration 840
168 starting iteration 850
169 starting iteration 860
170 starting iteration 870
171 starting iteration 880
172 Finished epoch 2 / 15: cost 3.554674, train: 0.530000, val
    0.500500, lr 1.497002e-03
173 starting iteration 890
174 starting iteration 900
175 starting iteration 910
176 starting iteration 920
177 starting iteration 930
178 starting iteration 940
179 starting iteration 950
180 starting iteration 960
181 starting iteration 970
182 starting iteration 980
183 starting iteration 990
184 starting iteration 1000
185 starting iteration 1010
186 starting iteration 1020
187 starting iteration 1030
188 starting iteration 1040
189 starting iteration 1050
190 starting iteration 1060
191 starting iteration 1070
192 starting iteration 1080
193 starting iteration 1090
194 starting iteration 1100
195 starting iteration 1110
196 starting iteration 1120
197 starting iteration 1130
198 starting iteration 1140
199 starting iteration 1150
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200 starting iteration 1160
201 starting iteration 1170
202 starting iteration 1180
203 starting iteration 1190
204 starting iteration 1200
205 starting iteration 1210
206 starting iteration 1220
207 starting iteration 1230
208 starting iteration 1240
209 starting iteration 1250
210 starting iteration 1260
211 starting iteration 1270
212 starting iteration 1280
213 starting iteration 1290
214 starting iteration 1300
215 starting iteration 1310
216 starting iteration 1320
217 Finished epoch 3 / 15: cost 3.282237, train: 0.500000, val
    0.500500, lr 1.495504e-03
218 starting iteration 1330
219 starting iteration 1340
220 starting iteration 1350
221 starting iteration 1360
222 starting iteration 1370
223 starting iteration 1380
224 starting iteration 1390
225 starting iteration 1400
226 starting iteration 1410
227 starting iteration 1420
228 starting iteration 1430
229 starting iteration 1440
230 starting iteration 1450
231 starting iteration 1460
232 starting iteration 1470
233 starting iteration 1480
234 starting iteration 1490
235 starting iteration 1500
236 starting iteration 1510
237 starting iteration 1520
238 starting iteration 1530
239 starting iteration 1540
240 starting iteration 1550
241 starting iteration 1560
242 starting iteration 1570
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243 starting iteration 1580
244 starting iteration 1590
245 starting iteration 1600
246 starting iteration 1610
247 starting iteration 1620
248 starting iteration 1630
249 starting iteration 1640
250 starting iteration 1650
251 starting iteration 1660
252 starting iteration 1670
253 starting iteration 1680
254 starting iteration 1690
255 starting iteration 1700
256 starting iteration 1710
257 starting iteration 1720
258 starting iteration 1730
259 starting iteration 1740
260 starting iteration 1750
261 starting iteration 1760
262 Finished epoch 4 / 15: cost 3.010236, train: 0.525000, val
    0.500500, lr 1.494009e-03
263 starting iteration 1770
264 starting iteration 1780
265 starting iteration 1790
266 starting iteration 1800
267 starting iteration 1810
268 starting iteration 1820
269 starting iteration 1830
270 starting iteration 1840
271 starting iteration 1850
272 starting iteration 1860
273 starting iteration 1870
274 starting iteration 1880
275 starting iteration 1890
276 starting iteration 1900
277 starting iteration 1910
278 starting iteration 1920
279 starting iteration 1930
280 starting iteration 1940
281 starting iteration 1950
282 starting iteration 1960
283 starting iteration 1970
284 starting iteration 1980
285 starting iteration 1990
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286 starting iteration 2000
287 starting iteration 2010
288 starting iteration 2020
289 starting iteration 2030
290 starting iteration 2040
291 starting iteration 2050
292 starting iteration 2060
293 starting iteration 2070
294 starting iteration 2080
295 starting iteration 2090
296 starting iteration 2100
297 starting iteration 2110
298 starting iteration 2120
299 starting iteration 2130
300 starting iteration 2140
301 starting iteration 2150
302 starting iteration 2160
303 starting iteration 2170
304 starting iteration 2180
305 starting iteration 2190
306 starting iteration 2200
307 Finished epoch 5 / 15: cost 2.769359, train: 0.495000, val
  0.500500, lr 1.492515e-03
308 starting iteration 2210
309 starting iteration 2220
310 starting iteration 2230
311 starting iteration 2240
312 starting iteration 2250
313 starting iteration 2260
314 starting iteration 2270
315 starting iteration 2280
316 starting iteration 2290
317 starting iteration 2300
318 starting iteration 2310
319 starting iteration 2320
320 starting iteration 2330
321 starting iteration 2340
322 starting iteration 2350
323 starting iteration 2360
324 starting iteration 2370
325 starting iteration 2380
326 starting iteration 2390
327 starting iteration 2400
328 starting iteration 2410
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329 starting iteration 2420
330 starting iteration 2430
331 starting iteration 2440
332 starting iteration 2450
333 starting iteration 2460
334 starting iteration 2470
335 starting iteration 2480
336 starting iteration 2490
337 starting iteration 2500
338 starting iteration 2510
339 starting iteration 2520
340 starting iteration 2530
341 starting iteration 2540
342 starting iteration 2550
343 starting iteration 2560
344 starting iteration 2570
345 starting iteration 2580
346 starting iteration 2590
347 starting iteration 2600
348 starting iteration 2610
349 starting iteration 2620
350 starting iteration 2630
351 starting iteration 2640
352 Finished epoch 6 / 15: cost 2.500989, train: 0.508000, val
  0.500500, lr 1.491022e-03
353 starting iteration 2650
354 starting iteration 2660
355 starting iteration 2670
356 starting iteration 2680
357 starting iteration 2690
358 starting iteration 2700
359 starting iteration 2710
360 starting iteration 2720
361 starting iteration 2730
362 starting iteration 2740
363 starting iteration 2750
364 starting iteration 2760
365 starting iteration 2770
366 starting iteration 2780
367 starting iteration 2790
368 starting iteration 2800
369 starting iteration 2810
370 starting iteration 2820
371 starting iteration 2830
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372 starting iteration 2840
373 starting iteration 2850
374 starting iteration 2860
375 starting iteration 2870
376 starting iteration 2880
377 starting iteration 2890
378 starting iteration 2900
379 starting iteration 2910
380 starting iteration 2920
381 starting iteration 2930
382 starting iteration 2940
383 starting iteration 2950
384 starting iteration 2960
385 starting iteration 2970
386 starting iteration 2980
387 starting iteration 2990
388 starting iteration 3000
389 starting iteration 3010
390 starting iteration 3020
391 starting iteration 3030
392 starting iteration 3040
393 starting iteration 3050
394 starting iteration 3060
395 starting iteration 3070
396 starting iteration 3080
397 Finished epoch 7 / 15: cost 2.311034, train: 0.505000, val
  0.500500, lr 1.489531e-03
398 starting iteration 3090
399 starting iteration 3100
400 starting iteration 3110
401 starting iteration 3120
402 starting iteration 3130
403 starting iteration 3140
404 starting iteration 3150
405 starting iteration 3160
406 starting iteration 3170
407 starting iteration 3180
408 starting iteration 3190
409 starting iteration 3200
410 starting iteration 3210
411 starting iteration 3220
412 starting iteration 3230
413 starting iteration 3240
414 starting iteration 3250
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415 starting iteration 3260
416 starting iteration 3270
417 starting iteration 3280
418 starting iteration 3290
419 starting iteration 3300
420 starting iteration 3310
421 starting iteration 3320
422 starting iteration 3330
423 starting iteration 3340
424 starting iteration 3350
425 starting iteration 3360
426 starting iteration 3370
427 starting iteration 3380
428 starting iteration 3390
429 starting iteration 3400
430 starting iteration 3410
431 starting iteration 3420
432 starting iteration 3430
433 starting iteration 3440
434 starting iteration 3450
435 starting iteration 3460
436 starting iteration 3470
437 starting iteration 3480
438 starting iteration 3490
439 starting iteration 3500
440 starting iteration 3510
441 starting iteration 3520
442 Finished epoch 8 / 15: cost 2.131852, train: 0.509000, val
    0.500500, lr 1.488042e-03
443 starting iteration 3530
444 starting iteration 3540
445 starting iteration 3550
446 starting iteration 3560
447 starting iteration 3570
448 starting iteration 3580
449 starting iteration 3590
450 starting iteration 3600
451 starting iteration 3610
452 starting iteration 3620
453 starting iteration 3630
454 starting iteration 3640
455 starting iteration 3650
456 starting iteration 3660
457 starting iteration 3670
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458 starting iteration 3680
459 starting iteration 3690
460 starting iteration 3700
461 starting iteration 3710
462 starting iteration 3720
463 starting iteration 3730
464 starting iteration 3740
465 starting iteration 3750
466 starting iteration 3760
467 starting iteration 3770
468 starting iteration 3780
469 starting iteration 3790
470 starting iteration 3800
471 starting iteration 3810
472 starting iteration 3820
473 starting iteration 3830
474 starting iteration 3840
475 starting iteration 3850
476 starting iteration 3860
477 starting iteration 3870
478 starting iteration 3880
479 starting iteration 3890
480 starting iteration 3900
481 starting iteration 3910
482 starting iteration 3920
483 starting iteration 3930
484 starting iteration 3940
485 starting iteration 3950
486 starting iteration 3960
487 Finished epoch 9 / 15: cost 1.960662, train: 0.490000, val
    0.500500, lr 1.486554e-03
488 starting iteration 3970
489 starting iteration 3980
490 starting iteration 3990
491 starting iteration 4000
492 starting iteration 4010
493 starting iteration 4020
494 starting iteration 4030
495 starting iteration 4040
496 starting iteration 4050
497 starting iteration 4060
498 starting iteration 4070
499 starting iteration 4080
500 starting iteration 4090
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501 starting iteration 4100
502 starting iteration 4110
503 starting iteration 4120
504 starting iteration 4130
505 starting iteration 4140
506 starting iteration 4150
507 starting iteration 4160
508 starting iteration 4170
509 starting iteration 4180
510 starting iteration 4190
511 starting iteration 4200
512 starting iteration 4210
513 starting iteration 4220
514 starting iteration 4230
515 starting iteration 4240
516 starting iteration 4250
517 starting iteration 4260
518 starting iteration 4270
519 starting iteration 4280
520 starting iteration 4290
521 starting iteration 4300
522 starting iteration 4310
523 starting iteration 4320
524 starting iteration 4330
525 starting iteration 4340
526 starting iteration 4350
527 starting iteration 4360
528 starting iteration 4370
529 starting iteration 4380
530 starting iteration 4390
531 starting iteration 4400
532 Finished epoch 10 / 15: cost 1.849907, train: 0.534000, val
    0.500500, lr 1.485067e-03
533 starting iteration 4410
534 starting iteration 4420
535 starting iteration 4430
536 starting iteration 4440
537 starting iteration 4450
538 starting iteration 4460
539 starting iteration 4470
540 starting iteration 4480
541 starting iteration 4490
542 starting iteration 4500
543 starting iteration 4510
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544 starting iteration 4520
545 starting iteration 4530
546 starting iteration 4540
547 starting iteration 4550
548 starting iteration 4560
549 starting iteration 4570
550 starting iteration 4580
551 starting iteration 4590
552 starting iteration 4600
553 starting iteration 4610
554 starting iteration 4620
555 starting iteration 4630
556 starting iteration 4640
557 starting iteration 4650
558 starting iteration 4660
559 starting iteration 4670
560 starting iteration 4680
561 starting iteration 4690
562 starting iteration 4700
563 starting iteration 4710
564 starting iteration 4720
565 starting iteration 4730
566 starting iteration 4740
567 starting iteration 4750
568 starting iteration 4760
569 starting iteration 4770
570 starting iteration 4780
571 starting iteration 4790
572 starting iteration 4800
573 starting iteration 4810
574 starting iteration 4820
575 starting iteration 4830
576 starting iteration 4840
577 starting iteration 4850
578 Finished epoch 11 / 15: cost 1.658041, train: 0.491000, val
    0.500500, lr 1.483582e-03
579 starting iteration 4860
580 starting iteration 4870
581 starting iteration 4880
582 starting iteration 4890
583 starting iteration 4900
584 starting iteration 4910
585 starting iteration 4920
586 starting iteration 4930
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587 starting iteration 4940
588 starting iteration 4950
589 starting iteration 4960
590 starting iteration 4970
591 starting iteration 4980
592 starting iteration 4990
593 starting iteration 5000
594 starting iteration 5010
595 starting iteration 5020
596 starting iteration 5030
597 starting iteration 5040
598 starting iteration 5050
599 starting iteration 5060
600 starting iteration 5070
601 starting iteration 5080
602 starting iteration 5090
603 starting iteration 5100
604 starting iteration 5110
605 starting iteration 5120
606 starting iteration 5130
607 starting iteration 5140
608 starting iteration 5150
609 starting iteration 5160
610 starting iteration 5170
611 starting iteration 5180
612 starting iteration 5190
613 starting iteration 5200
614 starting iteration 5210
615 starting iteration 5220
616 starting iteration 5230
617 starting iteration 5240
618 starting iteration 5250
619 starting iteration 5260
620 starting iteration 5270
621 starting iteration 5280
622 starting iteration 5290
623 Finished epoch 12 / 15: cost 1.585001, train: 0.504000, val
    0.500500, lr 1.482099e-03
624 starting iteration 5300
625 starting iteration 5310
626 starting iteration 5320
627 starting iteration 5330
628 starting iteration 5340
629 starting iteration 5350
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630 starting iteration 5360
631 starting iteration 5370
632 starting iteration 5380
633 starting iteration 5390
634 starting iteration 5400
635 starting iteration 5410
636 starting iteration 5420
637 starting iteration 5430
638 starting iteration 5440
639 starting iteration 5450
640 starting iteration 5460
641 starting iteration 5470
642 starting iteration 5480
643 starting iteration 5490
644 starting iteration 5500
645 starting iteration 5510
646 starting iteration 5520
647 starting iteration 5530
648 starting iteration 5540
649 starting iteration 5550
650 starting iteration 5560
651 starting iteration 5570
652 starting iteration 5580
653 starting iteration 5590
654 starting iteration 5600
655 starting iteration 5610
656 starting iteration 5620
657 starting iteration 5630
658 starting iteration 5640
659 starting iteration 5650
660 starting iteration 5660
661 starting iteration 5670
662 starting iteration 5680
663 starting iteration 5690
664 starting iteration 5700
665 starting iteration 5710
666 starting iteration 5720
667 starting iteration 5730
668 Finished epoch 13 / 15: cost 1.446791, train: 0.497000, val
    0.500500, lr 1.480617e-03
669 starting iteration 5740
670 starting iteration 5750
671 starting iteration 5760
672 starting iteration 5770
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673 starting iteration 5780
674 starting iteration 5790
675 starting iteration 5800
676 starting iteration 5810
677 starting iteration 5820
678 starting iteration 5830
679 starting iteration 5840
680 starting iteration 5850
681 starting iteration 5860
682 starting iteration 5870
683 starting iteration 5880
684 starting iteration 5890
685 starting iteration 5900
686 starting iteration 5910
687 starting iteration 5920
688 starting iteration 5930
689 starting iteration 5940
690 starting iteration 5950
691 starting iteration 5960
692 starting iteration 5970
693 starting iteration 5980
694 starting iteration 5990
695 starting iteration 6000
696 starting iteration 6010
697 starting iteration 6020
698 starting iteration 6030
699 starting iteration 6040
700 starting iteration 6050
701 starting iteration 6060
702 starting iteration 6070
703 starting iteration 6080
704 starting iteration 6090
705 starting iteration 6100
706 starting iteration 6110
707 starting iteration 6120
708 starting iteration 6130
709 starting iteration 6140
710 starting iteration 6150
711 starting iteration 6160
712 starting iteration 6170
713 Finished epoch 14 / 15: cost 1.395708, train: 0.490000, val
    0.500500, lr 1.479136e-03
714 starting iteration 6180
715 starting iteration 6190
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716 starting iteration 6200
717 starting iteration 6210
718 starting iteration 6220
719 starting iteration 6230
720 starting iteration 6240
721 starting iteration 6250
722 starting iteration 6260
723 starting iteration 6270
724 starting iteration 6280
725 starting iteration 6290
726 starting iteration 6300
727 starting iteration 6310
728 starting iteration 6320
729 starting iteration 6330
730 starting iteration 6340
731 starting iteration 6350
732 starting iteration 6360
733 starting iteration 6370
734 starting iteration 6380
735 starting iteration 6390
736 starting iteration 6400
737 starting iteration 6410
738 starting iteration 6420
739 starting iteration 6430
740 starting iteration 6440
741 starting iteration 6450
742 starting iteration 6460
743 starting iteration 6470
744 starting iteration 6480
745 starting iteration 6490
746 starting iteration 6500
747 starting iteration 6510
748 starting iteration 6520
749 starting iteration 6530
750 starting iteration 6540
751 starting iteration 6550
752 starting iteration 6560
753 starting iteration 6570
754 starting iteration 6580
755 starting iteration 6590
756 starting iteration 6600
757 starting iteration 6610
758 Finished epoch 15 / 15: cost 1.365876, train: 0.490000, val
0.500500, lr 1.477657e-03
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759 finished optimization. best validation accuracy: 0.500500
760 (67139, 6, 8, 8) (67139,) (13428, 6, 8, 8) (13428,)
761 starting iteration 0
762 Finished epoch 0 / 15: cost 4.158883, train: 0.477000, val
    0.498507, lr 1.500000e-03
763 starting iteration 10
764 starting iteration 20
765 starting iteration 30
766 starting iteration 40
767 starting iteration 50
768 starting iteration 60
769 starting iteration 70
770 starting iteration 80
771 starting iteration 90
772 starting iteration 100
773 starting iteration 110
774 starting iteration 120
775 starting iteration 130
776 starting iteration 140
777 starting iteration 150
778 starting iteration 160
779 starting iteration 170
780 starting iteration 180
781 starting iteration 190
