tide convt1

Lucy Score = Throughput x Availability x Acc / 10,000. LPD condenses live-fit vs Acc-champ RAM.
[T]=Tween [S]=Split [FP]=FastProxy [L]=Linear [HP]=HeadProxy
done - epoch 1/1 (1 left, 100% overall) - lr unset - 2026-08-23 13:32:52 -
This epoch 2346 / 2346 cells. Recorded 2346 results. Learning rate unset.
Score 0 usually means the cell finished before a Lucy pulse (Acc never sampled). Score is live-fit: Throughput x Availability x Acc.
SGD that blocks serve dies on Availability. SoftAcc is serve-confidence only.
pi_collection - convt1 - offline report

Lucy champions (this tide)

Axis	Cell	Score	Soft	Acc	Thru	Avail
hard acc	binary|none|Mesh[T][S]Sparse|single|simd	2412.33	25.1	27.5	18286.6	52.6
throughput	float32|none|tween_chain|single|simd	6620.01	25.0	22.3	52468.2	50.5
availability	uint4|none|Mesh[T][S]|single|simd	2743.28	25.0	19.1	19306.7	56.9
lucy score	float32|none|tween_chain|single|simd	6620.01	25.0	22.3	52468.2	50.5
mobile score (trap)	binary|none|tween_chain|single|simd	5908.83	25.0	21.8	47136.8	50.2
t->50%	int16|none|step_sgd|tricameral|simd	118.14	25.0	26.6	1887.0	25.0
acc/sec	float64|none|sgd|single|simd	4951.20	25.0	27.2	43552.7	45.4

Lucy axis champions (this tide)

Axis	Mode	DType	Arch	Value
hard_acc	[T][S]Sparse	uint	bicameralx2	48.05
throughput	tween_chain	float32	singlex1	52468.25
availability	Mesh[T][S]	uint4	singlex1	56.88
score	tween_chain	float32	singlex1	6620.01
soft_acc	Mesh[T][S]Sparse	binary	singlex1	25.10
acc_thru	Mesh[T]Chain	int2	singlex1	14516.61
realtime	tween_chain	float32	singlex1	26493.96
adapt	Step[T]Alt	int	singlex1	25.09
keep_learn	sgd	int2	bicameralx2	13.70
acc_per_sec	sgd	float64	singlex1	12.51
time_to_50	step_sgd	int16	tricameralx3	0.09
consistency	sgd	float64	singlex1	100.00
stability	sgd	fp4	singlex1	100.00
mobile_score	tween_chain	binary	singlex1	61958549~
lpd	[T][S][L]	uint8	singlex1	27.46
mspeed	[T][S][L]	uint8	singlex1	1.00
mavail	[T][S][L]Cache	uint5	singlex1	1.00
mix	[T][S][L]	uint8	singlex1	0.86

Best settings per train mode

Mode	DType	Format	Score	Soft	Acc	Avail	n
tween_chain	float32	none	6620.0	25.0	22.3	50.5	102
Mesh[T]Chain	int8	none	6318.2	25.0	21.7	52.4	102
[T][S][L]	int8	none	6105.6	25.0	18.4	53.3	102
MeshBP	float32	none	6099.4	25.0	28.6	51.5	102
tween	int2	none	6031.4	25.0	26.9	50.6	102
Step[T][S]	float32	none	5945.7	25.0	27.2	50.2	102
step_tween	float32	none	5845.8	25.0	24.4	48.1	102
Mesh[T]	float32	none	5648.0	25.0	30.2	48.2	102
[T][S][FP]	float32	none	5587.7	25.0	22.1	51.9	102
step_tween_chain	float32	none	5539.5	24.9	19.8	47.4	102

