















accuracy

| | epoch | noisy_train |        |
|----|--------|--------------------|---|
| 0 | 100.0 | 0.4498640893989731 | 0.4137291280148423 |
| 1 | 200.0 | 0.4498640893989731 | 0.4137291280148423 |
| 2 | 300.0 | 0.4498640893989731 | 0.4137291280148423 |
| 3 | 400.0 | 0.4498640893989731 | 0.4137291280148423 |
| 4 | 500.0 | 0.4498640893989731 | 0.4137291280148423 |
| 5 | 600.0 | 0.4498640893989731 | 0.4137291280148423 |
| 6 | 700.0 | 0.4498640893989731 | 0.4137291280148423 |
| 7 | 800.0 | 0.4500151011778919 | 0.4155844155844156 |
| 8 | 900.0 | 0.5566294170945334 | 0.5918367346938775 |
| 9 | 1000.0 | 0.5528541226215645 | 0.588126159554731 |
| 10 | 1100.0 | 0.553760193295077 | 0.588126159554731 |
| 11 | 1200.0 | 0.5839625490788282 | 0.6419294990723562 |
| 12 | 1300.0 | 0.5745998187858653 | 0.6196660482374768 |
| 13 | 1400.0 | 0.6046511627906976 | 0.6790352504638218 |
| 14 | 1500.0 | 0.6066143159166415 | 0.6790352504638218 |
| 15 | 1600.0 | 0.6120507399577167 | 0.7532467532467533 |
| 16 | 1700.0 | 0.5916641498036846 | 0.7569573283858998 |
| 17 | 1800.0 | 0.6087284808215041 | 0.7495361781076066 |
| 18 | 1900.0 | 0.5999697976442162 | 0.7588126159554731 |
| 19 | 2000.0 | 0.5977046209604349 | 0.7606679035250464 |
| 20 | 2100.0 | 0.5776200543642405 | 0.725417439703154 |
| 21 | 2200.0 | 0.5724856538810027 | 0.7161410018552876 |
| 22 | 2300.0 | 0.5981576562971912 | 0.7551020408163265 |
| 23 | 2400.0 | 0.5880398671096345 | 0.7346938775510204 |
| 24 | 2500.0 | 0.5881908788885533 | 0.7309833024118738 |
| 25 | 2600.0 | 0.5937783147085473 | 0.738404452690167 |
| 26 | 2700.0 | 0.5958924796134099 | 0.7328385899814471 |
| 27 | 2800.0 | 0.6066143159166415 | 0.764378478664193 |
| 28 | 2900.0 | 0.5969495620658412 | 0.7346938775510204 |
| 29 | 3000.0 | 0.6052552099063727 | 0.7606679035250464 |
| 30 | 3100.0 | 0.6035940803382663 | 0.7421150278293135 |