782 starting iteration 200
783 starting iteration 210
784 starting iteration 220
785 starting iteration 230
786 starting iteration 240
787 starting iteration 250
788 starting iteration 260
789 Finished epoch 1 / 15: cost 3.991818, train: 0.492000, val
    0.498507, lr 1.498500e-03
790 starting iteration 270
791 starting iteration 280
792 starting iteration 290
793 starting iteration 300
794 starting iteration 310
795 starting iteration 320
796 starting iteration 330
797 starting iteration 340
798 starting iteration 350
799 starting iteration 360
800 starting iteration 370
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801 starting iteration 380
802 starting iteration 390
803 starting iteration 400
804 starting iteration 410
805 starting iteration 420
806 starting iteration 430
807 starting iteration 440
808 starting iteration 450
809 starting iteration 460
810 starting iteration 470
811 starting iteration 480
812 starting iteration 490
813 starting iteration 500
814 starting iteration 510
815 starting iteration 520
816 starting iteration 530
817 Finished epoch 2 / 15: cost 3.822330, train: 0.494000, val
  0.498507, lr 1.497002e-03
818 starting iteration 540
819 starting iteration 550
820 starting iteration 560
821 starting iteration 570
822 starting iteration 580
823 starting iteration 590
824 starting iteration 600
825 starting iteration 610
826 starting iteration 620
827 starting iteration 630
828 starting iteration 640
829 starting iteration 650
830 starting iteration 660
831 starting iteration 670
832 starting iteration 680
833 starting iteration 690
834 starting iteration 700
835 starting iteration 710
836 starting iteration 720
837 starting iteration 730
838 starting iteration 740
839 starting iteration 750
840 starting iteration 760
841 starting iteration 770
842 starting iteration 780
843 starting iteration 790
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844 starting iteration 800
845 Finished epoch 3 / 15: cost 3.671326, train: 0.518000, val
    0.498507, lr 1.495504e-03
846 starting iteration 810
847 starting iteration 820
848 starting iteration 830
849 starting iteration 840
850 starting iteration 850
851 starting iteration 860
852 starting iteration 870
853 starting iteration 880
854 starting iteration 890
855 starting iteration 900
856 starting iteration 910
857 starting iteration 920
858 starting iteration 930
859 starting iteration 940
860 starting iteration 950
861 starting iteration 960
862 starting iteration 970
863 starting iteration 980
864 starting iteration 990
865 starting iteration 1000
866 starting iteration 1010
867 starting iteration 1020
868 starting iteration 1030
869 starting iteration 1040
870 starting iteration 1050
871 starting iteration 1060
872 starting iteration 1070
873 Finished epoch 4 / 15: cost 3.506388, train: 0.506000, val
    0.498507, lr 1.494009e-03
874 starting iteration 1080
875 starting iteration 1090
876 starting iteration 1100
877 starting iteration 1110
878 starting iteration 1120
879 starting iteration 1130
880 starting iteration 1140
881 starting iteration 1150
882 starting iteration 1160
883 starting iteration 1170
884 starting iteration 1180
885 starting iteration 1190
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886 starting iteration 1200
887 starting iteration 1210
888 starting iteration 1220
889 starting iteration 1230
890 starting iteration 1240
891 starting iteration 1250
892 starting iteration 1260
893 starting iteration 1270
894 starting iteration 1280
895 starting iteration 1290
896 starting iteration 1300
897 starting iteration 1310
898 starting iteration 1320
899 starting iteration 1330
900 Finished epoch 5 / 15: cost 3.345109, train: 0.482000, val
  0.498507, lr 1.492515e-03
901 starting iteration 1340
902 starting iteration 1350
903 starting iteration 1360
904 starting iteration 1370
905 starting iteration 1380
906 starting iteration 1390
907 starting iteration 1400
908 starting iteration 1410
909 starting iteration 1420
910 starting iteration 1430
911 starting iteration 1440
912 starting iteration 1450
913 starting iteration 1460
914 starting iteration 1470
915 starting iteration 1480
916 starting iteration 1490
917 starting iteration 1500
918 starting iteration 1510
919 starting iteration 1520
920 starting iteration 1530
921 starting iteration 1540
922 starting iteration 1550
923 starting iteration 1560
924 starting iteration 1570
925 starting iteration 1580
926 starting iteration 1590
927 starting iteration 1600
928 Finished epoch 6 / 15: cost 3.234906, train: 0.510000, val
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928 0.498507, lr 1.491022e-03
929 starting iteration 1610
930 starting iteration 1620
931 starting iteration 1630
932 starting iteration 1640
933 starting iteration 1650
934 starting iteration 1660
935 starting iteration 1670
936 starting iteration 1680
937 starting iteration 1690
938 starting iteration 1700
939 starting iteration 1710
940 starting iteration 1720
941 starting iteration 1730
942 starting iteration 1740
943 starting iteration 1750
944 starting iteration 1760
945 starting iteration 1770
946 starting iteration 1780
947 starting iteration 1790
948 starting iteration 1800
949 starting iteration 1810
950 starting iteration 1820
951 starting iteration 1830
952 starting iteration 1840
953 starting iteration 1850
954 starting iteration 1860
955 starting iteration 1870
956 Finished epoch 7 / 15: cost 3.060117, train: 0.513000, val
  0.498507, lr 1.489531e-03
957 starting iteration 1880
958 starting iteration 1890
959 starting iteration 1900
960 starting iteration 1910
961 starting iteration 1920
962 starting iteration 1930
963 starting iteration 1940
964 starting iteration 1950
965 starting iteration 1960
966 starting iteration 1970
967 starting iteration 1980
968 starting iteration 1990
969 starting iteration 2000
970 starting iteration 2010
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971 starting iteration 2020
972 starting iteration 2030
973 starting iteration 2040
974 starting iteration 2050
975 starting iteration 2060
976 starting iteration 2070
977 starting iteration 2080
978 starting iteration 2090
979 starting iteration 2100
980 starting iteration 2110
981 starting iteration 2120
982 starting iteration 2130
983 starting iteration 2140
984 Finished epoch 8 / 15: cost 2.931502, train: 0.503000, val
    0.498507, lr 1.488042e-03
985 starting iteration 2150
986 starting iteration 2160
987 starting iteration 2170
988 starting iteration 2180
989 starting iteration 2190
990 starting iteration 2200
991 starting iteration 2210
992 starting iteration 2220
993 starting iteration 2230
994 starting iteration 2240
995 starting iteration 2250
996 starting iteration 2260
997 starting iteration 2270
998 starting iteration 2280
999 starting iteration 2290
1000 starting iteration 2300
1001 starting iteration 2310
1002 starting iteration 2320
1003 starting iteration 2330
1004 starting iteration 2340
1005 starting iteration 2350
1006 starting iteration 2360
1007 starting iteration 2370
1008 starting iteration 2380
1009 starting iteration 2390
1010 starting iteration 2400
1011 starting iteration 2410
1012 Finished epoch 9 / 15: cost 2.755175, train: 0.526000, val
    0.498507, lr 1.486554e-03
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1013 starting iteration 2420
1014 starting iteration 2430
1015 starting iteration 2440
1016 starting iteration 2450
1017 starting iteration 2460
1018 starting iteration 2470
1019 starting iteration 2480
1020 starting iteration 2490
1021 starting iteration 2500
1022 starting iteration 2510
1023 starting iteration 2520
1024 starting iteration 2530
1025 starting iteration 2540
1026 starting iteration 2550
1027 starting iteration 2560
1028 starting iteration 2570
1029 starting iteration 2580
1030 starting iteration 2590
1031 starting iteration 2600
1032 starting iteration 2610
1033 starting iteration 2620
1034 starting iteration 2630
1035 starting iteration 2640
1036 starting iteration 2650
1037 starting iteration 2660
1038 starting iteration 2670
1039 Finished epoch 10 / 15: cost 2.679598, train: 0.508000,
    val 0.498507, lr 1.485067e-03
1040 starting iteration 2680
1041 starting iteration 2690
1042 starting iteration 2700
1043 starting iteration 2710
1044 starting iteration 2720
1045 starting iteration 2730
1046 starting iteration 2740
1047 starting iteration 2750
1048 starting iteration 2760
1049 starting iteration 2770
1050 starting iteration 2780
1051 starting iteration 2790
1052 starting iteration 2800
1053 starting iteration 2810
1054 starting iteration 2820
1055 starting iteration 2830
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1056 starting iteration 2840
1057 starting iteration 2850
1058 starting iteration 2860
1059 starting iteration 2870
1060 starting iteration 2880
1061 starting iteration 2890
1062 starting iteration 2900
1063 starting iteration 2910
1064 starting iteration 2920
1065 starting iteration 2930
1066 starting iteration 2940
1067 Finished epoch 11 / 15: cost 2.503684, train: 0.500000,
    val 0.498507, lr 1.483582e-03
1068 starting iteration 2950
1069 starting iteration 2960
1070 starting iteration 2970
1071 starting iteration 2980
1072 starting iteration 2990
1073 starting iteration 3000
1074 starting iteration 3010
1075 starting iteration 3020
1076 starting iteration 3030
1077 starting iteration 3040
1078 starting iteration 3050
1079 starting iteration 3060
1080 starting iteration 3070
1081 starting iteration 3080
1082 starting iteration 3090
1083 starting iteration 3100
1084 starting iteration 3110
1085 starting iteration 3120
1086 starting iteration 3130
1087 starting iteration 3140
1088 starting iteration 3150
1089 starting iteration 3160
1090 starting iteration 3170
1091 starting iteration 3180
1092 starting iteration 3190
1093 starting iteration 3200
1094 starting iteration 3210
1095 Finished epoch 12 / 15: cost 2.397817, train: 0.486000,
    val 0.498507, lr 1.482099e-03
1096 starting iteration 3220
1097 starting iteration 3230
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1098 starting iteration 3240
1099 starting iteration 3250
1100 starting iteration 3260
1101 starting iteration 3270
1102 starting iteration 3280
1103 starting iteration 3290
1104 starting iteration 3300
1105 starting iteration 3310
1106 starting iteration 3320
1107 starting iteration 3330
1108 starting iteration 3340
1109 starting iteration 3350
1110 starting iteration 3360
1111 starting iteration 3370
1112 starting iteration 3380
1113 starting iteration 3390
1114 starting iteration 3400
1115 starting iteration 3410
1116 starting iteration 3420
1117 starting iteration 3430
1118 starting iteration 3440
1119 starting iteration 3450
1120 starting iteration 3460
1121 starting iteration 3470
1122 starting iteration 3480
1123 Finished epoch 13 / 15: cost 2.336157, train: 0.480000,
    val 0.498507, lr 1.480617e-03
1124 starting iteration 3490
1125 starting iteration 3500
1126 starting iteration 3510
1127 starting iteration 3520
1128 starting iteration 3530
1129 starting iteration 3540
1130 starting iteration 3550
1131 starting iteration 3560
1132 starting iteration 3570
1133 starting iteration 3580
1134 starting iteration 3590
1135 starting iteration 3600
1136 starting iteration 3610
1137 starting iteration 3620
1138 starting iteration 3630
1139 starting iteration 3640
1140 starting iteration 3650
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1141 starting iteration 3660
1142 starting iteration 3670
1143 starting iteration 3680
1144 starting iteration 3690
1145 starting iteration 3700
1146 starting iteration 3710
1147 starting iteration 3720
1148 starting iteration 3730
1149 starting iteration 3740
1150 starting iteration 3750
1151 Finished epoch 14 / 15: cost 2.226571, train: 0.499000,
    val 0.498507, lr 1.479136e-03
1152 starting iteration 3760
1153 starting iteration 3770
1154 starting iteration 3780
1155 starting iteration 3790
1156 starting iteration 3800
1157 starting iteration 3810
1158 starting iteration 3820
1159 starting iteration 3830
1160 starting iteration 3840
1161 starting iteration 3850
1162 starting iteration 3860
1163 starting iteration 3870
1164 starting iteration 3880
1165 starting iteration 3890
1166 starting iteration 3900
1167 starting iteration 3910
1168 starting iteration 3920
1169 starting iteration 3930
1170 starting iteration 3940
1171 starting iteration 3950
1172 starting iteration 3960
1173 starting iteration 3970
1174 starting iteration 3980
1175 starting iteration 3990
1176 starting iteration 4000
1177 starting iteration 4010
1178 Finished epoch 15 / 15: cost 2.106604, train: 0.498000,
    val 0.498507, lr 1.477657e-03
1179 finished optimization. best validation accuracy: 0.498507
1180 (38505, 6, 8, 8) (38505,) (7702, 6, 8, 8) (7702,)
1181 starting iteration 0
1182 Finished epoch 0 / 15: cost 4.158883, train: 0.466000, val
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1182 0.425844, lr 1.500000e-03
1183 starting iteration 10
1184 starting iteration 20
1185 starting iteration 30
1186 starting iteration 40
1187 starting iteration 50
1188 starting iteration 60
1189 starting iteration 70
1190 starting iteration 80
1191 starting iteration 90
1192 starting iteration 100
1193 starting iteration 110
1194 starting iteration 120
1195 starting iteration 130
1196 starting iteration 140
1197 starting iteration 150
1198 Finished epoch 1 / 15: cost 4.059419, train: 0.519000, val
    0.500260, lr 1.498500e-03
1199 starting iteration 160
1200 starting iteration 170
1201 starting iteration 180
1202 starting iteration 190
1203 starting iteration 200
1204 starting iteration 210
1205 starting iteration 220
1206 starting iteration 230
1207 starting iteration 240
1208 starting iteration 250
1209 starting iteration 260
1210 starting iteration 270
1211 starting iteration 280
1212 starting iteration 290
1213 starting iteration 300
1214 Finished epoch 2 / 15: cost 3.965833, train: 0.478000, val
    0.500260, lr 1.497002e-03
1215 starting iteration 310
1216 starting iteration 320
1217 starting iteration 330
1218 starting iteration 340
1219 starting iteration 350
1220 starting iteration 360
1221 starting iteration 370
1222 starting iteration 380
1223 starting iteration 390
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1224 starting iteration 400
1225 starting iteration 410
1226 starting iteration 420
1227 starting iteration 430
1228 starting iteration 440
1229 starting iteration 450
1230 starting iteration 460
1231 Finished epoch 3 / 15: cost 3.869127, train: 0.490000, val
    0.500260, lr 1.495504e-03
1232 starting iteration 470
1233 starting iteration 480
1234 starting iteration 490
1235 starting iteration 500
1236 starting iteration 510
1237 starting iteration 520
1238 starting iteration 530
1239 starting iteration 540
1240 starting iteration 550
1241 starting iteration 560
1242 starting iteration 570
1243 starting iteration 580
1244 starting iteration 590
1245 starting iteration 600
1246 starting iteration 610
1247 Finished epoch 4 / 15: cost 3.765934, train: 0.494000, val
    0.500260, lr 1.494009e-03
1248 starting iteration 620
1249 starting iteration 630
1250 starting iteration 640
1251 starting iteration 650
1252 starting iteration 660
1253 starting iteration 670
1254 starting iteration 680
1255 starting iteration 690
1256 starting iteration 700
1257 starting iteration 710
1258 starting iteration 720
1259 starting iteration 730
1260 starting iteration 740
1261 starting iteration 750
1262 starting iteration 760
1263 Finished epoch 5 / 15: cost 3.665448, train: 0.481000, val
    0.500260, lr 1.492515e-03
1264 starting iteration 770
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1265 starting iteration 780
1266 starting iteration 790
1267 starting iteration 800
1268 starting iteration 810
1269 starting iteration 820
1270 starting iteration 830
1271 starting iteration 840
1272 starting iteration 850
1273 starting iteration 860
1274 starting iteration 870
1275 starting iteration 880
1276 starting iteration 890
1277 starting iteration 900
1278 starting iteration 910
1279 starting iteration 920
1280 Finished epoch 6 / 15: cost 3.583461, train: 0.526000, val
    0.500260, lr 1.491022e-03
1281 starting iteration 930
1282 starting iteration 940
1283 starting iteration 950
1284 starting iteration 960
1285 starting iteration 970
1286 starting iteration 980
1287 starting iteration 990
1288 starting iteration 1000
1289 starting iteration 1010
1290 starting iteration 1020
1291 starting iteration 1030
1292 starting iteration 1040
1293 starting iteration 1050
1294 starting iteration 1060
1295 starting iteration 1070
1296 Finished epoch 7 / 15: cost 3.480634, train: 0.521000, val
    0.500260, lr 1.489531e-03
1297 starting iteration 1080
1298 starting iteration 1090
1299 starting iteration 1100
1300 starting iteration 1110
1301 starting iteration 1120
1302 starting iteration 1130
1303 starting iteration 1140
1304 starting iteration 1150
1305 starting iteration 1160
1306 starting iteration 1170
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1307 starting iteration 1180
1308 starting iteration 1190
1309 starting iteration 1200
1310 starting iteration 1210
1311 starting iteration 1220
1312 starting iteration 1230
1313 Finished epoch 8 / 15: cost 3.392703, train: 0.499000, val
    0.500260, lr 1.488042e-03
1314 starting iteration 1240
1315 starting iteration 1250
1316 starting iteration 1260
1317 starting iteration 1270
1318 starting iteration 1280
1319 starting iteration 1290
1320 starting iteration 1300
1321 starting iteration 1310
1322 starting iteration 1320
1323 starting iteration 1330
1324 starting iteration 1340
1325 starting iteration 1350
1326 starting iteration 1360
1327 starting iteration 1370
1328 starting iteration 1380
1329 Finished epoch 9 / 15: cost 3.303362, train: 0.473000, val
    0.500260, lr 1.486554e-03
1330 starting iteration 1390
1331 starting iteration 1400
1332 starting iteration 1410
1333 starting iteration 1420
1334 starting iteration 1430
1335 starting iteration 1440
1336 starting iteration 1450
1337 starting iteration 1460
1338 starting iteration 1470
1339 starting iteration 1480
1340 starting iteration 1490
1341 starting iteration 1500
1342 starting iteration 1510
1343 starting iteration 1520
1344 starting iteration 1530
1345 Finished epoch 10 / 15: cost 3.212291, train: 0.485000,
    val 0.500260, lr 1.485067e-03
1346 starting iteration 1540
1347 starting iteration 1550
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1348 starting iteration 1560
1349 starting iteration 1570
1350 starting iteration 1580
1351 starting iteration 1590
1352 starting iteration 1600
1353 starting iteration 1610
1354 starting iteration 1620
1355 starting iteration 1630
1356 starting iteration 1640
1357 starting iteration 1650
1358 starting iteration 1660
1359 starting iteration 1670
1360 starting iteration 1680
1361 starting iteration 1690