sgd	float32	none	5503.3	25.0	24.6	43.3	102
step_sgd	int2	none	5495.5	25.0	27.7	45.0	102
[T][S][L]Cache	float32	none	5081.2	25.0	20.2	52.8	102
[T][S]	float32	none	4934.7	24.9	23.3	50.9	102
[T][S][HP]Async	fp4	none	4144.4	25.0	25.4	52.3	102
[T][S][HP]	float32	none	3705.2	25.0	25.6	52.2	102
[T][S]Sparse	ternary	none	3657.5	25.0	26.4	52.9	102
[T]Alt	float32	none	3602.0	25.0	23.8	46.3	102
Mesh[T][S]	fp4	none	3443.9	25.0	26.9	52.2	102
Step[T]Alt	float32	none	3035.5	25.1	31.3	44.4	102
Mesh[T][S]Sparse	float32	none	2801.3	25.0	21.0	53.4	102
Mesh[T][S][FP]	fp4	none	2738.3	25.0	25.6	51.3	102
Mesh[T]Alt	int8	none	2307.8	25.0	26.9	48.1	102

Best dtype per mode

Mode	Winner dtype	Score	Soft	Acc
tween_chain	float32	6620.0	25.0	22.3
Mesh[T]Chain	int8	6318.2	25.0	21.7
[T][S][L]	int8	6105.6	25.0	18.4
MeshBP	float32	6099.4	25.0	28.6
tween	int2	6031.4	25.0	26.9
Step[T][S]	float32	5945.7	25.0	27.2
step_tween	float32	5845.8	25.0	24.4
Mesh[T]	float32	5648.0	25.0	30.2
[T][S][FP]	float32	5587.7	25.0	22.1
step_tween_chain	float32	5539.5	24.9	19.8
sgd	float32	5503.3	25.0	24.6
step_sgd	int2	5495.5	25.0	27.7
[T][S][L]Cache	float32	5081.2	25.0	20.2
[T][S]	float32	4934.7	24.9	23.3
[T][S][HP]Async	fp4	4144.4	25.0	25.4
[T][S][HP]	float32	3705.2	25.0	25.6
[T][S]Sparse	ternary	3657.5	25.0	26.4
[T]Alt	float32	3602.0	25.0	23.8
Mesh[T][S]	fp4	3443.9	25.0	26.9
Step[T]Alt	float32	3035.5	25.1	31.3
Mesh[T][S]Sparse	float32	2801.3	25.0	21.0
Mesh[T][S][FP]	fp4	2738.3	25.0	25.6
Mesh[T]Alt	int8	2307.8	25.0	26.9

Best mode per dtype

DType	Winner mode	Score	Soft	Acc
float32	tween_chain	6620.0	25.0	22.3
int4	tween_chain	6382.7	25.0	26.6
int8	Mesh[T]Chain	6318.2	25.0	21.7
int2	tween	6031.4	25.0	26.9
binary	tween_chain	5908.8	25.0	21.8
fp4	tween_chain	5892.4	25.0	25.0
ternary	tween_chain	5826.9	25.0	22.0
uint8	tween	5775.5	25.0	22.9
bfloat16	tween_chain	5606.3	25.0	24.3
float16	tween_chain	5402.9	25.0	24.1

float64	tween_chain	5358.7	25.0	22.6
uint16	tween_chain	5046.0	25.0	24.0
fp8e5m2	Mesh[T]Chain	4901.2	25.0	31.0
int64	tween_chain	4785.7	25.0	25.6
fp8e4m3	tween_chain	4731.5	25.0	25.5
uint4	tween_chain	4674.9	25.0	25.9
uint64	Mesh[T]Chain	4647.6	25.0	25.9
int32	tween_chain	4530.5	25.0	27.6
uintptr	MeshBP	4503.1	25.0	22.4
uint	tween_chain	4491.8	25.0	22.9
int16	Mesh[T]Chain	4391.1	25.0	23.2
complex64	MeshBP	4384.9	25.0	24.2
complex128	tween_chain	4350.7	25.0	26.3
int	tween_chain	4253.1	25.0	24.8
uint32	MeshBP	4160.4	25.0	24.8
uint2	tween_chain	4155.0	25.0	20.0
nf4	tween	3762.7	25.0	29.6
uint3	MeshBP	3416.7	25.0	29.7
int3	tween	3271.5	25.0	23.4
uint5	MeshBP	3110.9	25.0	22.9
int6	tween_chain	3091.9	25.0	24.5
fp6	tween_chain	2881.7	25.0	19.9
int5	MeshBP	2827.9	25.0	23.5
uint6	[T][S][FP]	2578.2	25.0	26.0