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|----|--------|--------------------|--------------------|
| 31 | 3200.0 | 0.6146179401993356 | 0.7717996289424861 |
| 32 | 3300.0 | 0.632890365448505 | 0.8181818181818182 |
| 33 | 3400.0 | 0.6535789791603746 | 0.8348794063079777 |
| 34 | 3500.0 | 0.6558441558441559 | 0.8348794063079777 |
| 35 | 3600.0 | 0.6852914527333132 | 0.8923933209647495 |
| 36 | 3700.0 | 0.6760797342192691 | 0.8868274582560297 |
| 37 | 3800.0 | 0.6991845363938387 | 0.9128014842300557 |
| 38 | 3900.0 | 0.6982784657203261 | 0.9165120593692022 |
| 39 | 4000.0 | 0.6975234068257324 | 0.8812615955473099 |
| 40 | 4100.0 | 0.7035638779824827 | 0.8608534322820037 |
| 41 | 4200.0 | 0.7197221383267894 | 0.9183673469387755 |
| 42 | 4300.0 | 0.7204771972213833 | 0.9053803339517625 |
| 43 | 4400.0 | 0.7301419510721836 | 0.9090909090909091 |
| 44 | 4500.0 | 0.7168529145273331 | 0.922077922077922 |
| 45 | 4600.0 | 0.7298399275143461 | 0.9016697588126159 |
| 46 | 4700.0 | 0.741014799154334 | 0.9072356215213359 |
| 47 | 4800.0 | 0.7511325883418907 | 0.8905380333951762 |
| 48 | 4900.0 | 0.7503775294472969 | 0.8608534322820037 |
| 49 | 5000.0 | 0.7588341890667472 | 0.8961038961038961 |
| 50 | 5100.0 | 0.7722742373905165 | 0.8849721706864564 |
| 51 | 5200.0 | 0.7680459075807913 | 0.8645640074211502 |
| 52 | 5300.0 | 0.7748414376321353 | 0.8738404452690167 |
| 53 | 5400.0 | 0.779371790999698 | 0.8812615955473099 |
| 54 | 5500.0 | 0.7828450619148294 | 0.8886827458256029 |
| 55 | 5600.0 | 0.7851102385986107 | 0.8868274582560297 |
| 56 | 5700.0 | 0.785563273935367 | 0.8979591836734694 |
| 57 | 5800.0 | 0.7885835095137421 | 0.8701298701298701 |
| 58 | 5900.0 | 0.7888855330715796 | 0.8682745825602969 |
| 59 | 6000.0 | 0.7913017215342797 | 0.87569573283859 |
| 60 | 6100.0 | 0.794170945333736 | 0.8849721706864564 |
| 61 | 6200.0 | 0.7938689217758985 | 0.8794063079777366 |
| 62 | 6300.0 | 0.7979462398067049 | 0.8923933209647495 |
| 63 | 6400.0 | 0.7967381455753548 | 0.8942486085343229 |
| 64 | 6500.0 | 0.8038356991845363 | 0.8849721706864564 |

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|----|--------|--------------------|--------------------|
| 65 | 6600.0 | 0.8027786167321052 | 0.8515769944341373 |
| 66 | 6700.0 | 0.8089700996677741 | 0.8738404452690167 |
| 67 | 6800.0 | 0.8074599818785865 | 0.8886827458256029 |
| 68 | 6900.0 | 0.8138024765931743 | 0.8645640074211502 |
| 69 | 7000.0 | 0.8165206886137119 | 0.8868274582560297 |
| 70 | 7100.0 | 0.8209000302023558 | 0.8571428571428571 |
| 71 | 7200.0 | 0.8234672304439746 | 0.8664192949907236 |
| 72 | 7300.0 | 0.8270915131380248 | 0.8664192949907236 |
| 73 | 7400.0 | 0.827544548474781 | 0.87569573283859 |
| 74 | 7500.0 | 0.83373603141045 | 0.8608534322820037 |
| 75 | 7600.0 | 0.8370582905466626 | 0.8534322820037106 |
| 76 | 7700.0 | 0.8366052552099064 | 0.8812615955473099 |
| 77 | 7800.0 | 0.840531561461794 | 0.8589981447124304 |
| 78 | 7900.0 | 0.8430987617034129 | 0.8831168831168831 |
| 79 | 8000.0 | 0.8479311386288131 | 0.8460111317254174 |
| 80 | 8100.0 | 0.8536695862277257 | 0.8534322820037106 |
| 81 | 8200.0 | 0.8482331621866506 | 0.8423005565862709 |

loss








| | epoch | noisy_train |   test      |
|----|--------|--------------------|--|
| 0 | 100.0 | 0.7129587266180251 | 0.7227060584460988 |
| 1 | 200.0 | 0.7031208898710168 | 0.7089131895233604 |
| 2 | 300.0 | 0.6987758382506992 | 0.7023991171051475 |
| 3 | 400.0 | 0.6959927004316578 | 0.697982486556558 |
| 4 | 500.0 | 0.6945858926012896 | 0.6956364968243767 |
| 5 | 600.0 | 0.6938477636535386 | 0.6943637307952432 |
| 6 | 700.0 | 0.6933682071413971 | 0.6935163035112268 |
| 7 | 800.0 | 0.6931758998096853 | 0.69316846482894 |
| 8 | 900.0 | 0.6930538891018301 | 0.6929431873209336 |
| 9 | 1000.0 | 0.6930310674335646 | 0.6928964642917409 |
| 10 | 1100.0 | 0.6930178245484541 | 0.6928650000516106 |
| 11 | 1200.0 | 0.6930315223868918 | 0.6928833407514235 |
| 12 | 1300.0 | 0.6930105311859057 | 0.6928382305537953 |