1362 Finished epoch 11 / 15: cost 3.131079, train: 0.504000,
    val 0.500260, lr 1.483582e-03
1363 starting iteration 1700
1364 starting iteration 1710
1365 starting iteration 1720
1366 starting iteration 1730
1367 starting iteration 1740
1368 starting iteration 1750
1369 starting iteration 1760
1370 starting iteration 1770
1371 starting iteration 1780
1372 starting iteration 1790
1373 starting iteration 1800
1374 starting iteration 1810
1375 starting iteration 1820
1376 starting iteration 1830
1377 starting iteration 1840
1378 Finished epoch 12 / 15: cost 3.063709, train: 0.500000,
    val 0.500260, lr 1.482099e-03
1379 starting iteration 1850
1380 starting iteration 1860
1381 starting iteration 1870
1382 starting iteration 1880
1383 starting iteration 1890
1384 starting iteration 1900
1385 starting iteration 1910
1386 starting iteration 1920
1387 starting iteration 1930
1388 starting iteration 1940
1389 starting iteration 1950
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1390 starting iteration 1960
1391 starting iteration 1970
1392 starting iteration 1980
1393 starting iteration 1990
1394 starting iteration 2000
1395 Finished epoch 13 / 15: cost 2.973675, train: 0.495000,
    val 0.500260, lr 1.480617e-03
1396 starting iteration 2010
1397 starting iteration 2020
1398 starting iteration 2030
1399 starting iteration 2040
1400 starting iteration 2050
1401 starting iteration 2060
1402 starting iteration 2070
1403 starting iteration 2080
1404 starting iteration 2090
1405 starting iteration 2100
1406 starting iteration 2110
1407 starting iteration 2120
1408 starting iteration 2130
1409 starting iteration 2140
1410 starting iteration 2150
1411 Finished epoch 14 / 15: cost 2.897259, train: 0.496000,
    val 0.500260, lr 1.479136e-03
1412 starting iteration 2160
1413 starting iteration 2170
1414 starting iteration 2180
1415 starting iteration 2190
1416 starting iteration 2200
1417 starting iteration 2210
1418 starting iteration 2220
1419 starting iteration 2230
1420 starting iteration 2240
1421 starting iteration 2250
1422 starting iteration 2260
1423 starting iteration 2270
1424 starting iteration 2280
1425 starting iteration 2290
1426 starting iteration 2300
1427 Finished epoch 15 / 15: cost 2.788233, train: 0.486000,
    val 0.500260, lr 1.477657e-03
1428 finished optimization. best validation accuracy: 0.500260
1429 (71622, 6, 8, 8) (71622,) (14325, 6, 8, 8) (14325,)
1430 starting iteration 0
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1431 Finished epoch 0 / 15: cost 4.158883, train: 0.511000, val  
    0.500839, lr 1.500000e-03  
1432 starting iteration 10  
1433 starting iteration 20  
1434 starting iteration 30  
1435 starting iteration 40  
1436 starting iteration 50  
1437 starting iteration 60  
1438 starting iteration 70  
1439 starting iteration 80  
1440 starting iteration 90  
1441 starting iteration 100  
1442 starting iteration 110  
1443 starting iteration 120  
1444 starting iteration 130  
1445 starting iteration 140  
1446 starting iteration 150  
1447 starting iteration 160  
1448 starting iteration 170  
1449 starting iteration 180  
1450 starting iteration 190  
1451 starting iteration 200  
1452 starting iteration 210  
1453 starting iteration 220  
1454 starting iteration 230  
1455 starting iteration 240  
1456 starting iteration 250  
1457 starting iteration 260  
1458 starting iteration 270  
1459 starting iteration 280  
1460 Finished epoch 1 / 15: cost 3.977037, train: 0.485000, val  
    0.500839, lr 1.498500e-03  
1461 starting iteration 290  
1462 starting iteration 300  
1463 starting iteration 310  
1464 starting iteration 320  
1465 starting iteration 330  
1466 starting iteration 340  
1467 starting iteration 350  
1468 starting iteration 360  
1469 starting iteration 370  
1470 starting iteration 380  
1471 starting iteration 390  
1472 starting iteration 400
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1473 starting iteration 410
1474 starting iteration 420
1475 starting iteration 430
1476 starting iteration 440
1477 starting iteration 450
1478 starting iteration 460
1479 starting iteration 470
1480 starting iteration 480
1481 starting iteration 490
1482 starting iteration 500
1483 starting iteration 510
1484 starting iteration 520
1485 starting iteration 530
1486 starting iteration 540
1487 starting iteration 550
1488 starting iteration 560
1489 starting iteration 570
1490 Finished epoch 2 / 15: cost 3.807898, train: 0.495000, val
    0.500839, lr 1.497002e-03
1491 starting iteration 580
1492 starting iteration 590
1493 starting iteration 600
1494 starting iteration 610
1495 starting iteration 620
1496 starting iteration 630
1497 starting iteration 640
1498 starting iteration 650
1499 starting iteration 660
1500 starting iteration 670
1501 starting iteration 680
1502 starting iteration 690
1503 starting iteration 700
1504 starting iteration 710
1505 starting iteration 720
1506 starting iteration 730
1507 starting iteration 740
1508 starting iteration 750
1509 starting iteration 760
1510 starting iteration 770
1511 starting iteration 780
1512 starting iteration 790
1513 starting iteration 800
1514 starting iteration 810
1515 starting iteration 820
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1516 starting iteration 830
1517 starting iteration 840
1518 starting iteration 850
1519 Finished epoch 3 / 15: cost 3.620120, train: 0.489000, val
    0.500839, lr 1.495504e-03
1520 starting iteration 860
1521 starting iteration 870
1522 starting iteration 880
1523 starting iteration 890
1524 starting iteration 900
1525 starting iteration 910
1526 starting iteration 920
1527 starting iteration 930
1528 starting iteration 940
1529 starting iteration 950
1530 starting iteration 960
1531 starting iteration 970
1532 starting iteration 980
1533 starting iteration 990
1534 starting iteration 1000
1535 starting iteration 1010
1536 starting iteration 1020
1537 starting iteration 1030
1538 starting iteration 1040
1539 starting iteration 1050
1540 starting iteration 1060
1541 starting iteration 1070
1542 starting iteration 1080
1543 starting iteration 1090
1544 starting iteration 1100
1545 starting iteration 1110
1546 starting iteration 1120
1547 starting iteration 1130
1548 starting iteration 1140
1549 Finished epoch 4 / 15: cost 3.442082, train: 0.515000, val
    0.500839, lr 1.494009e-03
1550 starting iteration 1150
1551 starting iteration 1160
1552 starting iteration 1170
1553 starting iteration 1180
1554 starting iteration 1190
1555 starting iteration 1200
1556 starting iteration 1210
1557 starting iteration 1220
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1558 starting iteration 1230
1559 starting iteration 1240
1560 starting iteration 1250
1561 starting iteration 1260
1562 starting iteration 1270
1563 starting iteration 1280
1564 starting iteration 1290
1565 starting iteration 1300
1566 starting iteration 1310
1567 starting iteration 1320
1568 starting iteration 1330
1569 starting iteration 1340
1570 starting iteration 1350
1571 starting iteration 1360
1572 starting iteration 1370
1573 starting iteration 1380
1574 starting iteration 1390
1575 starting iteration 1400
1576 starting iteration 1410
1577 starting iteration 1420
1578 Finished epoch 5 / 15: cost 3.286734, train: 0.511000, val
    0.500839, lr 1.492515e-03
1579 starting iteration 1430
1580 starting iteration 1440
1581 starting iteration 1450
1582 starting iteration 1460
1583 starting iteration 1470
1584 starting iteration 1480
1585 starting iteration 1490
1586 starting iteration 1500
1587 starting iteration 1510
1588 starting iteration 1520
1589 starting iteration 1530
1590 starting iteration 1540
1591 starting iteration 1550
1592 starting iteration 1560
1593 starting iteration 1570
1594 starting iteration 1580
1595 starting iteration 1590
1596 starting iteration 1600
1597 starting iteration 1610
1598 starting iteration 1620
1599 starting iteration 1630
1600 starting iteration 1640
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1601 starting iteration 1650
1602 starting iteration 1660
1603 starting iteration 1670
1604 starting iteration 1680
1605 starting iteration 1690
1606 starting iteration 1700
1607 starting iteration 1710
1608 Finished epoch 6 / 15: cost 3.136984, train: 0.504000, val
    0.500839, lr 1.491022e-03
1609 starting iteration 1720
1610 starting iteration 1730
1611 starting iteration 1740
1612 starting iteration 1750
1613 starting iteration 1760
1614 starting iteration 1770
1615 starting iteration 1780
1616 starting iteration 1790
1617 starting iteration 1800
1618 starting iteration 1810
1619 starting iteration 1820
1620 starting iteration 1830
1621 starting iteration 1840
1622 starting iteration 1850
1623 starting iteration 1860
1624 starting iteration 1870
1625 starting iteration 1880
1626 starting iteration 1890
1627 starting iteration 1900
1628 starting iteration 1910
1629 starting iteration 1920
1630 starting iteration 1930
1631 starting iteration 1940
1632 starting iteration 1950
1633 starting iteration 1960
1634 starting iteration 1970
1635 starting iteration 1980
1636 starting iteration 1990
1637 starting iteration 2000
1638 Finished epoch 7 / 15: cost 2.976898, train: 0.507000, val
    0.500839, lr 1.489531e-03
1639 starting iteration 2010
1640 starting iteration 2020
1641 starting iteration 2030
1642 starting iteration 2040
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1643 starting iteration 2050
1644 starting iteration 2060
1645 starting iteration 2070
1646 starting iteration 2080
1647 starting iteration 2090
1648 starting iteration 2100
1649 starting iteration 2110
1650 starting iteration 2120
1651 starting iteration 2130
1652 starting iteration 2140
1653 starting iteration 2150
1654 starting iteration 2160
1655 starting iteration 2170
1656 starting iteration 2180
1657 starting iteration 2190
1658 starting iteration 2200
1659 starting iteration 2210
1660 starting iteration 2220
1661 starting iteration 2230
1662 starting iteration 2240
1663 starting iteration 2250
1664 starting iteration 2260
1665 starting iteration 2270
1666 starting iteration 2280
1667 Finished epoch 8 / 15: cost 2.876024, train: 0.489000, val
    0.500839, lr 1.488042e-03
1668 starting iteration 2290
1669 starting iteration 2300
1670 starting iteration 2310
1671 starting iteration 2320
1672 starting iteration 2330
1673 starting iteration 2340
1674 starting iteration 2350
1675 starting iteration 2360
1676 starting iteration 2370
1677 starting iteration 2380
1678 starting iteration 2390
1679 starting iteration 2400
1680 starting iteration 2410
1681 starting iteration 2420
1682 starting iteration 2430
1683 starting iteration 2440
1684 starting iteration 2450
1685 starting iteration 2460
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1686 starting iteration 2470
1687 starting iteration 2480
1688 starting iteration 2490
1689 starting iteration 2500
1690 starting iteration 2510
1691 starting iteration 2520
1692 starting iteration 2530
1693 starting iteration 2540
1694 starting iteration 2550
1695 starting iteration 2560
1696 starting iteration 2570
1697 Finished epoch 9 / 15: cost 2.675953, train: 0.520000, val
    0.500839, lr 1.486554e-03
1698 starting iteration 2580
1699 starting iteration 2590
1700 starting iteration 2600
1701 starting iteration 2610
1702 starting iteration 2620
1703 starting iteration 2630
1704 starting iteration 2640
1705 starting iteration 2650
1706 starting iteration 2660
1707 starting iteration 2670
1708 starting iteration 2680
1709 starting iteration 2690
1710 starting iteration 2700
1711 starting iteration 2710
1712 starting iteration 2720
1713 starting iteration 2730
1714 starting iteration 2740
1715 starting iteration 2750
1716 starting iteration 2760
1717 starting iteration 2770
1718 starting iteration 2780
1719 starting iteration 2790
1720 starting iteration 2800
1721 starting iteration 2810
1722 starting iteration 2820
1723 starting iteration 2830
1724 starting iteration 2840
1725 starting iteration 2850
1726 Finished epoch 10 / 15: cost 2.575177, train: 0.490000,
    val 0.500839, lr 1.485067e-03
1727 starting iteration 2860
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1728 starting iteration 2870
1729 starting iteration 2880
1730 starting iteration 2890
1731 starting iteration 2900
1732 starting iteration 2910
1733 starting iteration 2920
1734 starting iteration 2930
1735 starting iteration 2940
1736 starting iteration 2950
1737 starting iteration 2960
1738 starting iteration 2970
1739 starting iteration 2980
1740 starting iteration 2990
1741 starting iteration 3000
1742 starting iteration 3010
1743 starting iteration 3020
1744 starting iteration 3030
1745 starting iteration 3040
1746 starting iteration 3050
1747 starting iteration 3060
1748 starting iteration 3070
1749 starting iteration 3080
1750 starting iteration 3090
1751 starting iteration 3100
1752 starting iteration 3110
1753 starting iteration 3120
1754 starting iteration 3130
1755 starting iteration 3140
1756 Finished epoch 11 / 15: cost 2.405754, train: 0.511000,
    val 0.500839, lr 1.483582e-03
1757 starting iteration 3150
1758 starting iteration 3160
1759 starting iteration 3170
1760 starting iteration 3180
1761 starting iteration 3190
1762 starting iteration 3200
1763 starting iteration 3210
1764 starting iteration 3220
1765 starting iteration 3230
1766 starting iteration 3240
1767 starting iteration 3250
1768 starting iteration 3260
1769 starting iteration 3270
1770 starting iteration 3280
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1771 starting iteration 3290
1772 starting iteration 3300
1773 starting iteration 3310
1774 starting iteration 3320
1775 starting iteration 3330
1776 starting iteration 3340
1777 starting iteration 3350
1778 starting iteration 3360
1779 starting iteration 3370
1780 starting iteration 3380
1781 starting iteration 3390
1782 starting iteration 3400
1783 starting iteration 3410
1784 starting iteration 3420
1785 starting iteration 3430
1786 Finished epoch 12 / 15: cost 2.341002, train: 0.486000,
val 0.500839, lr 1.482099e-03
1787 starting iteration 3440
1788 starting iteration 3450
1789 starting iteration 3460
1790 starting iteration 3470
1791 starting iteration 3480
1792 starting iteration 3490
1793 starting iteration 3500
1794 starting iteration 3510
1795 starting iteration 3520
1796 starting iteration 3530
1797 starting iteration 3540
1798 starting iteration 3550
1799 starting iteration 3560
1800 starting iteration 3570
1801 starting iteration 3580
1802 starting iteration 3590
1803 starting iteration 3600
1804 starting iteration 3610
1805 starting iteration 3620
1806 starting iteration 3630
1807 starting iteration 3640
1808 starting iteration 3650
1809 starting iteration 3660
1810 starting iteration 3670
1811 starting iteration 3680
1812 starting iteration 3690
1813 starting iteration 3700
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1814 starting iteration 3710
1815 Finished epoch 13 / 15: cost 2.233417, train: 0.499000,
    val 0.500839, lr 1.480617e-03
1816 starting iteration 3720
1817 starting iteration 3730
1818 starting iteration 3740
1819 starting iteration 3750
1820 starting iteration 3760
1821 starting iteration 3770
1822 starting iteration 3780
1823 starting iteration 3790
1824 starting iteration 3800
1825 starting iteration 3810
1826 starting iteration 3820
1827 starting iteration 3830
1828 starting iteration 3840
1829 starting iteration 3850
1830 starting iteration 3860
1831 starting iteration 3870
1832 starting iteration 3880
1833 starting iteration 3890
1834 starting iteration 3900
1835 starting iteration 3910
1836 starting iteration 3920
1837 starting iteration 3930
1838 starting iteration 3940
1839 starting iteration 3950
1840 starting iteration 3960
1841 starting iteration 3970
1842 starting iteration 3980
1843 starting iteration 3990
1844 starting iteration 4000
1845 Finished epoch 14 / 15: cost 2.167878, train: 0.482000,
    val 0.500839, lr 1.479136e-03
1846 starting iteration 4010
1847 starting iteration 4020
1848 starting iteration 4030
1849 starting iteration 4040
1850 starting iteration 4050
1851 starting iteration 4060
1852 starting iteration 4070
1853 starting iteration 4080
1854 starting iteration 4090
1855 starting iteration 4100
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1856 starting iteration 4110
1857 starting iteration 4120
1858 starting iteration 4130
1859 starting iteration 4140
1860 starting iteration 4150
1861 starting iteration 4160
1862 starting iteration 4170
1863 starting iteration 4180
1864 starting iteration 4190
1865 starting iteration 4200
1866 starting iteration 4210
1867 starting iteration 4220
1868 starting iteration 4230
1869 starting iteration 4240
1870 starting iteration 4250
1871 starting iteration 4260
1872 starting iteration 4270
1873 starting iteration 4280
1874 Finished epoch 15 / 15: cost 2.049927, train: 0.492000,
    val 0.500839, lr 1.477657e-03
1875 finished optimization. best validation accuracy: 0.500839
1876 (73295, 6, 8, 8) (73295,) (14659, 6, 8, 8) (14659,)
1877 starting iteration 0
1878 Finished epoch 0 / 15: cost 4.158883, train: 0.486000, val
    0.209589, lr 1.500000e-03
1879 starting iteration 10
1880 starting iteration 20
1881 starting iteration 30
1882 starting iteration 40
1883 starting iteration 50
1884 starting iteration 60
1885 starting iteration 70
1886 starting iteration 80
1887 starting iteration 90
1888 starting iteration 100
1889 starting iteration 110
1890 starting iteration 120
1891 starting iteration 130
1892 starting iteration 140
1893 starting iteration 150
1894 starting iteration 160
1895 starting iteration 170
1896 starting iteration 180
1897 starting iteration 190
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1898 starting iteration 200
1899 starting iteration 210
1900 starting iteration 220
1901 starting iteration 230
1902 starting iteration 240
1903 starting iteration 250
1904 starting iteration 260
1905 starting iteration 270
1906 starting iteration 280
1907 starting iteration 290
1908 Finished epoch 1 / 15: cost 3.956017, train: 0.482000, val
    0.492260, lr 1.498500e-03
1909 starting iteration 300
1910 starting iteration 310
1911 starting iteration 320
1912 starting iteration 330
1913 starting iteration 340
1914 starting iteration 350
1915 starting iteration 360
1916 starting iteration 370
1917 starting iteration 380
1918 starting iteration 390
1919 starting iteration 400
1920 starting iteration 410
1921 starting iteration 420
1922 starting iteration 430
1923 starting iteration 440
1924 starting iteration 450
1925 starting iteration 460
1926 starting iteration 470
1927 starting iteration 480
1928 starting iteration 490
1929 starting iteration 500
1930 starting iteration 510
1931 starting iteration 520
1932 starting iteration 530
1933 starting iteration 540
1934 starting iteration 550
1935 starting iteration 560
1936 starting iteration 570
1937 starting iteration 580
1938 Finished epoch 2 / 15: cost 3.749578, train: 0.497000, val
    0.492260, lr 1.497002e-03
1939 starting iteration 590
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1940 starting iteration 600
1941 starting iteration 610
1942 starting iteration 620
1943 starting iteration 630
1944 starting iteration 640
1945 starting iteration 650
1946 starting iteration 660
1947 starting iteration 670
1948 starting iteration 680
1949 starting iteration 690
1950 starting iteration 700
1951 starting iteration 710
1952 starting iteration 720
1953 starting iteration 730
1954 starting iteration 740
1955 starting iteration 750
1956 starting iteration 760
1957 starting iteration 770
1958 starting iteration 780
1959 starting iteration 790
1960 starting iteration 800
1961 starting iteration 810
1962 starting iteration 820
1963 starting iteration 830
1964 starting iteration 840
1965 starting iteration 850
1966 starting iteration 860
1967 starting iteration 870
1968 Finished epoch 3 / 15: cost 3.556648, train: 0.461000, val
    0.492260, lr 1.495504e-03
1969 starting iteration 880
1970 starting iteration 890
1971 starting iteration 900
1972 starting iteration 910
1973 starting iteration 920
1974 starting iteration 930
1975 starting iteration 940
1976 starting iteration 950
1977 starting iteration 960
1978 starting iteration 970
1979 starting iteration 980
1980 starting iteration 990
1981 starting iteration 1000
1982 starting iteration 1010
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1983 starting iteration 1020
1984 starting iteration 1030
1985 starting iteration 1040
1986 starting iteration 1050
1987 starting iteration 1060
1988 starting iteration 1070
1989 starting iteration 1080
1990 starting iteration 1090
1991 starting iteration 1100
1992 starting iteration 1110
1993 starting iteration 1120
1994 starting iteration 1130
1995 starting iteration 1140
1996 starting iteration 1150
1997 starting iteration 1160
1998 starting iteration 1170
1999 Finished epoch 4 / 15: cost 3.356900, train: 0.484000, val
    0.492260, lr 1.494009e-03
2000 starting iteration 1180
2001 starting iteration 1190
2002 starting iteration 1200
2003 starting iteration 1210
2004 starting iteration 1220
2005 starting iteration 1230
2006 starting iteration 1240
2007 starting iteration 1250
2008 starting iteration 1260
2009 starting iteration 1270
2010 starting iteration 1280
2011 starting iteration 1290
2012 starting iteration 1300
2013 starting iteration 1310
2014 starting iteration 1320
2015 starting iteration 1330
2016 starting iteration 1340
2017 starting iteration 1350
2018 starting iteration 1360
2019 starting iteration 1370
2020 starting iteration 1380
2021 starting iteration 1390
2022 starting iteration 1400
2023 starting iteration 1410
2024 starting iteration 1420
2025 starting iteration 1430
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2026 starting iteration 1440
2027 starting iteration 1450
2028 starting iteration 1460
2029 Finished epoch 5 / 15: cost 3.180589, train: 0.487000, val
    0.492260, lr 1.492515e-03
2030 starting iteration 1470
2031 starting iteration 1480
2032 starting iteration 1490
2033 starting iteration 1500
2034 starting iteration 1510
2035 starting iteration 1520
2036 starting iteration 1530
2037 starting iteration 1540
2038 starting iteration 1550
2039 starting iteration 1560
2040 starting iteration 1570
2041 starting iteration 1580
2042 starting iteration 1590
2043 starting iteration 1600
2044 starting iteration 1610
2045 starting iteration 1620
2046 starting iteration 1630
2047 starting iteration 1640
2048 starting iteration 1650
2049 starting iteration 1660
2050 starting iteration 1670
2051 starting iteration 1680
2052 starting iteration 1690
2053 starting iteration 1700
2054 starting iteration 1710
2055 starting iteration 1720
2056 starting iteration 1730
2057 starting iteration 1740
2058 starting iteration 1750
2059 Finished epoch 6 / 15: cost 3.015101, train: 0.512000, val
    0.492260, lr 1.491022e-03
2060 starting iteration 1760
2061 starting iteration 1770
2062 starting iteration 1780
2063 starting iteration 1790
2064 starting iteration 1800
2065 starting iteration 1810
2066 starting iteration 1820
2067 starting iteration 1830
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2068 starting iteration 1840
2069 starting iteration 1850
2070 starting iteration 1860
2071 starting iteration 1870
2072 starting iteration 1880
2073 starting iteration 1890
2074 starting iteration 1900
2075 starting iteration 1910
2076 starting iteration 1920
2077 starting iteration 1930
2078 starting iteration 1940
2079 starting iteration 1950
2080 starting iteration 1960
2081 starting iteration 1970
2082 starting iteration 1980
2083 starting iteration 1990
2084 starting iteration 2000
2085 starting iteration 2010
2086 starting iteration 2020
2087 starting iteration 2030
2088 starting iteration 2040
2089 starting iteration 2050
2090 Finished epoch 7 / 15: cost 2.840275, train: 0.484000, val
    0.492260, lr 1.489531e-03
2091 starting iteration 2060
2092 starting iteration 2070
2093 starting iteration 2080
2094 starting iteration 2090
2095 starting iteration 2100
2096 starting iteration 2110
2097 starting iteration 2120
2098 starting iteration 2130
2099 starting iteration 2140
2100 starting iteration 2150
2101 starting iteration 2160
2102 starting iteration 2170
2103 starting iteration 2180
2104 starting iteration 2190
2105 starting iteration 2200
2106 starting iteration 2210
2107 starting iteration 2220
2108 starting iteration 2230
2109 starting iteration 2240
2110 starting iteration 2250
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2111 starting iteration 2260
2112 starting iteration 2270
2113 starting iteration 2280
2114 starting iteration 2290
2115 starting iteration 2300
2116 starting iteration 2310
2117 starting iteration 2320
2118 starting iteration 2330
2119 starting iteration 2340
2120 Finished epoch 8 / 15: cost 2.683572, train: 0.481000, val
    0.492260, lr 1.488042e-03
2121 starting iteration 2350
2122 starting iteration 2360
2123 starting iteration 2370
2124 starting iteration 2380
2125 starting iteration 2390
2126 starting iteration 2400
2127 starting iteration 2410
2128 starting iteration 2420
2129 starting iteration 2430
2130 starting iteration 2440
2131 starting iteration 2450
2132 starting iteration 2460
2133 starting iteration 2470
2134 starting iteration 2480
2135 starting iteration 2490
2136 starting iteration 2500
2137 starting iteration 2510
2138 starting iteration 2520
2139 starting iteration 2530
2140 starting iteration 2540
2141 starting iteration 2550
2142 starting iteration 2560
2143 starting iteration 2570
2144 starting iteration 2580
2145 starting iteration 2590
2146 starting iteration 2600
2147 starting iteration 2610
2148 starting iteration 2620
2149 starting iteration 2630
2150 Finished epoch 9 / 15: cost 2.533946, train: 0.492000, val
    0.492260, lr 1.486554e-03
2151 starting iteration 2640
2152 starting iteration 2650
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2153 starting iteration 2660
2154 starting iteration 2670
2155 starting iteration 2680
2156 starting iteration 2690
2157 starting iteration 2700
2158 starting iteration 2710
2159 starting iteration 2720
2160 starting iteration 2730
2161 starting iteration 2740
2162 starting iteration 2750
2163 starting iteration 2760
2164 starting iteration 2770
2165 starting iteration 2780
2166 starting iteration 2790
2167 starting iteration 2800
2168 starting iteration 2810
2169 starting iteration 2820
2170 starting iteration 2830
2171 starting iteration 2840
2172 starting iteration 2850
2173 starting iteration 2860
2174 starting iteration 2870
2175 starting iteration 2880
2176 starting iteration 2890
2177 starting iteration 2900
2178 starting iteration 2910
2179 starting iteration 2920
2180 Finished epoch 10 / 15: cost 2.351456, train: 0.518000,
    val 0.492260, lr 1.485067e-03
2181 starting iteration 2930
2182 starting iteration 2940
2183 starting iteration 2950
2184 starting iteration 2960
2185 starting iteration 2970
2186 starting iteration 2980
2187 starting iteration 2990
2188 starting iteration 3000
2189 starting iteration 3010
2190 starting iteration 3020
2191 starting iteration 3030
2192 starting iteration 3040
2193 starting iteration 3050
2194 starting iteration 3060
2195 starting iteration 3070
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2196 starting iteration 3080
2197 starting iteration 3090
2198 starting iteration 3100
2199 starting iteration 3110
2200 starting iteration 3120
2201 starting iteration 3130
2202 starting iteration 3140
2203 starting iteration 3150
2204 starting iteration 3160
2205 starting iteration 3170
2206 starting iteration 3180
2207 starting iteration 3190
2208 starting iteration 3200
2209 starting iteration 3210
2210 starting iteration 3220
2211 Finished epoch 11 / 15: cost 2.265141, train: 0.518000,
val 0.492260, lr 1.483582e-03
2212 starting iteration 3230
2213 starting iteration 3240
2214 starting iteration 3250
2215 starting iteration 3260
2216 starting iteration 3270
2217 starting iteration 3280
2218 starting iteration 3290
2219 starting iteration 3300
2220 starting iteration 3310
2221 starting iteration 3320
2222 starting iteration 3330
2223 starting iteration 3340
2224 starting iteration 3350
2225 starting iteration 3360
2226 starting iteration 3370
2227 starting iteration 3380
2228 starting iteration 3390
2229 starting iteration 3400
2230 starting iteration 3410
2231 starting iteration 3420
2232 starting iteration 3430
2233 starting iteration 3440
2234 starting iteration 3450
2235 starting iteration 3460
2236 starting iteration 3470
2237 starting iteration 3480
2238 starting iteration 3490
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2239 starting iteration 3500
2240 starting iteration 3510
2241 Finished epoch 12 / 15: cost 2.125787, train: 0.503000,
    val 0.492260, lr 1.482099e-03
2242 starting iteration 3520
2243 starting iteration 3530
2244 starting iteration 3540
2245 starting iteration 3550
2246 starting iteration 3560
2247 starting iteration 3570
2248 starting iteration 3580
2249 starting iteration 3590
2250 starting iteration 3600
2251 starting iteration 3610
2252 starting iteration 3620
2253 starting iteration 3630
2254 starting iteration 3640
2255 starting iteration 3650
2256 starting iteration 3660
2257 starting iteration 3670
2258 starting iteration 3680
2259 starting iteration 3690
2260 starting iteration 3700
2261 starting iteration 3710
2262 starting iteration 3720
2263 starting iteration 3730
2264 starting iteration 3740
2265 starting iteration 3750
2266 starting iteration 3760
2267 starting iteration 3770
2268 starting iteration 3780
2269 starting iteration 3790
2270 starting iteration 3800
2271 Finished epoch 13 / 15: cost 1.973968, train: 0.496000,
    val 0.492260, lr 1.480617e-03
2272 starting iteration 3810
2273 starting iteration 3820
2274 starting iteration 3830
2275 starting iteration 3840
2276 starting iteration 3850
2277 starting iteration 3860
2278 starting iteration 3870
2279 starting iteration 3880
2280 starting iteration 3890
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2281 starting iteration 3900
2282 starting iteration 3910
2283 starting iteration 3920
2284 starting iteration 3930
2285 starting iteration 3940
2286 starting iteration 3950
2287 starting iteration 3960
2288 starting iteration 3970
2289 starting iteration 3980
2290 starting iteration 3990
2291 starting iteration 4000
2292 starting iteration 4010
2293 starting iteration 4020
2294 starting iteration 4030
2295 starting iteration 4040
2296 starting iteration 4050
2297 starting iteration 4060
2298 starting iteration 4070
2299 starting iteration 4080
2300 starting iteration 4090
2301 starting iteration 4100
2302 Finished epoch 14 / 15: cost 1.886632, train: 0.481000,
    val 0.492260, lr 1.479136e-03
2303 starting iteration 4110
2304 starting iteration 4120
2305 starting iteration 4130
2306 starting iteration 4140
2307 starting iteration 4150
2308 starting iteration 4160
2309 starting iteration 4170
2310 starting iteration 4180
2311 starting iteration 4190
2312 starting iteration 4200
2313 starting iteration 4210
2314 starting iteration 4220
2315 starting iteration 4230
2316 starting iteration 4240
2317 starting iteration 4250
2318 starting iteration 4260
2319 starting iteration 4270
2320 starting iteration 4280
2321 starting iteration 4290
2322 starting iteration 4300
2323 starting iteration 4310
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2324 starting iteration 4320
2325 starting iteration 4330
2326 starting iteration 4340
2327 starting iteration 4350
2328 starting iteration 4360
2329 starting iteration 4370
2330 starting iteration 4380
2331 starting iteration 4390
2332 Finished epoch 15 / 15: cost 1.796330, train: 0.501000,
    val 0.492260, lr 1.477657e-03
2333 finished optimization. best validation accuracy: 0.492260
2334 (108889, 6, 8, 8) (108889,) (21778, 6, 8, 8) (21778,)
2335 starting iteration 0
2336 Finished epoch 0 / 15: cost 4.158883, train: 0.504000, val
    0.501106, lr 1.500000e-03
2337 starting iteration 10
2338 starting iteration 20
2339 starting iteration 30
2340 starting iteration 40
2341 starting iteration 50
2342 starting iteration 60
2343 starting iteration 70
2344 starting iteration 80
2345 starting iteration 90
2346 starting iteration 100
2347 starting iteration 110
2348 starting iteration 120
2349 starting iteration 130
2350 starting iteration 140
2351 starting iteration 150
2352 starting iteration 160
2353 starting iteration 170
2354 starting iteration 180
2355 starting iteration 190
2356 starting iteration 200
2357 starting iteration 210
2358 starting iteration 220
2359 starting iteration 230
2360 starting iteration 240
2361 starting iteration 250
2362 starting iteration 260
2363 starting iteration 270
2364 starting iteration 280
2365 starting iteration 290
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2366 starting iteration 300
2367 starting iteration 310
2368 starting iteration 320
2369 starting iteration 330
2370 starting iteration 340
2371 starting iteration 350
2372 starting iteration 360
2373 starting iteration 370
2374 starting iteration 380
2375 starting iteration 390
2376 starting iteration 400
2377 starting iteration 410
2378 starting iteration 420
2379 starting iteration 430
2380 Finished epoch 1 / 15: cost 3.895378, train: 0.504000, val
    0.501106, lr 1.498500e-03
2381 starting iteration 440
2382 starting iteration 450
2383 starting iteration 460
2384 starting iteration 470
2385 starting iteration 480
2386 starting iteration 490
2387 starting iteration 500
2388 starting iteration 510
2389 starting iteration 520
2390 starting iteration 530
2391 starting iteration 540
2392 starting iteration 550
2393 starting iteration 560
2394 starting iteration 570
2395 starting iteration 580
2396 starting iteration 590
2397 starting iteration 600
2398 starting iteration 610
2399 starting iteration 620
2400 starting iteration 630
2401 starting iteration 640
2402 starting iteration 650
2403 starting iteration 660
2404 starting iteration 670
2405 starting iteration 680
2406 starting iteration 690
2407 starting iteration 700
2408 starting iteration 710
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2409 starting iteration 720
2410 starting iteration 730
2411 starting iteration 740
2412 starting iteration 750
2413 starting iteration 760
2414 starting iteration 770
2415 starting iteration 780
2416 starting iteration 790
2417 starting iteration 800
2418 starting iteration 810
2419 starting iteration 820
2420 starting iteration 830
2421 starting iteration 840
2422 starting iteration 850
2423 starting iteration 860
2424 Finished epoch 2 / 15: cost 3.618775, train: 0.518000, val
    0.501106, lr 1.497002e-03
2425 starting iteration 870
2426 starting iteration 880
2427 starting iteration 890
2428 starting iteration 900
2429 starting iteration 910
2430 starting iteration 920
2431 starting iteration 930
2432 starting iteration 940
2433 starting iteration 950
2434 starting iteration 960
2435 starting iteration 970
2436 starting iteration 980
2437 starting iteration 990
2438 starting iteration 1000
2439 starting iteration 1010
2440 starting iteration 1020
2441 starting iteration 1030
2442 starting iteration 1040
2443 starting iteration 1050
2444 starting iteration 1060
2445 starting iteration 1070
2446 starting iteration 1080
2447 starting iteration 1090
2448 starting iteration 1100
2449 starting iteration 1110
2450 starting iteration 1120
2451 starting iteration 1130
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2452 starting iteration 1140
2453 starting iteration 1150
2454 starting iteration 1160
2455 starting iteration 1170
2456 starting iteration 1180
2457 starting iteration 1190
2458 starting iteration 1200
2459 starting iteration 1210
2460 starting iteration 1220
2461 starting iteration 1230
2462 starting iteration 1240
2463 starting iteration 1250
2464 starting iteration 1260
2465 starting iteration 1270
2466 starting iteration 1280
2467 starting iteration 1290
2468 starting iteration 1300
2469 Finished epoch 3 / 15: cost 3.358574, train: 0.481000, val
    0.501106, lr 1.495504e-03
2470 starting iteration 1310
2471 starting iteration 1320
2472 starting iteration 1330
2473 starting iteration 1340
2474 starting iteration 1350
2475 starting iteration 1360
2476 starting iteration 1370
2477 starting iteration 1380
2478 starting iteration 1390
2479 starting iteration 1400
2480 starting iteration 1410
2481 starting iteration 1420
2482 starting iteration 1430
2483 starting iteration 1440
2484 starting iteration 1450
2485 starting iteration 1460
2486 starting iteration 1470
2487 starting iteration 1480
2488 starting iteration 1490
2489 starting iteration 1500
2490 starting iteration 1510
2491 starting iteration 1520
2492 starting iteration 1530
2493 starting iteration 1540
2494 starting iteration 1550
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2495 starting iteration 1560
2496 starting iteration 1570
2497 starting iteration 1580
2498 starting iteration 1590
2499 starting iteration 1600
2500 starting iteration 1610
2501 starting iteration 1620
2502 starting iteration 1630
2503 starting iteration 1640
2504 starting iteration 1650
2505 starting iteration 1660
2506 starting iteration 1670
2507 starting iteration 1680
2508 starting iteration 1690
2509 starting iteration 1700
2510 starting iteration 1710
2511 starting iteration 1720
2512 starting iteration 1730
2513 Finished epoch 4 / 15: cost 3.172727, train: 0.516000, val
    0.501106, lr 1.494009e-03
2514 starting iteration 1740
2515 starting iteration 1750
2516 starting iteration 1760
2517 starting iteration 1770
2518 starting iteration 1780
2519 starting iteration 1790
2520 starting iteration 1800
2521 starting iteration 1810
2522 starting iteration 1820
2523 starting iteration 1830
2524 starting iteration 1840