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|----|--------|--------------------|---------------------|
| 13 | 1400.0 | 0.6930136513594843 | 0.6928355448386249 |
| 14 | 1500.0 | 0.6929991239510872 | 0.6928001712350285 |
| 15 | 1600.0 | 0.6930226721049507 | 0.692834363264196 |
| 16 | 1700.0 | 0.6930206383483998 | 0.6928217796718373 |
| 17 | 1800.0 | 0.692995624265809 | 0.6927670310525333 |
| 18 | 1900.0 | 0.6929839112332478 | 0.6927332878112793 |
| 19 | 2000.0 | 0.6929647862047389 | 0.692685909130994 |
| 20 | 2100.0 | 0.6929560136679865 | 0.6926538102767047 |
| 21 | 2200.0 | 0.6929356519150849 | 0.6926000223440283 |
| 22 | 2300.0 | 0.6928764837951475 | 0.6924720757147845 |
| 23 | 2400.0 | 0.6928477808473191 | 0.6923964198897866 |
| 24 | 2500.0 | 0.6927835993144823 | 0.6922455500153935 |
| 25 | 2600.0 | 0.6927008240119271 | 0.6920560984050527 |
| 26 | 2700.0 | 0.6925612161124962 | 0.6917392891996047 |
| 27 | 2800.0 | 0.6923410244609999 | 0.691257515374352 |
| 28 | 2900.0 | 0.6920067953026813 | 0.6904889555538402 |
| 29 | 3000.0 | 0.6913482016987271 | 0.688999733504127 |
| 30 | 3100.0 | 0.6900075705730973 | 0.6858484604779411 |
| 31 | 3200.0 | 0.6873926773739322 | 0.6796604465035831 |
| 32 | 3300.0 | 0.6787702516081252 | 0.6592536253087661 |
| 33 | 3400.0 | 0.6643416777901028 | 0.625658228116877 |
| 34 | 3500.0 | 0.629238561299688 | 0.5381664458443137 |
| 35 | 3600.0 | 0.5837867817872964 | 0.4089346037191503 |
| 36 | 3700.0 | 0.5727068313222 | 0.3920569551341674 |
| 37 | 3800.0 | 0.5539168688842064 | 0.297861425753902 |
| 38 | 3900.0 | 0.548697967172245 | 0.31227434119757486 |
| 39 | 4000.0 | 0.5502051758593407 | 0.3621106493998976 |
| 40 | 4100.0 | 0.5470410605919533 | 0.35958364386768904 |
| 41 | 4200.0 | 0.5177073711214434 | 0.27971934790120406 |
| 42 | 4300.0 | 0.516383699748827 | 0.2864468961077578 |
| 43 | 4400.0 | 0.5062401912350586 | 0.27461685503230376 |
| 44 | 4500.0 | 0.5187144776905216 | 0.25852943913025017 |
| 45 | 4600.0 | 0.5030363796341822 | 0.2839396990397397 |