2525 starting iteration 1850
2526 starting iteration 1860
2527 starting iteration 1870
2528 starting iteration 1880
2529 starting iteration 1890
2530 starting iteration 1900
2531 starting iteration 1910
2532 starting iteration 1920
2533 starting iteration 1930
2534 starting iteration 1940
2535 starting iteration 1950
2536 starting iteration 1960
2537 starting iteration 1970
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2538 starting iteration 1980
2539 starting iteration 1990
2540 starting iteration 2000
2541 starting iteration 2010
2542 starting iteration 2020
2543 starting iteration 2030
2544 starting iteration 2040
2545 starting iteration 2050
2546 starting iteration 2060
2547 starting iteration 2070
2548 starting iteration 2080
2549 starting iteration 2090
2550 starting iteration 2100
2551 starting iteration 2110
2552 starting iteration 2120
2553 starting iteration 2130
2554 starting iteration 2140
2555 starting iteration 2150
2556 starting iteration 2160
2557 starting iteration 2170
2558 Finished epoch 5 / 15: cost 2.909836, train: 0.532000, val
    0.501106, lr 1.492515e-03
2559 starting iteration 2180
2560 starting iteration 2190
2561 starting iteration 2200
2562 starting iteration 2210
2563 starting iteration 2220
2564 starting iteration 2230
2565 starting iteration 2240
2566 starting iteration 2250
2567 starting iteration 2260
2568 starting iteration 2270
2569 starting iteration 2280
2570 starting iteration 2290
2571 starting iteration 2300
2572 starting iteration 2310
2573 starting iteration 2320
2574 starting iteration 2330
2575 starting iteration 2340
2576 starting iteration 2350
2577 starting iteration 2360
2578 starting iteration 2370
2579 starting iteration 2380
2580 starting iteration 2390
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2581 starting iteration 2400
2582 starting iteration 2410
2583 starting iteration 2420
2584 starting iteration 2430
2585 starting iteration 2440
2586 starting iteration 2450
2587 starting iteration 2460
2588 starting iteration 2470
2589 starting iteration 2480
2590 starting iteration 2490
2591 starting iteration 2500
2592 starting iteration 2510
2593 starting iteration 2520
2594 starting iteration 2530
2595 starting iteration 2540
2596 starting iteration 2550
2597 starting iteration 2560
2598 starting iteration 2570
2599 starting iteration 2580
2600 starting iteration 2590
2601 starting iteration 2600
2602 Finished epoch 6 / 15: cost 2.723347, train: 0.491000, val
    0.501106, lr 1.491022e-03
2603 starting iteration 2610
2604 starting iteration 2620
2605 starting iteration 2630
2606 starting iteration 2640
2607 starting iteration 2650
2608 starting iteration 2660
2609 starting iteration 2670
2610 starting iteration 2680
2611 starting iteration 2690
2612 starting iteration 2700
2613 starting iteration 2710
2614 starting iteration 2720
2615 starting iteration 2730
2616 starting iteration 2740
2617 starting iteration 2750
2618 starting iteration 2760
2619 starting iteration 2770
2620 starting iteration 2780
2621 starting iteration 2790
2622 starting iteration 2800
2623 starting iteration 2810
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2624 starting iteration 2820
2625 starting iteration 2830
2626 starting iteration 2840
2627 starting iteration 2850
2628 starting iteration 2860
2629 starting iteration 2870
2630 starting iteration 2880
2631 starting iteration 2890
2632 starting iteration 2900
2633 starting iteration 2910
2634 starting iteration 2920
2635 starting iteration 2930
2636 starting iteration 2940
2637 starting iteration 2950
2638 starting iteration 2960
2639 starting iteration 2970
2640 starting iteration 2980
2641 starting iteration 2990
2642 starting iteration 3000
2643 starting iteration 3010
2644 starting iteration 3020
2645 starting iteration 3030
2646 starting iteration 3040
2647 Finished epoch 7 / 15: cost 2.528237, train: 0.501000, val
    0.501106, lr 1.489531e-03
2648 starting iteration 3050
2649 starting iteration 3060
2650 starting iteration 3070
2651 starting iteration 3080
2652 starting iteration 3090
2653 starting iteration 3100
2654 starting iteration 3110
2655 starting iteration 3120
2656 starting iteration 3130
2657 starting iteration 3140
2658 starting iteration 3150
2659 starting iteration 3160
2660 starting iteration 3170
2661 starting iteration 3180
2662 starting iteration 3190
2663 starting iteration 3200
2664 starting iteration 3210
2665 starting iteration 3220
2666 starting iteration 3230
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2667 starting iteration 3240
2668 starting iteration 3250
2669 starting iteration 3260
2670 starting iteration 3270
2671 starting iteration 3280
2672 starting iteration 3290
2673 starting iteration 3300
2674 starting iteration 3310
2675 starting iteration 3320
2676 starting iteration 3330
2677 starting iteration 3340
2678 starting iteration 3350
2679 starting iteration 3360
2680 starting iteration 3370
2681 starting iteration 3380
2682 starting iteration 3390
2683 starting iteration 3400
2684 starting iteration 3410
2685 starting iteration 3420
2686 starting iteration 3430
2687 starting iteration 3440
2688 starting iteration 3450
2689 starting iteration 3460
2690 starting iteration 3470
2691 Finished epoch 8 / 15: cost 2.356964, train: 0.497000, val
    0.501106, lr 1.488042e-03
2692 starting iteration 3480
2693 starting iteration 3490
2694 starting iteration 3500
2695 starting iteration 3510
2696 starting iteration 3520
2697 starting iteration 3530
2698 starting iteration 3540
2699 starting iteration 3550
2700 starting iteration 3560
2701 starting iteration 3570
2702 starting iteration 3580
2703 starting iteration 3590
2704 starting iteration 3600
2705 starting iteration 3610
2706 starting iteration 3620
2707 starting iteration 3630
2708 starting iteration 3640
2709 starting iteration 3650
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2710 starting iteration 3660
2711 starting iteration 3670
2712 starting iteration 3680
2713 starting iteration 3690
2714 starting iteration 3700
2715 starting iteration 3710
2716 starting iteration 3720
2717 starting iteration 3730
2718 starting iteration 3740
2719 starting iteration 3750
2720 starting iteration 3760
2721 starting iteration 3770
2722 starting iteration 3780
2723 starting iteration 3790
2724 starting iteration 3800
2725 starting iteration 3810
2726 starting iteration 3820
2727 starting iteration 3830
2728 starting iteration 3840
2729 starting iteration 3850
2730 starting iteration 3860
2731 starting iteration 3870
2732 starting iteration 3880
2733 starting iteration 3890
2734 starting iteration 3900
2735 starting iteration 3910
2736 Finished epoch 9 / 15: cost 2.224993, train: 0.508000, val
    0.501106, lr 1.486554e-03
2737 starting iteration 3920
2738 starting iteration 3930
2739 starting iteration 3940
2740 starting iteration 3950
2741 starting iteration 3960
2742 starting iteration 3970
2743 starting iteration 3980
2744 starting iteration 3990
2745 starting iteration 4000
2746 starting iteration 4010
2747 starting iteration 4020
2748 starting iteration 4030
2749 starting iteration 4040
2750 starting iteration 4050
2751 starting iteration 4060
2752 starting iteration 4070
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2753 starting iteration 4080
2754 starting iteration 4090
2755 starting iteration 4100
2756 starting iteration 4110
2757 starting iteration 4120
2758 starting iteration 4130
2759 starting iteration 4140
2760 starting iteration 4150
2761 starting iteration 4160
2762 starting iteration 4170
2763 starting iteration 4180
2764 starting iteration 4190
2765 starting iteration 4200
2766 starting iteration 4210
2767 starting iteration 4220
2768 starting iteration 4230
2769 starting iteration 4240
2770 starting iteration 4250
2771 starting iteration 4260
2772 starting iteration 4270
2773 starting iteration 4280
2774 starting iteration 4290
2775 starting iteration 4300
2776 starting iteration 4310
2777 starting iteration 4320
2778 starting iteration 4330
2779 starting iteration 4340
2780 Finished epoch 10 / 15: cost 2.009443, train: 0.500000,
    val 0.501106, lr 1.485067e-03
2781 starting iteration 4350
2782 starting iteration 4360
2783 starting iteration 4370
2784 starting iteration 4380
2785 starting iteration 4390
2786 starting iteration 4400
2787 starting iteration 4410
2788 starting iteration 4420
2789 starting iteration 4430
2790 starting iteration 4440
2791 starting iteration 4450
2792 starting iteration 4460
2793 starting iteration 4470
2794 starting iteration 4480
2795 starting iteration 4490
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2796 starting iteration 4500
2797 starting iteration 4510
2798 starting iteration 4520
2799 starting iteration 4530
2800 starting iteration 4540
2801 starting iteration 4550
2802 starting iteration 4560
2803 starting iteration 4570
2804 starting iteration 4580
2805 starting iteration 4590
2806 starting iteration 4600
2807 starting iteration 4610
2808 starting iteration 4620
2809 starting iteration 4630
2810 starting iteration 4640
2811 starting iteration 4650
2812 starting iteration 4660
2813 starting iteration 4670
2814 starting iteration 4680
2815 starting iteration 4690
2816 starting iteration 4700
2817 starting iteration 4710
2818 starting iteration 4720
2819 starting iteration 4730
2820 starting iteration 4740
2821 starting iteration 4750
2822 starting iteration 4760
2823 starting iteration 4770
2824 starting iteration 4780
2825 Finished epoch 11 / 15: cost 1.928687, train: 0.480000,
    val 0.501106, lr 1.483582e-03
2826 starting iteration 4790
2827 starting iteration 4800
2828 starting iteration 4810
2829 starting iteration 4820
2830 starting iteration 4830
2831 starting iteration 4840
2832 starting iteration 4850
2833 starting iteration 4860
2834 starting iteration 4870
2835 starting iteration 4880
2836 starting iteration 4890
2837 starting iteration 4900
2838 starting iteration 4910
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2839 starting iteration 4920
2840 starting iteration 4930
2841 starting iteration 4940
2842 starting iteration 4950
2843 starting iteration 4960
2844 starting iteration 4970
2845 starting iteration 4980
2846 starting iteration 4990
2847 starting iteration 5000
2848 starting iteration 5010
2849 starting iteration 5020
2850 starting iteration 5030
2851 starting iteration 5040
2852 starting iteration 5050
2853 starting iteration 5060
2854 starting iteration 5070
2855 starting iteration 5080
2856 starting iteration 5090
2857 starting iteration 5100
2858 starting iteration 5110
2859 starting iteration 5120
2860 starting iteration 5130
2861 starting iteration 5140
2862 starting iteration 5150
2863 starting iteration 5160
2864 starting iteration 5170
2865 starting iteration 5180
2866 starting iteration 5190
2867 starting iteration 5200
2868 starting iteration 5210
2869 Finished epoch 12 / 15: cost 1.787976, train: 0.495000,
val 0.501106, lr 1.482099e-03
2870 starting iteration 5220
2871 starting iteration 5230
2872 starting iteration 5240
2873 starting iteration 5250
2874 starting iteration 5260
2875 starting iteration 5270
2876 starting iteration 5280
2877 starting iteration 5290
2878 starting iteration 5300
2879 starting iteration 5310
2880 starting iteration 5320
2881 starting iteration 5330
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2882 starting iteration 5340
2883 starting iteration 5350
2884 starting iteration 5360
2885 starting iteration 5370
2886 starting iteration 5380
2887 starting iteration 5390
2888 starting iteration 5400
2889 starting iteration 5410
2890 starting iteration 5420
2891 starting iteration 5430
2892 starting iteration 5440
2893 starting iteration 5450
2894 starting iteration 5460
2895 starting iteration 5470
2896 starting iteration 5480
2897 starting iteration 5490
2898 starting iteration 5500
2899 starting iteration 5510
2900 starting iteration 5520
2901 starting iteration 5530
2902 starting iteration 5540
2903 starting iteration 5550
2904 starting iteration 5560
2905 starting iteration 5570
2906 starting iteration 5580
2907 starting iteration 5590
2908 starting iteration 5600
2909 starting iteration 5610
2910 starting iteration 5620
2911 starting iteration 5630
2912 starting iteration 5640
2913 starting iteration 5650
2914 Finished epoch 13 / 15: cost 1.792656, train: 0.507000,
val 0.501106, lr 1.480617e-03
2915 starting iteration 5660
2916 starting iteration 5670
2917 starting iteration 5680
2918 starting iteration 5690
2919 starting iteration 5700
2920 starting iteration 5710
2921 starting iteration 5720
2922 starting iteration 5730
2923 starting iteration 5740
2924 starting iteration 5750
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2925 starting iteration 5760
2926 starting iteration 5770
2927 starting iteration 5780
2928 starting iteration 5790
2929 starting iteration 5800
2930 starting iteration 5810
2931 starting iteration 5820
2932 starting iteration 5830
2933 starting iteration 5840
2934 starting iteration 5850
2935 starting iteration 5860
2936 starting iteration 5870
2937 starting iteration 5880
2938 starting iteration 5890
2939 starting iteration 5900
2940 starting iteration 5910
2941 starting iteration 5920
2942 starting iteration 5930
2943 starting iteration 5940
2944 starting iteration 5950
2945 starting iteration 5960
2946 starting iteration 5970
2947 starting iteration 5980
2948 starting iteration 5990
2949 starting iteration 6000
2950 starting iteration 6010
2951 starting iteration 6020
2952 starting iteration 6030
2953 starting iteration 6040
2954 starting iteration 6050
2955 starting iteration 6060
2956 starting iteration 6070
2957 starting iteration 6080
2958 Finished epoch 14 / 15: cost 1.681314, train: 0.507000,
                           val 0.501106, lr 1.479136e-03
2959 starting iteration 6090
2960 starting iteration 6100
2961 starting iteration 6110
2962 starting iteration 6120
2963 starting iteration 6130
2964 starting iteration 6140
2965 starting iteration 6150
2966 starting iteration 6160
2967 starting iteration 6170
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2968 starting iteration 6180
2969 starting iteration 6190
2970 starting iteration 6200
2971 starting iteration 6210
2972 starting iteration 6220
2973 starting iteration 6230
2974 starting iteration 6240
2975 starting iteration 6250
2976 starting iteration 6260
2977 starting iteration 6270
2978 starting iteration 6280
2979 starting iteration 6290
2980 starting iteration 6300
2981 starting iteration 6310
2982 starting iteration 6320
2983 starting iteration 6330
2984 starting iteration 6340
2985 starting iteration 6350
2986 starting iteration 6360
2987 starting iteration 6370
2988 starting iteration 6380
2989 starting iteration 6390
2990 starting iteration 6400
2991 starting iteration 6410
2992 starting iteration 6420
2993 starting iteration 6430
2994 starting iteration 6440
2995 starting iteration 6450
2996 starting iteration 6460
2997 starting iteration 6470
2998 starting iteration 6480
2999 starting iteration 6490
3000 starting iteration 6500
3001 starting iteration 6510
3002 starting iteration 6520
3003 Finished epoch 15 / 15: cost 1.611953, train: 0.484000,
    val 0.501106, lr 1.477657e-03
3004 finished optimization. best validation accuracy: 0.501106
3005 (107699, 6, 8, 8) (107699,) (21540, 6, 8, 8) (21540,)
3006 starting iteration 0
3007 Finished epoch 0 / 15: cost 4.158883, train: 0.498000, val
    0.499209, lr 1.500000e-03
3008 starting iteration 10
3009 starting iteration 20
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3010 starting iteration 30
3011 starting iteration 40
3012 starting iteration 50
3013 starting iteration 60
3014 starting iteration 70
3015 starting iteration 80
3016 starting iteration 90
3017 starting iteration 100
3018 starting iteration 110
3019 starting iteration 120
3020 starting iteration 130
3021 starting iteration 140
3022 starting iteration 150
3023 starting iteration 160
3024 starting iteration 170
3025 starting iteration 180
3026 starting iteration 190
3027 starting iteration 200
3028 starting iteration 210
3029 starting iteration 220
3030 starting iteration 230
3031 starting iteration 240
3032 starting iteration 250
3033 starting iteration 260
3034 starting iteration 270
3035 starting iteration 280
3036 starting iteration 290
3037 starting iteration 300
3038 starting iteration 310
3039 starting iteration 320
3040 starting iteration 330
3041 starting iteration 340
3042 starting iteration 350
3043 starting iteration 360
3044 starting iteration 370
3045 starting iteration 380
3046 starting iteration 390
3047 starting iteration 400
3048 starting iteration 410
3049 starting iteration 420
3050 Finished epoch 1 / 15: cost 3.871383, train: 0.500000, val
    0.499209, lr 1.498500e-03
3051 starting iteration 430
3052 starting iteration 440
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3053 starting iteration 450
3054 starting iteration 460
3055 starting iteration 470
3056 starting iteration 480
3057 starting iteration 490
3058 starting iteration 500
3059 starting iteration 510
3060 starting iteration 520
3061 starting iteration 530
3062 starting iteration 540
3063 starting iteration 550
3064 starting iteration 560
3065 starting iteration 570
3066 starting iteration 580
3067 starting iteration 590
3068 starting iteration 600
3069 starting iteration 610
3070 starting iteration 620
3071 starting iteration 630
3072 starting iteration 640
3073 starting iteration 650
3074 starting iteration 660
3075 starting iteration 670
3076 starting iteration 680
3077 starting iteration 690
3078 starting iteration 700
3079 starting iteration 710
3080 starting iteration 720
3081 starting iteration 730
3082 starting iteration 740
3083 starting iteration 750
3084 starting iteration 760
3085 starting iteration 770
3086 starting iteration 780
3087 starting iteration 790
3088 starting iteration 800
3089 starting iteration 810
3090 starting iteration 820
3091 starting iteration 830
3092 starting iteration 840
3093 starting iteration 850
3094 Finished epoch 2 / 15: cost 3.579817, train: 0.473000, val
    0.499209, lr 1.497002e-03
3095 starting iteration 860
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3096 starting iteration 870
3097 starting iteration 880
3098 starting iteration 890
3099 starting iteration 900
3100 starting iteration 910
3101 starting iteration 920
3102 starting iteration 930
3103 starting iteration 940
3104 starting iteration 950
3105 starting iteration 960
3106 starting iteration 970
3107 starting iteration 980
3108 starting iteration 990
3109 starting iteration 1000
3110 starting iteration 1010
3111 starting iteration 1020
3112 starting iteration 1030
3113 starting iteration 1040
3114 starting iteration 1050
3115 starting iteration 1060
3116 starting iteration 1070
3117 starting iteration 1080
3118 starting iteration 1090
3119 starting iteration 1100
3120 starting iteration 1110
3121 starting iteration 1120