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|----|--------|---------------------|---------------------|
| 46 | 4700.0 | 0.48991783503173053 | 0.263458693290458 |
| 47 | 4800.0 | 0.4808545210151281 | 0.2933942355653819 |
| 48 | 4900.0 | 0.4787110100693749 | 0.31000371890909534 |
| 49 | 5000.0 | 0.47063837722303786 | 0.2781027818427366 |
| 50 | 5100.0 | 0.4657523273917788 | 0.2925564822028665 |
| 51 | 5200.0 | 0.4651887300581748 | 0.29924169182777405 |
| 52 | 5300.0 | 0.4545318930261377 | 0.28540246363948374 |
| 53 | 5400.0 | 0.45082346141194374 | 0.2895231395959854 |
| 54 | 5500.0 | 0.4458044409247988 | 0.28168583354529214 |
| 55 | 5600.0 | 0.44377628505085975 | 0.2847835198044777 |
| 56 | 5700.0 | 0.4385112950551337 | 0.27464887324501486 |
| 57 | 5800.0 | 0.4397430801809122 | 0.29153818987748203 |
| 58 | 5900.0 | 0.43795971943128514 | 0.29627664606360826 |
| 59 | 6000.0 | 0.4331196084222644 | 0.2891287790501819 |
| 60 | 6100.0 | 0.4286022849452956 | 0.28177087271914764 |
| 61 | 6200.0 | 0.427004918816009 | 0.28293488437638564 |
| 62 | 6300.0 | 0.4211444970634248 | 0.27675457561717315 |
| 63 | 6400.0 | 0.41771213402566704 | 0.2724509085802471 |
| 64 | 6500.0 | 0.41437262877965897 | 0.2824758313157979 |
| 65 | 6600.0 | 0.4232267674040679 | 0.31483184195616665 |
| 66 | 6700.0 | 0.40847158046880205 | 0.28611723267856765 |
| 67 | 6800.0 | 0.40292117660100335 | 0.2788042601417093 |
| 68 | 6900.0 | 0.4034991042625501 | 0.3056902587413788 |
| 69 | 7000.0 | 0.39596071279639206 | 0.2832529413349488 |
| 70 | 7100.0 | 0.39733357772519046 | 0.30452924134100184 |
| 71 | 7200.0 | 0.38994507451996135 | 0.3036392068161684 |
| 72 | 7300.0 | 0.38407199905402417 | 0.3013016382122741 |
| 73 | 7400.0 | 0.3778155753613958 | 0.2921644565375412 |
| 74 | 7500.0 | 0.37421763915082684 | 0.3065612197798841 |
| 75 | 7600.0 | 0.37398186005687944 | 0.3163365901393049 |
| 76 | 7700.0 | 0.3616859803273194 | 0.2897573713870609 |
| 77 | 7800.0 | 0.3622490519810702 | 0.316479866995531 |
| 78 | 7900.0 | 0.35106813077981347 | 0.282974973320961 |
| 79 | 8000.0 | 0.34927337217158166 | 0.32282127308494907 |

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|----|--------|--------------------|--------------------|
| 80 | 8100.0 | 0.3414085306731111 | 0.3235609264058225 |
| 81 | 8200.0 | 0.347470550019528 | 0.3531865517006201 |