3122 starting iteration 1130
3123 starting iteration 1140
3124 starting iteration 1150
3125 starting iteration 1160
3126 starting iteration 1170
3127 starting iteration 1180
3128 starting iteration 1190
3129 starting iteration 1200
3130 starting iteration 1210
3131 starting iteration 1220
3132 starting iteration 1230
3133 starting iteration 1240
3134 starting iteration 1250
3135 starting iteration 1260
3136 starting iteration 1270
3137 starting iteration 1280
3138 Finished epoch 3 / 15: cost 3.315012, train: 0.516000, val
    0.499209, lr 1.495504e-03
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3139 starting iteration 1290
3140 starting iteration 1300
3141 starting iteration 1310
3142 starting iteration 1320
3143 starting iteration 1330
3144 starting iteration 1340
3145 starting iteration 1350
3146 starting iteration 1360
3147 starting iteration 1370
3148 starting iteration 1380
3149 starting iteration 1390
3150 starting iteration 1400
3151 starting iteration 1410
3152 starting iteration 1420
3153 starting iteration 1430
3154 starting iteration 1440
3155 starting iteration 1450
3156 starting iteration 1460
3157 starting iteration 1470
3158 starting iteration 1480
3159 starting iteration 1490
3160 starting iteration 1500
3161 starting iteration 1510
3162 starting iteration 1520
3163 starting iteration 1530
3164 starting iteration 1540
3165 starting iteration 1550
3166 starting iteration 1560
3167 starting iteration 1570
3168 starting iteration 1580
3169 starting iteration 1590
3170 starting iteration 1600
3171 starting iteration 1610
3172 starting iteration 1620
3173 starting iteration 1630
3174 starting iteration 1640
3175 starting iteration 1650
3176 starting iteration 1660
3177 starting iteration 1670
3178 starting iteration 1680
3179 starting iteration 1690
3180 starting iteration 1700
3181 starting iteration 1710
3182 Finished epoch 4 / 15: cost 3.094150, train: 0.485000, val
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3182 0.499209, lr 1.494009e-03
3183 starting iteration 1720
3184 starting iteration 1730
3185 starting iteration 1740
3186 starting iteration 1750
3187 starting iteration 1760
3188 starting iteration 1770
3189 starting iteration 1780
3190 starting iteration 1790
3191 starting iteration 1800
3192 starting iteration 1810
3193 starting iteration 1820
3194 starting iteration 1830
3195 starting iteration 1840
3196 starting iteration 1850
3197 starting iteration 1860
3198 starting iteration 1870
3199 starting iteration 1880
3200 starting iteration 1890
3201 starting iteration 1900
3202 starting iteration 1910
3203 starting iteration 1920
3204 starting iteration 1930
3205 starting iteration 1940
3206 starting iteration 1950
3207 starting iteration 1960
3208 starting iteration 1970
3209 starting iteration 1980
3210 starting iteration 1990
3211 starting iteration 2000
3212 starting iteration 2010
3213 starting iteration 2020
3214 starting iteration 2030
3215 starting iteration 2040
3216 starting iteration 2050
3217 starting iteration 2060
3218 starting iteration 2070
3219 starting iteration 2080
3220 starting iteration 2090
3221 starting iteration 2100
3222 starting iteration 2110
3223 starting iteration 2120
3224 starting iteration 2130
3225 starting iteration 2140
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3226 Finished epoch 5 / 15: cost 2.840670, train: 0.524000, val  
    0.499209, lr 1.492515e-03  
3227 starting iteration 2150  
3228 starting iteration 2160  
3229 starting iteration 2170  
3230 starting iteration 2180  
3231 starting iteration 2190  
3232 starting iteration 2200  
3233 starting iteration 2210  
3234 starting iteration 2220  
3235 starting iteration 2230  
3236 starting iteration 2240  
3237 starting iteration 2250  
3238 starting iteration 2260  
3239 starting iteration 2270  
3240 starting iteration 2280  
3241 starting iteration 2290  
3242 starting iteration 2300  
3243 starting iteration 2310  
3244 starting iteration 2320  
3245 starting iteration 2330  
3246 starting iteration 2340  
3247 starting iteration 2350  
3248 starting iteration 2360  
3249 starting iteration 2370  
3250 starting iteration 2380  
3251 starting iteration 2390  
3252 starting iteration 2400  
3253 starting iteration 2410  
3254 starting iteration 2420  
3255 starting iteration 2430  
3256 starting iteration 2440  
3257 starting iteration 2450  
3258 starting iteration 2460  
3259 starting iteration 2470  
3260 starting iteration 2480  
3261 starting iteration 2490  
3262 starting iteration 2500  
3263 starting iteration 2510  
3264 starting iteration 2520  
3265 starting iteration 2530  
3266 starting iteration 2540  
3267 starting iteration 2550  
3268 starting iteration 2560
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3269 starting iteration 2570
3270 Finished epoch 6 / 15: cost 2.617959, train: 0.468000, val
    0.499209, lr 1.491022e-03
3271 starting iteration 2580
3272 starting iteration 2590
3273 starting iteration 2600
3274 starting iteration 2610
3275 starting iteration 2620
3276 starting iteration 2630
3277 starting iteration 2640
3278 starting iteration 2650
3279 starting iteration 2660
3280 starting iteration 2670
3281 starting iteration 2680
3282 starting iteration 2690
3283 starting iteration 2700
3284 starting iteration 2710
3285 starting iteration 2720
3286 starting iteration 2730
3287 starting iteration 2740
3288 starting iteration 2750
3289 starting iteration 2760
3290 starting iteration 2770
3291 starting iteration 2780
3292 starting iteration 2790
3293 starting iteration 2800
3294 starting iteration 2810
3295 starting iteration 2820
3296 starting iteration 2830
3297 starting iteration 2840
3298 starting iteration 2850
3299 starting iteration 2860
3300 starting iteration 2870
3301 starting iteration 2880
3302 starting iteration 2890
3303 starting iteration 2900
3304 starting iteration 2910
3305 starting iteration 2920
3306 starting iteration 2930
3307 starting iteration 2940
3308 starting iteration 2950
3309 starting iteration 2960
3310 starting iteration 2970
3311 starting iteration 2980
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3312 starting iteration 2990
3313 starting iteration 3000
3314 Finished epoch 7 / 15: cost 2.394915, train: 0.500000, val
    0.499209, lr 1.489531e-03
3315 starting iteration 3010
3316 starting iteration 3020
3317 starting iteration 3030
3318 starting iteration 3040
3319 starting iteration 3050
3320 starting iteration 3060
3321 starting iteration 3070
3322 starting iteration 3080
3323 starting iteration 3090
3324 starting iteration 3100
3325 starting iteration 3110
3326 starting iteration 3120
3327 starting iteration 3130
3328 starting iteration 3140
3329 starting iteration 3150
3330 starting iteration 3160
3331 starting iteration 3170
3332 starting iteration 3180
3333 starting iteration 3190
3334 starting iteration 3200
3335 starting iteration 3210
3336 starting iteration 3220
3337 starting iteration 3230
3338 starting iteration 3240
3339 starting iteration 3250
3340 starting iteration 3260
3341 starting iteration 3270
3342 starting iteration 3280
3343 starting iteration 3290
3344 starting iteration 3300
3345 starting iteration 3310
3346 starting iteration 3320
3347 starting iteration 3330
3348 starting iteration 3340
3349 starting iteration 3350
3350 starting iteration 3360
3351 starting iteration 3370
3352 starting iteration 3380
3353 starting iteration 3390
3354 starting iteration 3400
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3355 starting iteration 3410
3356 starting iteration 3420
3357 starting iteration 3430
3358 Finished epoch 8 / 15: cost 2.223021, train: 0.487000, val
    0.499209, lr 1.488042e-03
3359 starting iteration 3440
3360 starting iteration 3450
3361 starting iteration 3460
3362 starting iteration 3470
3363 starting iteration 3480
3364 starting iteration 3490
3365 starting iteration 3500
3366 starting iteration 3510
3367 starting iteration 3520
3368 starting iteration 3530
3369 starting iteration 3540
3370 starting iteration 3550
3371 starting iteration 3560
3372 starting iteration 3570
3373 starting iteration 3580
3374 starting iteration 3590
3375 starting iteration 3600
3376 starting iteration 3610
3377 starting iteration 3620
3378 starting iteration 3630
3379 starting iteration 3640
3380 starting iteration 3650
3381 starting iteration 3660
3382 starting iteration 3670
3383 starting iteration 3680
3384 starting iteration 3690
3385 starting iteration 3700
3386 starting iteration 3710
3387 starting iteration 3720
3388 starting iteration 3730
3389 starting iteration 3740
3390 starting iteration 3750
3391 starting iteration 3760
3392 starting iteration 3770
3393 starting iteration 3780
3394 starting iteration 3790
3395 starting iteration 3800
3396 starting iteration 3810
3397 starting iteration 3820
```

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3398 starting iteration 3830
3399 starting iteration 3840
3400 starting iteration 3850
3401 starting iteration 3860
3402 Finished epoch 9 / 15: cost 2.115590, train: 0.506000, val
    0.499209, lr 1.486554e-03
3403 starting iteration 3870
3404 starting iteration 3880
3405 starting iteration 3890
3406 starting iteration 3900
3407 starting iteration 3910
3408 starting iteration 3920
3409 starting iteration 3930
3410 starting iteration 3940
3411 starting iteration 3950
3412 starting iteration 3960
3413 starting iteration 3970
3414 starting iteration 3980
3415 starting iteration 3990
3416 starting iteration 4000
3417 starting iteration 4010
3418 starting iteration 4020
3419 starting iteration 4030
3420 starting iteration 4040
3421 starting iteration 4050
3422 starting iteration 4060
3423 starting iteration 4070
3424 starting iteration 4080
3425 starting iteration 4090
3426 starting iteration 4100
3427 starting iteration 4110
3428 starting iteration 4120
3429 starting iteration 4130
3430 starting iteration 4140
3431 starting iteration 4150
3432 starting iteration 4160
3433 starting iteration 4170
3434 starting iteration 4180
3435 starting iteration 4190
3436 starting iteration 4200
3437 starting iteration 4210
3438 starting iteration 4220
3439 starting iteration 4230
3440 starting iteration 4240
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3441 starting iteration 4250
3442 starting iteration 4260
3443 starting iteration 4270
3444 starting iteration 4280
3445 starting iteration 4290
3446 Finished epoch 10 / 15: cost 1.870491, train: 0.511000,
    val 0.499209, lr 1.485067e-03
3447 starting iteration 4300
3448 starting iteration 4310
3449 starting iteration 4320
3450 starting iteration 4330
3451 starting iteration 4340
3452 starting iteration 4350
3453 starting iteration 4360
3454 starting iteration 4370
3455 starting iteration 4380
3456 starting iteration 4390
3457 starting iteration 4400
3458 starting iteration 4410
3459 starting iteration 4420
3460 starting iteration 4430
3461 starting iteration 4440
3462 starting iteration 4450
3463 starting iteration 4460
3464 starting iteration 4470
3465 starting iteration 4480
3466 starting iteration 4490
3467 starting iteration 4500
3468 starting iteration 4510
3469 starting iteration 4520
3470 starting iteration 4530
3471 starting iteration 4540
3472 starting iteration 4550
3473 starting iteration 4560
3474 starting iteration 4570
3475 starting iteration 4580
3476 starting iteration 4590
3477 starting iteration 4600
3478 starting iteration 4610
3479 starting iteration 4620
3480 starting iteration 4630
3481 starting iteration 4640
3482 starting iteration 4650
3483 starting iteration 4660
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3484 starting iteration 4670
3485 starting iteration 4680
3486 starting iteration 4690
3487 starting iteration 4700
3488 starting iteration 4710
3489 starting iteration 4720
3490 Finished epoch 11 / 15: cost 1.782927, train: 0.515000,
    val 0.499209, lr 1.483582e-03
3491 starting iteration 4730
3492 starting iteration 4740
3493 starting iteration 4750
3494 starting iteration 4760
3495 starting iteration 4770
3496 starting iteration 4780
3497 starting iteration 4790
3498 starting iteration 4800
3499 starting iteration 4810
3500 starting iteration 4820
3501 starting iteration 4830
3502 starting iteration 4840
3503 starting iteration 4850
3504 starting iteration 4860
3505 starting iteration 4870
3506 starting iteration 4880
3507 starting iteration 4890
3508 starting iteration 4900
3509 starting iteration 4910
3510 starting iteration 4920
3511 starting iteration 4930
3512 starting iteration 4940
3513 starting iteration 4950
3514 starting iteration 4960
3515 starting iteration 4970
3516 starting iteration 4980
3517 starting iteration 4990
3518 starting iteration 5000
3519 starting iteration 5010
3520 starting iteration 5020
3521 starting iteration 5030
3522 starting iteration 5040
3523 starting iteration 5050
3524 starting iteration 5060
3525 starting iteration 5070
3526 starting iteration 5080
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3527 starting iteration 5090
3528 starting iteration 5100
3529 starting iteration 5110
3530 starting iteration 5120
3531 starting iteration 5130
3532 starting iteration 5140
3533 starting iteration 5150
3534 Finished epoch 12 / 15: cost 1.651531, train: 0.489000,
    val 0.499209, lr 1.482099e-03
3535 starting iteration 5160
3536 starting iteration 5170
3537 starting iteration 5180
3538 starting iteration 5190
3539 starting iteration 5200
3540 starting iteration 5210
3541 starting iteration 5220
3542 starting iteration 5230
3543 starting iteration 5240
3544 starting iteration 5250
3545 starting iteration 5260
3546 starting iteration 5270
3547 starting iteration 5280
3548 starting iteration 5290
3549 starting iteration 5300
3550 starting iteration 5310
3551 starting iteration 5320
3552 starting iteration 5330
3553 starting iteration 5340
3554 starting iteration 5350
3555 starting iteration 5360
3556 starting iteration 5370
3557 starting iteration 5380
3558 starting iteration 5390
3559 starting iteration 5400
3560 starting iteration 5410
3561 starting iteration 5420
3562 starting iteration 5430
3563 starting iteration 5440
3564 starting iteration 5450
3565 starting iteration 5460
3566 starting iteration 5470
3567 starting iteration 5480
3568 starting iteration 5490
3569 starting iteration 5500
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3570 starting iteration 5510
3571 starting iteration 5520
3572 starting iteration 5530
3573 starting iteration 5540
3574 starting iteration 5550
3575 starting iteration 5560
3576 starting iteration 5570
3577 starting iteration 5580
3578 Finished epoch 13 / 15: cost 1.579868, train: 0.500000,
    val 0.499209, lr 1.480617e-03
3579 starting iteration 5590
3580 starting iteration 5600
3581 starting iteration 5610
3582 starting iteration 5620
3583 starting iteration 5630
3584 starting iteration 5640
3585 starting iteration 5650
3586 starting iteration 5660
3587 starting iteration 5670
3588 starting iteration 5680
3589 starting iteration 5690
3590 starting iteration 5700
3591 starting iteration 5710
3592 starting iteration 5720
3593 starting iteration 5730
3594 starting iteration 5740
3595 starting iteration 5750
3596 starting iteration 5760
3597 starting iteration 5770
3598 starting iteration 5780
3599 starting iteration 5790
3600 starting iteration 5800
3601 starting iteration 5810
3602 starting iteration 5820
3603 starting iteration 5830
3604 starting iteration 5840
3605 starting iteration 5850
3606 starting iteration 5860
3607 starting iteration 5870
3608 starting iteration 5880
3609 starting iteration 5890
3610 starting iteration 5900
3611 starting iteration 5910
3612 starting iteration 5920
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3613 starting iteration 5930
3614 starting iteration 5940
3615 starting iteration 5950
3616 starting iteration 5960
3617 starting iteration 5970
3618 starting iteration 5980
3619 starting iteration 5990
3620 starting iteration 6000
3621 starting iteration 6010
3622 Finished epoch 14 / 15: cost 1.423377, train: 0.491000,
    val 0.499209, lr 1.479136e-03
3623 starting iteration 6020
3624 starting iteration 6030
3625 starting iteration 6040
3626 starting iteration 6050
3627 starting iteration 6060
3628 starting iteration 6070
3629 starting iteration 6080
3630 starting iteration 6090
3631 starting iteration 6100
3632 starting iteration 6110
3633 starting iteration 6120
3634 starting iteration 6130
3635 starting iteration 6140
3636 starting iteration 6150
3637 starting iteration 6160
3638 starting iteration 6170
3639 starting iteration 6180
3640 starting iteration 6190
3641 starting iteration 6200
3642 starting iteration 6210
3643 starting iteration 6220
3644 starting iteration 6230
3645 starting iteration 6240
3646 starting iteration 6250
3647 starting iteration 6260
3648 starting iteration 6270
3649 starting iteration 6280
3650 starting iteration 6290
3651 starting iteration 6300
3652 starting iteration 6310
3653 starting iteration 6320
3654 starting iteration 6330
3655 starting iteration 6340
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3656 starting iteration 6350
3657 starting iteration 6360
3658 starting iteration 6370
3659 starting iteration 6380
3660 starting iteration 6390
3661 starting iteration 6400
3662 starting iteration 6410
3663 starting iteration 6420
3664 starting iteration 6430
3665 starting iteration 6440
3666 Finished epoch 15 / 15: cost 1.418339, train: 0.521000,
    val 0.499209, lr 1.477657e-03
3667 finished optimization. best validation accuracy: 0.499209
3668 (165985, 6, 8, 8) (165985,) (33197, 6, 8, 8) (33197,)
3669 starting iteration 0
3670 Finished epoch 0 / 15: cost 4.158883, train: 0.457000, val
    0.493867, lr 1.500000e-03
3671 starting iteration 10
3672 starting iteration 20
3673 starting iteration 30
3674 starting iteration 40
3675 starting iteration 50
3676 starting iteration 60
3677 starting iteration 70
3678 starting iteration 80
3679 starting iteration 90
3680 starting iteration 100
3681 starting iteration 110
3682 starting iteration 120
3683 starting iteration 130
3684 starting iteration 140
3685 starting iteration 150
3686 starting iteration 160
3687 starting iteration 170
3688 starting iteration 180
3689 starting iteration 190
3690 starting iteration 200
3691 starting iteration 210
3692 starting iteration 220
3693 starting iteration 230
3694 starting iteration 240
3695 starting iteration 250
3696 starting iteration 260
3697 starting iteration 270
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3698 starting iteration 280
3699 starting iteration 290
3700 starting iteration 300
3701 starting iteration 310
3702 starting iteration 320
3703 starting iteration 330
3704 starting iteration 340
3705 starting iteration 350
3706 starting iteration 360
3707 starting iteration 370
3708 starting iteration 380
3709 starting iteration 390
3710 starting iteration 400
3711 starting iteration 410
3712 starting iteration 420
3713 starting iteration 430