normalised_entropy

| | epoch | noisy_train |   est      |
|----|--------|--------------------|---|
| 0 | 100.0 | 0.9892445612947446 | 0.9892452891107393 |
| 1 | 200.0 | 0.9961795605262289 | 0.9961790251156837 |
| 2 | 300.0 | 0.9984950659246972 | 0.99849474806069 |
| 3 | 400.0 | 0.9995394712198684 | 0.9995394159999982 |
| 4 | 500.0 | 0.9998667442485379 | 0.9998668465410845 |
| 5 | 600.0 | 0.999964839920325 | 0.999964935217806 |
| 6 | 700.0 | 0.9999955380945831 | 0.999995587265779 |
| 7 | 800.0 | 0.999999659834078 | 0.9999996709027406 |
| 8 | 900.0 | 0.9999997926168808 | 0.9999997593697457 |
| 9 | 1000.0 | 0.9999996552255642 | 0.9999995930517759 |
| 10 | 1100.0 | 0.9999995987712706 | 0.9999995222781718 |
| 11 | 1200.0 | 0.9999997692862799 | 0.9999996921348218 |
| 12 | 1300.0 | 0.9999996606981744 | 0.9999995505876135 |
| 13 | 1400.0 | 0.9999997427873257 | 0.9999996248998978 |
| 14 | 1500.0 | 0.999999699006445 | 0.9999995576649738 |
| 15 | 1600.0 | 0.9999998476310138 | 0.9999997275216239 |
| 16 | 1700.0 | 0.9999998363977615 | 0.9999997062895426 |
| 17 | 1800.0 | 0.9999997848400138 | 0.9999996036678166 |
| 18 | 1900.0 | 0.9999997453796147 | 0.999999543510253 |
| 19 | 2000.0 | 0.9999996851809037 | 0.9999994444272071 |
| 20 | 2100.0 | 0.9999996088523946 | 0.999999355960202 |
| 21 | 2200.0 | 0.9999994930634863 | 0.9999991754875113 |
| 22 | 2300.0 | 0.9999993378141789 | 0.9999988782383736 |
| 23 | 2400.0 | 0.9999991523215 | 0.9999986269920788 |
| 24 | 2500.0 | 0.9999987692387937 | 0.9999980643419255 |
| 25 | 2600.0 | 0.9999982519331241 | 0.9999972716775586 |
| 26 | 2700.0 | 0.9999971067174545 | 0.999995636807302 |
| 27 | 2800.0 | 0.9999950893405556 | 0.9999927704763324 |

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|----|--------|--------------------|---------------------|
| 28 | 2900.0 | 0.9999898439877993 | 0.9999848969128667 |
| 29 | 3000.0 | 0.9999773007654704 | 0.9999661206756761 |
| 30 | 3100.0 | 0.9999309797295628 | 0.999891592531788 |
| 31 | 3200.0 | 0.9997784050884149 | 0.9996405656351008 |
| 32 | 3300.0 | 0.9986529236508078 | 0.9977953208399615 |
| 33 | 3400.0 | 0.9945188209535996 | 0.9906493171026622 |
| 34 | 3500.0 | 0.9665005760803499 | 0.9395424554432036 |
| 35 | 3600.0 | 0.8866175395489747 | 0.7927665073486782 |
| 36 | 3700.0 | 0.8585921177796387 | 0.7061660126100444 |
| 37 | 3800.0 | 0.7817726948944617 | 0.6227065300454899 |
| 38 | 3900.0 | 0.8092306510662608 | 0.659026896135263 |
| 39 | 4000.0 | 0.8497635012701248 | 0.6706212686032665 |
| 40 | 4100.0 | 0.8157677002379412 | 0.6088292408520304 |
| 41 | 4200.0 | 0.7743520306806412 | 0.543715576072792 |
| 42 | 4300.0 | 0.7767367154872875 | 0.5396588967770947 |
| 43 | 4400.0 | 0.7663805028960914 | 0.526727227863885 |
| 44 | 4500.0 | 0.735745341566818 | 0.5051533392939807 |
| 45 | 4600.0 | 0.7644663456162453 | 0.5249900534776677 |
| 46 | 4700.0 | 0.7328653409019477 | 0.48588058103656945 |
| 47 | 4800.0 | 0.7444206365679226 | 0.4827764976444846 |
| 48 | 4900.0 | 0.7036567834956665 | 0.4281415324485368 |
| 49 | 5000.0 | 0.746680021934083 | 0.5023981414610911 |
| 50 | 5100.0 | 0.7464846861178837 | 0.48548109942774165 |
| 51 | 5200.0 | 0.7278239391462855 | 0.45566175775757967 |
| 52 | 5300.0 | 0.7135892506993742 | 0.44377022019564993 |
| 53 | 5400.0 | 0.7096101213747265 | 0.4443407952232573 |
| 54 | 5500.0 | 0.6961486861627292 | 0.43190423721285165 |
| 55 | 5600.0 | 0.6984719675640727 | 0.4310222105546431 |
| 56 | 5700.0 | 0.6831828348948422 | 0.42048271954170185 |
| 57 | 5800.0 | 0.6920083225115445 | 0.4265298542595971 |
| 58 | 5900.0 | 0.6864112950062615 | 0.41795140427428407 |
| 59 | 6000.0 | 0.6821930959339194 | 0.41432679960148233 |
| 60 | 6100.0 | 0.6753803776384156 | 0.4091432421901894 |