3714 starting iteration 440
3715 starting iteration 450
3716 starting iteration 460
3717 starting iteration 470
3718 starting iteration 480
3719 starting iteration 490
3720 starting iteration 500
3721 starting iteration 510
3722 starting iteration 520
3723 starting iteration 530
3724 starting iteration 540
3725 starting iteration 550
3726 starting iteration 560
3727 starting iteration 570
3728 starting iteration 580
3729 starting iteration 590
3730 starting iteration 600
3731 starting iteration 610
3732 starting iteration 620
3733 starting iteration 630
3734 starting iteration 640
3735 starting iteration 650
3736 starting iteration 660
3737 Finished epoch 1 / 15: cost 3.730261, train: 0.492000, val
    0.500272, lr 1.498500e-03
3738 starting iteration 670
3739 starting iteration 680
3740 starting iteration 690
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3741	starting iteration	700
3742	starting iteration	710
3743	starting iteration	720
3744	starting iteration	730
3745	starting iteration	740
3746	starting iteration	750
3747	starting iteration	760
3748	starting iteration	770
3749	starting iteration	780
3750	starting iteration	790
3751	starting iteration	800
3752	starting iteration	810
3753	starting iteration	820
3754	starting iteration	830
3755	starting iteration	840
3756	starting iteration	850
3757	starting iteration	860
3758	starting iteration	870
3759	starting iteration	880
3760	starting iteration	890
3761	starting iteration	900
3762	starting iteration	910
3763	starting iteration	920
3764	starting iteration	930
3765	starting iteration	940
3766	starting iteration	950
3767	starting iteration	960
3768	starting iteration	970
3769	starting iteration	980
3770	starting iteration	990
3771	starting iteration	1000
3772	starting iteration	1010
3773	starting iteration	1020
3774	starting iteration	1030
3775	starting iteration	1040
3776	starting iteration	1050
3777	starting iteration	1060
3778	starting iteration	1070
3779	starting iteration	1080
3780	starting iteration	1090
3781	starting iteration	1100
3782	starting iteration	1110
3783	starting iteration	1120
3784	starting iteration	1130

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3785 starting iteration 1140
3786 starting iteration 1150
3787 starting iteration 1160
3788 starting iteration 1170
3789 starting iteration 1180
3790 starting iteration 1190
3791 starting iteration 1200
3792 starting iteration 1210
3793 starting iteration 1220
3794 starting iteration 1230
3795 starting iteration 1240
3796 starting iteration 1250
3797 starting iteration 1260
3798 starting iteration 1270
3799 starting iteration 1280
3800 starting iteration 1290
3801 starting iteration 1300
3802 starting iteration 1310
3803 starting iteration 1320
3804 Finished epoch 2 / 15: cost 3.301001, train: 0.490000, val
    0.500272, lr 1.497002e-03
3805 starting iteration 1330
3806 starting iteration 1340
3807 starting iteration 1350
3808 starting iteration 1360
3809 starting iteration 1370
3810 starting iteration 1380
3811 starting iteration 1390
3812 starting iteration 1400
3813 starting iteration 1410
3814 starting iteration 1420
3815 starting iteration 1430
3816 starting iteration 1440
3817 starting iteration 1450
3818 starting iteration 1460
3819 starting iteration 1470
3820 starting iteration 1480
3821 starting iteration 1490
3822 starting iteration 1500
3823 starting iteration 1510
3824 starting iteration 1520
3825 starting iteration 1530
3826 starting iteration 1540
3827 starting iteration 1550
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3828 starting iteration 1560
3829 starting iteration 1570
3830 starting iteration 1580
3831 starting iteration 1590
3832 starting iteration 1600
3833 starting iteration 1610
3834 starting iteration 1620
3835 starting iteration 1630
3836 starting iteration 1640
3837 starting iteration 1650
3838 starting iteration 1660
3839 starting iteration 1670
3840 starting iteration 1680
3841 starting iteration 1690
3842 starting iteration 1700
3843 starting iteration 1710
3844 starting iteration 1720
3845 starting iteration 1730
3846 starting iteration 1740
3847 starting iteration 1750
3848 starting iteration 1760
3849 starting iteration 1770
3850 starting iteration 1780
3851 starting iteration 1790
3852 starting iteration 1800
3853 starting iteration 1810
3854 starting iteration 1820
3855 starting iteration 1830
3856 starting iteration 1840
3857 starting iteration 1850
3858 starting iteration 1860
3859 starting iteration 1870
3860 starting iteration 1880
3861 starting iteration 1890
3862 starting iteration 1900
3863 starting iteration 1910
3864 starting iteration 1920
3865 starting iteration 1930
3866 starting iteration 1940
3867 starting iteration 1950
3868 starting iteration 1960
3869 starting iteration 1970
3870 starting iteration 1980
3871 Finished epoch 3 / 15: cost 2.921020, train: 0.503000, val
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3871 0.500272, lr 1.495504e-03
3872 starting iteration 1990
3873 starting iteration 2000
3874 starting iteration 2010
3875 starting iteration 2020
3876 starting iteration 2030
3877 starting iteration 2040
3878 starting iteration 2050
3879 starting iteration 2060
3880 starting iteration 2070
3881 starting iteration 2080
3882 starting iteration 2090
3883 starting iteration 2100
3884 starting iteration 2110
3885 starting iteration 2120
3886 starting iteration 2130
3887 starting iteration 2140
3888 starting iteration 2150
3889 starting iteration 2160
3890 starting iteration 2170
3891 starting iteration 2180
3892 starting iteration 2190
3893 starting iteration 2200
3894 starting iteration 2210
3895 starting iteration 2220
3896 starting iteration 2230
3897 starting iteration 2240
3898 starting iteration 2250
3899 starting iteration 2260
3900 starting iteration 2270
3901 starting iteration 2280
3902 starting iteration 2290
3903 starting iteration 2300
3904 starting iteration 2310
3905 starting iteration 2320
3906 starting iteration 2330
3907 starting iteration 2340
3908 starting iteration 2350
3909 starting iteration 2360
3910 starting iteration 2370
3911 starting iteration 2380
3912 starting iteration 2390
3913 starting iteration 2400
3914 starting iteration 2410
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3915 starting iteration 2420
3916 starting iteration 2430
3917 starting iteration 2440
3918 starting iteration 2450
3919 starting iteration 2460
3920 starting iteration 2470
3921 starting iteration 2480
3922 starting iteration 2490
3923 starting iteration 2500
3924 starting iteration 2510
3925 starting iteration 2520
3926 starting iteration 2530
3927 starting iteration 2540
3928 starting iteration 2550
3929 starting iteration 2560
3930 starting iteration 2570
3931 starting iteration 2580
3932 starting iteration 2590
3933 starting iteration 2600
3934 starting iteration 2610
3935 starting iteration 2620
3936 starting iteration 2630
3937 starting iteration 2640
3938 starting iteration 2650
3939 Finished epoch 4 / 15: cost 2.588923, train: 0.492000, val
    0.500272, lr 1.494009e-03
3940 starting iteration 2660
3941 starting iteration 2670
3942 starting iteration 2680
3943 starting iteration 2690
3944 starting iteration 2700
3945 starting iteration 2710
3946 starting iteration 2720
3947 starting iteration 2730
3948 starting iteration 2740
3949 starting iteration 2750
3950 starting iteration 2760
3951 starting iteration 2770
3952 starting iteration 2780
3953 starting iteration 2790
3954 starting iteration 2800
3955 starting iteration 2810
3956 starting iteration 2820
3957 starting iteration 2830
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3958	starting iteration	2840
3959	starting iteration	2850
3960	starting iteration	2860
3961	starting iteration	2870
3962	starting iteration	2880
3963	starting iteration	2890
3964	starting iteration	2900
3965	starting iteration	2910
3966	starting iteration	2920
3967	starting iteration	2930
3968	starting iteration	2940
3969	starting iteration	2950
3970	starting iteration	2960
3971	starting iteration	2970
3972	starting iteration	2980
3973	starting iteration	2990
3974	starting iteration	3000
3975	starting iteration	3010
3976	starting iteration	3020
3977	starting iteration	3030
3978	starting iteration	3040
3979	starting iteration	3050
3980	starting iteration	3060
3981	starting iteration	3070
3982	starting iteration	3080
3983	starting iteration	3090
3984	starting iteration	3100
3985	starting iteration	3110
3986	starting iteration	3120
3987	starting iteration	3130
3988	starting iteration	3140
3989	starting iteration	3150
3990	starting iteration	3160
3991	starting iteration	3170
3992	starting iteration	3180
3993	starting iteration	3190
3994	starting iteration	3200
3995	starting iteration	3210
3996	starting iteration	3220
3997	starting iteration	3230
3998	starting iteration	3240
3999	starting iteration	3250
4000	starting iteration	3260
4001	starting iteration	3270

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4002 starting iteration 3280
4003 starting iteration 3290
4004 starting iteration 3300
4005 starting iteration 3310
4006 Finished epoch 5 / 15: cost 2.222993, train: 0.509000, val
    0.500272, lr 1.492515e-03
4007 starting iteration 3320
4008 starting iteration 3330
4009 starting iteration 3340
4010 starting iteration 3350
4011 starting iteration 3360
4012 starting iteration 3370
4013 starting iteration 3380
4014 starting iteration 3390
4015 starting iteration 3400
4016 starting iteration 3410
4017 starting iteration 3420
4018 starting iteration 3430
4019 starting iteration 3440
4020 starting iteration 3450
4021 starting iteration 3460
4022 starting iteration 3470
4023 starting iteration 3480
4024 starting iteration 3490
4025 starting iteration 3500
4026 starting iteration 3510
4027 starting iteration 3520
4028 starting iteration 3530
4029 starting iteration 3540
4030 starting iteration 3550
4031 starting iteration 3560
4032 starting iteration 3570
4033 starting iteration 3580
4034 starting iteration 3590
4035 starting iteration 3600
4036 starting iteration 3610
4037 starting iteration 3620
4038 starting iteration 3630
4039 starting iteration 3640
4040 starting iteration 3650
4041 starting iteration 3660
4042 starting iteration 3670
4043 starting iteration 3680
4044 starting iteration 3690
```

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4045 starting iteration 3700
4046 starting iteration 3710
4047 starting iteration 3720
4048 starting iteration 3730
4049 starting iteration 3740
4050 starting iteration 3750
4051 starting iteration 3760
4052 starting iteration 3770
4053 starting iteration 3780
4054 starting iteration 3790
4055 starting iteration 3800
4056 starting iteration 3810
4057 starting iteration 3820
4058 starting iteration 3830
4059 starting iteration 3840
4060 starting iteration 3850
4061 starting iteration 3860
4062 starting iteration 3870
4063 starting iteration 3880
4064 starting iteration 3890
4065 starting iteration 3900
4066 starting iteration 3910
4067 starting iteration 3920
4068 starting iteration 3930
4069 starting iteration 3940
4070 starting iteration 3950
4071 starting iteration 3960
4072 starting iteration 3970
4073 Finished epoch 6 / 15: cost 2.028596, train: 0.513000, val
    0.500272, lr 1.491022e-03
4074 starting iteration 3980
4075 starting iteration 3990
4076 starting iteration 4000
4077 starting iteration 4010
4078 starting iteration 4020
4079 starting iteration 4030
4080 starting iteration 4040
4081 starting iteration 4050
4082 starting iteration 4060
4083 starting iteration 4070
4084 starting iteration 4080
4085 starting iteration 4090
4086 starting iteration 4100
4087 starting iteration 4110
```

4088	starting iteration	4120
4089	starting iteration	4130
4090	starting iteration	4140
4091	starting iteration	4150
4092	starting iteration	4160
4093	starting iteration	4170
4094	starting iteration	4180
4095	starting iteration	4190
4096	starting iteration	4200
4097	starting iteration	4210
4098	starting iteration	4220
4099	starting iteration	4230
4100	starting iteration	4240
4101	starting iteration	4250
4102	starting iteration	4260
4103	starting iteration	4270
4104	starting iteration	4280
4105	starting iteration	4290
4106	starting iteration	4300
4107	starting iteration	4310
4108	starting iteration	4320
4109	starting iteration	4330
4110	starting iteration	4340
4111	starting iteration	4350
4112	starting iteration	4360
4113	starting iteration	4370
4114	starting iteration	4380
4115	starting iteration	4390
4116	starting iteration	4400
4117	starting iteration	4410
4118	starting iteration	4420
4119	starting iteration	4430
4120	starting iteration	4440
4121	starting iteration	4450
4122	starting iteration	4460
4123	starting iteration	4470
4124	starting iteration	4480
4125	starting iteration	4490
4126	starting iteration	4500
4127	starting iteration	4510
4128	starting iteration	4520
4129	starting iteration	4530
4130	starting iteration	4540
4131	starting iteration	4550

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4132 starting iteration 4560
4133 starting iteration 4570
4134 starting iteration 4580
4135 starting iteration 4590
4136 starting iteration 4600
4137 starting iteration 4610
4138 starting iteration 4620
4139 starting iteration 4630
4140 starting iteration 4640
4141 Finished epoch 7 / 15: cost 1.809194, train: 0.495000, val
    0.500272, lr 1.489531e-03
4142 starting iteration 4650
4143 starting iteration 4660
4144 starting iteration 4670
4145 starting iteration 4680
4146 starting iteration 4690
4147 starting iteration 4700
4148 starting iteration 4710
4149 starting iteration 4720
4150 starting iteration 4730
4151 starting iteration 4740
4152 starting iteration 4750
4153 starting iteration 4760
4154 starting iteration 4770
4155 starting iteration 4780
4156 starting iteration 4790
4157 starting iteration 4800
4158 starting iteration 4810
4159 starting iteration 4820
4160 starting iteration 4830
4161 starting iteration 4840
4162 starting iteration 4850
4163 starting iteration 4860
4164 starting iteration 4870
4165 starting iteration 4880
4166 starting iteration 4890
4167 starting iteration 4900
4168 starting iteration 4910
4169 starting iteration 4920
4170 starting iteration 4930
4171 starting iteration 4940
4172 starting iteration 4950
4173 starting iteration 4960
4174 starting iteration 4970
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4175 starting iteration 4980
4176 starting iteration 4990
4177 starting iteration 5000
4178 starting iteration 5010
4179 starting iteration 5020
4180 starting iteration 5030
4181 starting iteration 5040
4182 starting iteration 5050
4183 starting iteration 5060
4184 starting iteration 5070
4185 starting iteration 5080
4186 starting iteration 5090
4187 starting iteration 5100
4188 starting iteration 5110
4189 starting iteration 5120
4190 starting iteration 5130
4191 starting iteration 5140
4192 starting iteration 5150
4193 starting iteration 5160
4194 starting iteration 5170
4195 starting iteration 5180
4196 starting iteration 5190
4197 starting iteration 5200
4198 starting iteration 5210
4199 starting iteration 5220
4200 starting iteration 5230
4201 starting iteration 5240
4202 starting iteration 5250
4203 starting iteration 5260
4204 starting iteration 5270
4205 starting iteration 5280
4206 starting iteration 5290
4207 starting iteration 5300
4208 Finished epoch 8 / 15: cost 1.754140, train: 0.503000, val
    0.500272, lr 1.488042e-03
4209 starting iteration 5310
4210 starting iteration 5320
4211 starting iteration 5330
4212 starting iteration 5340
4213 starting iteration 5350
4214 starting iteration 5360
4215 starting iteration 5370
4216 starting iteration 5380
4217 starting iteration 5390
```

4218	starting iteration	5400
4219	starting iteration	5410
4220	starting iteration	5420
4221	starting iteration	5430
4222	starting iteration	5440
4223	starting iteration	5450
4224	starting iteration	5460
4225	starting iteration	5470
4226	starting iteration	5480
4227	starting iteration	5490
4228	starting iteration	5500
4229	starting iteration	5510
4230	starting iteration	5520
4231	starting iteration	5530
4232	starting iteration	5540
4233	starting iteration	5550
4234	starting iteration	5560
4235	starting iteration	5570
4236	starting iteration	5580
4237	starting iteration	5590
4238	starting iteration	5600
4239	starting iteration	5610
4240	starting iteration	5620
4241	starting iteration	5630
4242	starting iteration	5640
4243	starting iteration	5650
4244	starting iteration	5660
4245	starting iteration	5670
4246	starting iteration	5680
4247	starting iteration	5690
4248	starting iteration	5700
4249	starting iteration	5710
4250	starting iteration	5720
4251	starting iteration	5730
4252	starting iteration	5740
4253	starting iteration	5750
4254	starting iteration	5760
4255	starting iteration	5770
4256	starting iteration	5780
4257	starting iteration	5790
4258	starting iteration	5800
4259	starting iteration	5810
4260	starting iteration	5820
4261	starting iteration	5830

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4262 starting iteration 5840
4263 starting iteration 5850
4264 starting iteration 5860
4265 starting iteration 5870
4266 starting iteration 5880
4267 starting iteration 5890
4268 starting iteration 5900
4269 starting iteration 5910
4270 starting iteration 5920
4271 starting iteration 5930
4272 starting iteration 5940
4273 starting iteration 5950
4274 starting iteration 5960
4275 Finished epoch 9 / 15: cost 1.540796, train: 0.509000, val
    0.500272, lr 1.486554e-03
4276 starting iteration 5970
4277 starting iteration 5980
4278 starting iteration 5990
4279 starting iteration 6000
4280 starting iteration 6010
4281 starting iteration 6020
4282 starting iteration 6030
4283 starting iteration 6040
4284 starting iteration 6050
4285 starting iteration 6060
4286 starting iteration 6070
4287 starting iteration 6080
4288 starting iteration 6090
4289 starting iteration 6100
4290 starting iteration 6110
4291 starting iteration 6120
4292 starting iteration 6130
4293 starting iteration 6140
4294 starting iteration 6150
4295 starting iteration 6160
4296 starting iteration 6170
4297 starting iteration 6180
4298 starting iteration 6190
4299 starting iteration 6200
4300 starting iteration 6210
4301 starting iteration 6220
4302 starting iteration 6230
4303 starting iteration 6240
4304 starting iteration 6250
```

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4305 starting iteration 6260
4306 starting iteration 6270
4307 starting iteration 6280
4308 starting iteration 6290
4309 starting iteration 6300
4310 starting iteration 6310
4311 starting iteration 6320
4312 starting iteration 6330
4313 starting iteration 6340
4314 starting iteration 6350
4315 starting iteration 6360
4316 starting iteration 6370
4317 starting iteration 6380
4318 starting iteration 6390
4319 starting iteration 6400
4320 starting iteration 6410
4321 starting iteration 6420
4322 starting iteration 6430
4323 starting iteration 6440
4324 starting iteration 6450
4325 starting iteration 6460
4326 starting iteration 6470
4327 starting iteration 6480
4328 starting iteration 6490
4329 starting iteration 6500
4330 starting iteration 6510
4331 starting iteration 6520
4332 starting iteration 6530
4333 starting iteration 6540
4334 starting iteration 6550
4335 starting iteration 6560
4336 starting iteration 6570
4337 starting iteration 6580
4338 starting iteration 6590
4339 starting iteration 6600
4340 starting iteration 6610
4341 starting iteration 6620
4342 Finished epoch 10 / 15: cost 1.481726, train: 0.470000,
                           val 0.500272, lr 1.485067e-03
4343 starting iteration 6630
4344 starting iteration 6640
4345 starting iteration 6650
4346 starting iteration 6660
4347 starting iteration 6670
```

4348	starting iteration	6680
4349	starting iteration	6690
4350	starting iteration	6700
4351	starting iteration	6710
4352	starting iteration	6720
4353	starting iteration	6730
4354	starting iteration	6740
4355	starting iteration	6750
4356	starting iteration	6760
4357	starting iteration	6770
4358	starting iteration	6780
4359	starting iteration	6790
4360	starting iteration	6800
4361	starting iteration	6810
4362	starting iteration	6820
4363	starting iteration	6830
4364	starting iteration	6840
4365	starting iteration	6850
4366	starting iteration	6860
4367	starting iteration	6870
4368	starting iteration	6880
4369	starting iteration	6890
4370	starting iteration	6900
4371	starting iteration	6910
4372	starting iteration	6920
4373	starting iteration	6930
4374	starting iteration	6940
4375	starting iteration	6950
4376	starting iteration	6960
4377	starting iteration	6970
4378	starting iteration	6980
4379	starting iteration	6990
4380	starting iteration	7000
4381	starting iteration	7010
4382	starting iteration	7020
4383	starting iteration	7030
4384	starting iteration	7040
4385	starting iteration	7050
4386	starting iteration	7060
4387	starting iteration	7070
4388	starting iteration	7080
4389	starting iteration	7090
4390	starting iteration	7100
4391	starting iteration	7110

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4392 starting iteration 7120
4393 starting iteration 7130
4394 starting iteration 7140
4395 starting iteration 7150
4396 starting iteration 7160
4397 starting iteration 7170
4398 starting iteration 7180
4399 starting iteration 7190
4400 starting iteration 7200
4401 starting iteration 7210
4402 starting iteration 7220
4403 starting iteration 7230
4404 starting iteration 7240
4405 starting iteration 7250
4406 starting iteration 7260
4407 starting iteration 7270
4408 starting iteration 7280
4409 starting iteration 7290
4410 Finished epoch 11 / 15: cost 1.304151, train: 0.503000,
    val 0.500272, lr 1.483582e-03
4411 starting iteration 7300
4412 starting iteration 7310
4413 starting iteration 7320
4414 starting iteration 7330
4415 starting iteration 7340
4416 starting iteration 7350
4417 starting iteration 7360
4418 starting iteration 7370
4419 starting iteration 7380
4420 starting iteration 7390
4421 starting iteration 7400
4422 starting iteration 7410
4423 starting iteration 7420
4424 starting iteration 7430
4425 starting iteration 7440
4426 starting iteration 7450
4427 starting iteration 7460
4428 starting iteration 7470
4429 starting iteration 7480
4430 starting iteration 7490
4431 starting iteration 7500
4432 starting iteration 7510
4433 starting iteration 7520
4434 starting iteration 7530
```

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4435 starting iteration 7540
4436 starting iteration 7550
4437 starting iteration 7560
4438 starting iteration 7570
4439 starting iteration 7580
4440 starting iteration 7590
4441 starting iteration 7600
4442 starting iteration 7610
4443 starting iteration 7620
4444 starting iteration 7630
4445 starting iteration 7640
4446 starting iteration 7650
4447 starting iteration 7660
4448 starting iteration 7670
4449 starting iteration 7680
4450 starting iteration 7690
4451 starting iteration 7700
4452 starting iteration 7710
4453 starting iteration 7720
4454 starting iteration 7730
4455 starting iteration 7740
4456 starting iteration 7750
4457 starting iteration 7760
4458 starting iteration 7770
4459 starting iteration 7780
4460 starting iteration 7790
4461 starting iteration 7800
4462 starting iteration 7810
4463 starting iteration 7820
4464 starting iteration 7830
4465 starting iteration 7840
4466 starting iteration 7850
4467 starting iteration 7860
4468 starting iteration 7870
4469 starting iteration 7880
4470 starting iteration 7890
4471 starting iteration 7900
4472 starting iteration 7910
4473 starting iteration 7920
4474 starting iteration 7930
4475 starting iteration 7940
4476 starting iteration 7950
4477 Finished epoch 12 / 15: cost 1.253222, train: 0.500000,
                           val 0.500272, lr 1.482099e-03
```

4478	starting iteration	7960
4479	starting iteration	7970
4480	starting iteration	7980
4481	starting iteration	7990
4482	starting iteration	8000
4483	starting iteration	8010
4484	starting iteration	8020
4485	starting iteration	8030
4486	starting iteration	8040
4487	starting iteration	8050
4488	starting iteration	8060
4489	starting iteration	8070
4490	starting iteration	8080
4491	starting iteration	8090
4492	starting iteration	8100
4493	starting iteration	8110
4494	starting iteration	8120
4495	starting iteration	8130
4496	starting iteration	8140
4497	starting iteration	8150
4498	starting iteration	8160
4499	starting iteration	8170
4500	starting iteration	8180
4501	starting iteration	8190
4502	starting iteration	8200
4503	starting iteration	8210
4504	starting iteration	8220
4505	starting iteration	8230
4506	starting iteration	8240
4507	starting iteration	8250
4508	starting iteration	8260
4509	starting iteration	8270
4510	starting iteration	8280
4511	starting iteration	8290
4512	starting iteration	8300
4513	starting iteration	8310
4514	starting iteration	8320
4515	starting iteration	8330
4516	starting iteration	8340
4517	starting iteration	8350
4518	starting iteration	8360
4519	starting iteration	8370
4520	starting iteration	8380
4521	starting iteration	8390

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4522 starting iteration 8400
4523 starting iteration 8410
4524 starting iteration 8420
4525 starting iteration 8430
4526 starting iteration 8440
4527 starting iteration 8450
4528 starting iteration 8460
4529 starting iteration 8470
4530 starting iteration 8480
4531 starting iteration 8490
4532 starting iteration 8500
4533 starting iteration 8510
4534 starting iteration 8520
4535 starting iteration 8530
4536 starting iteration 8540
4537 starting iteration 8550
4538 starting iteration 8560
4539 starting iteration 8570
4540 starting iteration 8580
4541 starting iteration 8590
4542 starting iteration 8600
4543 starting iteration 8610
4544 Finished epoch 13 / 15: cost 1.305010, train: 0.482000,
    val 0.500272, lr 1.480617e-03
4545 starting iteration 8620
4546 starting iteration 8630
4547 starting iteration 8640
4548 starting iteration 8650
4549 starting iteration 8660
4550 starting iteration 8670
4551 starting iteration 8680
4552 starting iteration 8690
4553 starting iteration 8700
4554 starting iteration 8710
4555 starting iteration 8720
4556 starting iteration 8730
4557 starting iteration 8740
4558 starting iteration 8750
4559 starting iteration 8760
4560 starting iteration 8770
4561 starting iteration 8780
4562 starting iteration 8790
4563 starting iteration 8800
4564 starting iteration 8810
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4565	starting iteration	8820
4566	starting iteration	8830
4567	starting iteration	8840
4568	starting iteration	8850
4569	starting iteration	8860
4570	starting iteration	8870
4571	starting iteration	8880
4572	starting iteration	8890
4573	starting iteration	8900
4574	starting iteration	8910
4575	starting iteration	8920
4576	starting iteration	8930
4577	starting iteration	8940
4578	starting iteration	8950
4579	starting iteration	8960
4580	starting iteration	8970
4581	starting iteration	8980
4582	starting iteration	8990
4583	starting iteration	9000
4584	starting iteration	9010
4585	starting iteration	9020
4586	starting iteration	9030
4587	starting iteration	9040
4588	starting iteration	9050
4589	starting iteration	9060
4590	starting iteration	9070
4591	starting iteration	9080
4592	starting iteration	9090
4593	starting iteration	9100
4594	starting iteration	9110
4595	starting iteration	9120
4596	starting iteration	9130
4597	starting iteration	9140
4598	starting iteration	9150
4599	starting iteration	9160
4600	starting iteration	9170
4601	starting iteration	9180
4602	starting iteration	9190
4603	starting iteration	9200
4604	starting iteration	9210
4605	starting iteration	9220
4606	starting iteration	9230
4607	starting iteration	9240
4608	starting iteration	9250

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4609 starting iteration 9260
4610 starting iteration 9270
4611 starting iteration 9280
4612 Finished epoch 14 / 15: cost 1.297105, train: 0.493000,
    val 0.500272, lr 1.479136e-03
4613 starting iteration 9290
4614 starting iteration 9300
4615 starting iteration 9310
4616 starting iteration 9320
4617 starting iteration 9330
4618 starting iteration 9340
4619 starting iteration 9350
4620 starting iteration 9360
4621 starting iteration 9370
4622 starting iteration 9380
4623 starting iteration 9390
4624 starting iteration 9400
4625 starting iteration 9410
4626 starting iteration 9420
4627 starting iteration 9430
4628 starting iteration 9440
4629 starting iteration 9450
4630 starting iteration 9460
4631 starting iteration 9470
4632 starting iteration 9480
4633 starting iteration 9490
4634 starting iteration 9500
4635 starting iteration 9510
4636 starting iteration 9520
4637 starting iteration 9530
4638 starting iteration 9540
4639 starting iteration 9550
4640 starting iteration 9560
4641 starting iteration 9570
4642 starting iteration 9580
4643 starting iteration 9590
4644 starting iteration 9600
4645 starting iteration 9610
4646 starting iteration 9620
4647 starting iteration 9630
4648 starting iteration 9640
4649 starting iteration 9650
4650 starting iteration 9660
4651 starting iteration 9670
```

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4652 starting iteration 9680
4653 starting iteration 9690
4654 starting iteration 9700
4655 starting iteration 9710
4656 starting iteration 9720
4657 starting iteration 9730
4658 starting iteration 9740
4659 starting iteration 9750
4660 starting iteration 9760
4661 starting iteration 9770
4662 starting iteration 9780
4663 starting iteration 9790
4664 starting iteration 9800
4665 starting iteration 9810
4666 starting iteration 9820
4667 starting iteration 9830
4668 starting iteration 9840
4669 starting iteration 9850
4670 starting iteration 9860
4671 starting iteration 9870
4672 starting iteration 9880
4673 starting iteration 9890
4674 starting iteration 9900
4675 starting iteration 9910
4676 starting iteration 9920
4677 starting iteration 9930
4678 starting iteration 9940
4679 Finished epoch 15 / 15: cost 1.214730, train: 0.490000,
    val 0.500272, lr 1.477657e-03
4680 finished optimization. best validation accuracy: 0.500272
4681 (19757, 6, 8, 8) (19757,) (3952, 6, 8, 8) (3952,)
4682 starting iteration 0
4683 Finished epoch 0 / 15: cost 4.158883, train: 0.490000, val
    0.501795, lr 1.500000e-03
4684 starting iteration 10
4685 starting iteration 20
4686 starting iteration 30
4687 starting iteration 40
4688 starting iteration 50
4689 starting iteration 60
4690 starting iteration 70
4691 Finished epoch 1 / 15: cost 4.115903, train: 0.525000, val
    0.501795, lr 1.498500e-03
4692 starting iteration 80
```

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4693 starting iteration 90
4694 starting iteration 100
4695 starting iteration 110
4696 starting iteration 120
4697 starting iteration 130
4698 starting iteration 140
4699 starting iteration 150
4700 Finished epoch 2 / 15: cost 4.073549, train: 0.505000, val
    0.501795, lr 1.497002e-03
4701 starting iteration 160
4702 starting iteration 170
4703 starting iteration 180
4704 starting iteration 190
4705 starting iteration 200
4706 starting iteration 210
4707 starting iteration 220
4708 starting iteration 230
4709 Finished epoch 3 / 15: cost 4.030211, train: 0.507000, val
    0.501795, lr 1.495504e-03
4710 starting iteration 240
4711 starting iteration 250
4712 starting iteration 260
4713 starting iteration 270
4714 starting iteration 280
4715 starting iteration 290
4716 starting iteration 300
4717 starting iteration 310
4718 Finished epoch 4 / 15: cost 3.990633, train: 0.532000, val
    0.501795, lr 1.494009e-03
4719 starting iteration 320
4720 starting iteration 330
4721 starting iteration 340
4722 starting iteration 350
4723 starting iteration 360
4724 starting iteration 370
4725 starting iteration 380
4726 starting iteration 390
4727 Finished epoch 5 / 15: cost 3.943968, train: 0.515000, val
    0.501795, lr 1.492515e-03
4728 starting iteration 400
4729 starting iteration 410
4730 starting iteration 420
4731 starting iteration 430
4732 starting iteration 440
```

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4733 starting iteration 450
4734 starting iteration 460
4735 starting iteration 470
4736 Finished epoch 6 / 15: cost 3.902552, train: 0.504000, val
    0.501795, lr 1.491022e-03
4737 starting iteration 480
4738 starting iteration 490
4739 starting iteration 500
4740 starting iteration 510
4741 starting iteration 520
4742 starting iteration 530
4743 starting iteration 540
4744 starting iteration 550
4745 Finished epoch 7 / 15: cost 3.873246, train: 0.480000, val
    0.501795, lr 1.489531e-03
4746 starting iteration 560
4747 starting iteration 570
4748 starting iteration 580
4749 starting iteration 590
4750 starting iteration 600
4751 starting iteration 610
4752 starting iteration 620
4753 starting iteration 630
4754 Finished epoch 8 / 15: cost 3.829584, train: 0.525000, val
    0.501795, lr 1.488042e-03
4755 starting iteration 640
4756 starting iteration 650
4757 starting iteration 660
4758 starting iteration 670
4759 starting iteration 680
4760 starting iteration 690
4761 starting iteration 700
4762 starting iteration 710
4763 Finished epoch 9 / 15: cost 3.767841, train: 0.491000, val
    0.501795, lr 1.486554e-03
4764 starting iteration 720
4765 starting iteration 730
4766 starting iteration 740
4767 starting iteration 750
4768 starting iteration 760
4769 starting iteration 770
4770 starting iteration 780
4771 Finished epoch 10 / 15: cost 3.735228, train: 0.490000,
    val 0.501795, lr 1.485067e-03
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4772 starting iteration 790
4773 starting iteration 800
4774 starting iteration 810
4775 starting iteration 820
4776 starting iteration 830
4777 starting iteration 840
4778 starting iteration 850
4779 starting iteration 860
4780 Finished epoch 11 / 15: cost 3.725499, train: 0.517000,
    val 0.501795, lr 1.483582e-03
4781 starting iteration 870
4782 starting iteration 880
4783 starting iteration 890
4784 starting iteration 900
4785 starting iteration 910
4786 starting iteration 920
4787 starting iteration 930
4788 starting iteration 940
4789 Finished epoch 12 / 15: cost 3.637616, train: 0.533000,
    val 0.501795, lr 1.482099e-03
4790 starting iteration 950
4791 starting iteration 960
4792 starting iteration 970
4793 starting iteration 980
4794 starting iteration 990
4795 starting iteration 1000
4796 starting iteration 1010
4797 starting iteration 1020
4798 Finished epoch 13 / 15: cost 3.627124, train: 0.499000,
    val 0.501795, lr 1.480617e-03
4799 starting iteration 1030
4800 starting iteration 1040
4801 starting iteration 1050
4802 starting iteration 1060
4803 starting iteration 1070
4804 starting iteration 1080
4805 starting iteration 1090
4806 starting iteration 1100
4807 Finished epoch 14 / 15: cost 3.597587, train: 0.510000,
    val 0.501795, lr 1.479136e-03
4808 starting iteration 1110
4809 starting iteration 1120
4810 starting iteration 1130
4811 starting iteration 1140
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4812 starting iteration 1150
4813 starting iteration 1160
4814 starting iteration 1170
4815 starting iteration 1180
4816 Finished epoch 15 / 15: cost 3.518136, train: 0.469000,
    val 0.501795, lr 1.477657e-03
4817 finished optimization. best validation accuracy: 0.501795
4818 (4953, 6, 8, 8) (4953,) (991, 6, 8, 8) (991,)
4819 starting iteration 0
4820 Finished epoch 0 / 15: cost 4.158883, train: 0.532000, val
    0.495556, lr 1.500000e-03
4821 starting iteration 10
4822 Finished epoch 1 / 15: cost 4.150666, train: 0.488000, val
    0.495556, lr 1.498500e-03
4823 starting iteration 20
4824 starting iteration 30
4825 Finished epoch 2 / 15: cost 4.142674, train: 0.510000, val
    0.495556, lr 1.497002e-03
4826 starting iteration 40
4827 starting iteration 50
4828 Finished epoch 3 / 15: cost 4.134280, train: 0.502000, val
    0.495556, lr 1.495504e-03
4829 starting iteration 60
4830 starting iteration 70
4831 Finished epoch 4 / 15: cost 4.126594, train: 0.479000, val
    0.495556, lr 1.494009e-03
4832 starting iteration 80
4833 starting iteration 90
4834 Finished epoch 5 / 15: cost 4.115056, train: 0.508000, val
    0.495556, lr 1.492515e-03
4835 starting iteration 100
4836 starting iteration 110
4837 Finished epoch 6 / 15: cost 4.110547, train: 0.488000, val
    0.495556, lr 1.491022e-03
4838 starting iteration 120
4839 starting iteration 130
4840 Finished epoch 7 / 15: cost 4.103130, train: 0.487000, val
    0.495556, lr 1.489531e-03
4841 starting iteration 140
4842 starting iteration 150
4843 Finished epoch 8 / 15: cost 4.095448, train: 0.486000, val
    0.495556, lr 1.488042e-03
4844 starting iteration 160
4845 starting iteration 170
```

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4846 Finished epoch 9 / 15: cost 4.083554, train: 0.496000, val  
    0.495556, lr 1.486554e-03  
4847 starting iteration 180  
4848 Finished epoch 10 / 15: cost 4.075539, train: 0.489000,  
    val 0.495556, lr 1.485067e-03  
4849 starting iteration 190  
4850 starting iteration 200  
4851 Finished epoch 11 / 15: cost 4.066809, train: 0.490000,  
    val 0.495556, lr 1.483582e-03  
4852 starting iteration 210  
4853 starting iteration 220  
4854 Finished epoch 12 / 15: cost 4.055999, train: 0.514000,  
    val 0.495556, lr 1.482099e-03  
4855 starting iteration 230  
4856 starting iteration 240  
4857 Finished epoch 13 / 15: cost 4.055182, train: 0.465000,  
    val 0.495556, lr 1.480617e-03  
4858 starting iteration 250  
4859 starting iteration 260  
4860 Finished epoch 14 / 15: cost 4.042566, train: 0.531000,  
    val 0.495556, lr 1.479136e-03  
4861 starting iteration 270  
4862 starting iteration 280  
4863 Finished epoch 15 / 15: cost 4.038034, train: 0.503000,  
    val 0.495556, lr 1.477657e-03  
4864 finished optimization. best validation accuracy: 0.495556  
4865  
4866 Process finished with exit code 0  
4867
```