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|----|--------|--------------------|---------------------|
| 61 | 6200.0 | 0.6731731706571449 | 0.4095303583233609 |
| 62 | 6300.0 | 0.6559605746066164 | 0.3927457920916669 |
| 63 | 6400.0 | 0.6513173037229151 | 0.39258387756701524 |
| 64 | 6500.0 | 0.6566757117466997 | 0.39588189080827535 |
| 65 | 6600.0 | 0.6683564621744758 | 0.4044799229651966 |
| 66 | 6700.0 | 0.6470181019563251 | 0.38510419309471006 |
| 67 | 6800.0 | 0.6339662496289685 | 0.3838096098466353 |
| 68 | 6900.0 | 0.6444103585309184 | 0.3853469151512811 |
| 69 | 7000.0 | 0.6395563938148934 | 0.38374222497108473 |
| 70 | 7100.0 | 0.6356132820415122 | 0.3767145148898321 |
| 71 | 7200.0 | 0.629638119573429 | 0.3760129480945821 |
| 72 | 7300.0 | 0.6227404237765627 | 0.37024288407504446 |
| 73 | 7400.0 | 0.6100707781419261 | 0.3601962732693702 |
| 74 | 7500.0 | 0.6141120056053261 | 0.3655840656089429 |
| 75 | 7600.0 | 0.6120740108279726 | 0.36361775946749825 |
| 76 | 7700.0 | 0.5911788524943369 | 0.350929796806293 |
| 77 | 7800.0 | 0.5967280858234854 | 0.35128762461037716 |
| 78 | 7900.0 | 0.5725382337826539 | 0.3365327989015597 |
| 79 | 8000.0 | 0.5827926092729652 | 0.34251518859934055 |
| 80 | 8100.0 | 0.5731326087800731 | 0.34158706576572057 |
| 81 | 8200.0 | 0.5795669980151384 | 0.34681945342522164 |

max_p

| | epoch | noisy_train |        |
|---|-------|--------------------|---|
| 0 | 100.0 | 0.5609776460307129 | 0.5609756073394379 |
| 1 | 200.0 | 0.5363715415777162 | 0.5363741221808326 |
| 2 | 300.0 | 0.5228338250218112 | 0.5228361543786326 |
| 3 | 400.0 | 0.5126326937432089 | 0.5126334404458806 |
| 4 | 500.0 | 0.5067951282465505 | 0.5067926912891622 |
| 5 | 600.0 | 0.5034896711754461 | 0.5034852956796622 |
| 6 | 700.0 | 0.5012400934466492 | 0.5012319720521266 |
| 7 | 800.0 | 0.5003282883418575 | 0.5003163226239093 |
| 8 | 900.0 | 0.5002447719913853 | 0.5002610997499031 |

| | | | |
|----|--------|--------------------|--------------------|
| 9 | 1000.0 | 0.5003235744083443 | 0.5003438270158361 |
| 10 | 1100.0 | 0.5003488927188505 | 0.5003752752668561 |
| 11 | 1200.0 | 0.5002460180182934 | 0.5002774679152112 |
| 12 | 1300.0 | 0.500305591987649 | 0.5003412367019229 |
| 13 | 1400.0 | 0.5002517661310978 | 0.5002978878693589 |
| 14 | 1500.0 | 0.5002721801188661 | 0.5003260044529619 |
| 15 | 1600.0 | 0.5001706526885037 | 0.5002351930720907 |
| 16 | 1700.0 | 0.5001780476248974 | 0.5002399119021499 |
| 17 | 1800.0 | 0.5002052277749631 | 0.5002813392313602 |
| 18 | 1900.0 | 0.5002236949536996 | 0.5003035373723131 |
| 19 | 2000.0 | 0.5002497321923526 | 0.5003369035880065 |
| 20 | 2100.0 | 0.5002821190988719 | 0.5003639851076483 |
| 21 | 2200.0 | 0.5003228936444521 | 0.500408530014123 |
| 22 | 2300.0 | 0.5003657643437134 | 0.5004845497117193 |
| 23 | 2400.0 | 0.5004168684408407 | 0.5005406236383159 |
| 24 | 2500.0 | 0.5005041401539638 | 0.5006450624766731 |
| 25 | 2600.0 | 0.5006023009210078 | 0.5007673468793257 |
| 26 | 2700.0 | 0.500777566889627 | 0.5009732184472022 |
| 27 | 2800.0 | 0.5010144204324338 | 0.5012558422194784 |
| 28 | 2900.0 | 0.5014382284309021 | 0.5017788414610118 |
| 29 | 3000.0 | 0.50213076073898 | 0.502660101994955 |
| 30 | 3100.0 | 0.5036361055480717 | 0.504681143114872 |
| 31 | 3200.0 | 0.506418675751313 | 0.5084527923357509 |
| 32 | 3300.0 | 0.5157341461677056 | 0.5208585434809244 |
| 33 | 3400.0 | 0.5318560529712895 | 0.5429880888873438 |
| 34 | 3500.0 | 0.5779878321964191 | 0.609004425869802 |
| 35 | 3600.0 | 0.6536154820457465 | 0.7130235909088645 |
| 36 | 3700.0 | 0.6475025826226329 | 0.74106232354725 |
| 37 | 3800.0 | 0.7305158308646139 | 0.8093038180321178 |
| 38 | 3900.0 | 0.7124894026073939 | 0.7894029174974544 |
| 39 | 4000.0 | 0.64155373822451 | 0.7531279031332437 |
| 40 | 4100.0 | 0.6668907993331628 | 0.7855802546626783 |
| 41 | 4200.0 | 0.7059337698920044 | 0.8223879288653938 |
| 42 | 4300.0 | 0.7021109020195134 | 0.8201535566397191 |

| | | | |
|----|--------|--------------------|--------------------|
| 43 | 4400.0 | 0.7105939908893185 | 0.8279709683278496 |
| 44 | 4500.0 | 0.738549082994245 | 0.8450443819856378 |
| 45 | 4600.0 | 0.7079511081945569 | 0.8264618946139136 |
| 46 | 4700.0 | 0.7316827085651109 | 0.8436500924416508 |
| 47 | 4800.0 | 0.7146186802690392 | 0.8355580862466391 |
| 48 | 4900.0 | 0.7360053072520089 | 0.8569396696639193 |
| 49 | 5000.0 | 0.7227840728898021 | 0.8337799454443088 |
| 50 | 5100.0 | 0.7137963972722465 | 0.8355024794258301 |
| 51 | 5200.0 | 0.7214699860103034 | 0.8449806291229871 |
| 52 | 5300.0 | 0.7329613865051915 | 0.8517216627584538 |
| 53 | 5400.0 | 0.7372230767699679 | 0.8519343763645151 |
| 54 | 5500.0 | 0.7456709980712632 | 0.8586582367849261 |
| 55 | 5600.0 | 0.7428307370526018 | 0.8567070545203611 |
| 56 | 5700.0 | 0.7533781843147981 | 0.8628458472483675 |
| 57 | 5800.0 | 0.7462845675284968 | 0.8577786058132193 |
| 58 | 5900.0 | 0.7485287230528218 | 0.8604498068786508 |
| 59 | 6000.0 | 0.7519604819161552 | 0.8623360366679742 |
| 60 | 6100.0 | 0.7559328972123174 | 0.8646703695322012 |
| 61 | 6200.0 | 0.7575947592460796 | 0.8652848295024242 |
| 62 | 6300.0 | 0.7673629281456756 | 0.873266195322012 |
| 63 | 6400.0 | 0.7699780526099267 | 0.8728306297910899 |
| 64 | 6500.0 | 0.7671766500032333 | 0.8709063521121562 |
| 65 | 6600.0 | 0.7591291644788516 | 0.8641733406647238 |
| 66 | 6700.0 | 0.7712750770432897 | 0.8738884863915382 |
| 67 | 6800.0 | 0.7800972681324924 | 0.8767504718617738 |
| 68 | 6900.0 | 0.7730759295478251 | 0.873804421504486 |
| 69 | 7000.0 | 0.7769249058029004 | 0.8755590619315464 |
| 70 | 7100.0 | 0.7775122018351507 | 0.8766862377386146 |
| 71 | 7200.0 | 0.7813004180046411 | 0.8783386952359513 |
| 72 | 7300.0 | 0.7846592134379505 | 0.8798518172000468 |
| 73 | 7400.0 | 0.7907465641248698 | 0.883629931589668 |
| 74 | 7500.0 | 0.7890841672154792 | 0.8818081907084789 |
| 75 | 7600.0 | 0.7898615762496851 | 0.8816787953279457 |

| | | | |
|----|--------|--------------------|--------------------|
| 76 | 7700.0 | 0.801146867015289 | 0.8888808942239227 |
| 77 | 7800.0 | 0.7976202465047004 | 0.8880461018691479 |
| 78 | 7900.0 | 0.8095073311107823 | 0.8947104098403166 |
| 79 | 8000.0 | 0.8044216938877135 | 0.8905219784030667 |
| 80 | 8100.0 | 0.8099649064096573 | 0.8912809403796365 |
| 81 | 8200.0 | 0.8067354532355306 | 0.8889253754341536 |

metadata

| | epoch | lr_change_ratio | batch_mean_epsilon | batch_valid_ratio | batch_mean_grad_norm | batch_mean_grad_norm | batch_mean_grad_norm |
|----|--------|-----------------|--------------------|-------------------|----------------------|----------------------|----------------------|
| 0 | 100.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 1 | 200.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 2 | 300.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 3 | 400.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 4 | 500.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 5 | 600.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 6 | 700.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 7 | 800.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 8 | 900.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 9 | 1000.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 10 | 1100.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 11 | 1200.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 12 | 1300.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 13 | 1400.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 14 | 1500.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 15 | 1600.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 16 | 1700.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 17 | 1800.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 18 | 1900.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 19 | 2000.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 20 | 2100.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 21 | 2200.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 22 | 2300.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 23 | 2400.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |

| | | | | | | | |
|----|--------|-----|------|----------|------|------|--|
| 24 | 2500.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 25 | 2600.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 26 | 2700.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 27 | 2800.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 28 | 2900.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 29 | 3000.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 30 | 3100.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 31 | 3200.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 32 | 3300.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 33 | 3400.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 34 | 3500.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 35 | 3600.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 36 | 3700.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 37 | 3800.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 38 | 3900.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 39 | 4000.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 40 | 4100.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 41 | 4200.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 42 | 4300.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 43 | 4400.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 44 | 4500.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 45 | 4600.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 46 | 4700.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 47 | 4800.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 48 | 4900.0 | 1.0 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 49 | 5000.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 50 | 5100.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 51 | 5200.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 52 | 5300.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 53 | 5400.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 54 | 5500.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 55 | 5600.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 56 | 5700.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 57 | 5800.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |

| | | | | | | | |
|----|--------|-----|------|----------|------|------|--|
| 58 | 5900.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 59 | 6000.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 60 | 6100.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 61 | 6200.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 62 | 6300.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 63 | 6400.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 64 | 6500.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 65 | 6600.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 66 | 6700.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 67 | 6800.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 68 | 6900.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 69 | 7000.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 70 | 7100.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 71 | 7200.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 72 | 7300.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 73 | 7400.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 74 | 7500.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 75 | 7600.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 76 | 7700.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 77 | 7800.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 78 | 7900.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 79 | 8000.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 80 | 8100.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |
| 81 | 8200.0 | 0.1 | -1.0 | -0.03125 | -1.0 | -1.0 | |