Leaderboard (Lucy Score)

#	Cell	Score	Soft	Acc	Thru	Avail
1	float32|none|tween_chain|single|simd	6620.0	25.0	22.3	52468.2	50.5
2	int4|none|tween_chain|single|simd	6382.7	25.0	26.6	48312.7	52.9
3	int8|none|Mesh[T]Chain|single|simd	6318.2	25.0	21.7	48251.7	52.4
4	float32|none|Mesh[T]Chain|single|simd	6285.3	25.0	21.0	50071.7	50.3
5	int8|none|[T][S][L]|single|simd	6105.6	25.0	18.4	45883.4	53.3
6	float32|none|MeshBP|single|simd	6099.4	25.0	28.6	47319.5	51.5
7	int2|none|tween|single|simd	6031.4	25.0	26.9	47676.7	50.6
8	int2|none|tween_chain|single|simd	6015.4	25.0	24.7	48437.5	49.7
9	float32|none|Step[T][S]|single|simd	5945.7	25.0	27.2	47347.9	50.2
10	binary|none|tween_chain|single|simd	5908.8	25.0	21.8	47136.8	50.2
11	fp4|none|tween_chain|single|simd	5892.4	25.0	25.0	47691.1	49.4
12	float32|none|step_tween|single|simd	5845.8	25.0	24.4	48645.4	48.1
13	ternary|none|tween_chain|single|simd	5826.9	25.0	22.0	46347.4	50.3
14	fp4|none|tween|single|simd	5802.5	25.0	25.0	47546.8	48.8
15	int8|none|tween_chain|single|simd	5795.3	25.0	25.5	45524.2	50.9
16	binary|none|MeshBP|single|simd	5775.7	25.0	27.0	45638.9	50.7
17	uint8|none|tween|single|simd	5775.5	25.0	22.9	46346.1	49.9
18	fp4|none|Mesh[T]Chain|single|simd	5773.0	25.0	24.7	46611.9	49.5
19	binary|none|tween|single|simd	5768.4	25.0	28.4	46295.3	49.8
20	int2|none|Mesh[T]Chain|single|simd	5752.6	25.0	32.0	45405.1	50.7

Leaderboard (SoftAcc)

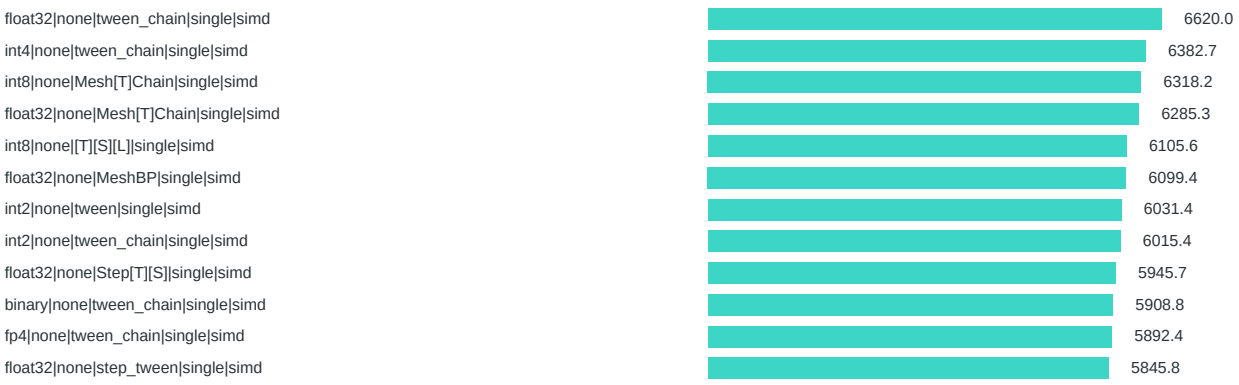
#	Cell	Score	Soft	Acc	Thru	Avail
1	int2|none|[T][S][L]|single|simd	5504.9	25.0	23.0	42072.6	52.2
2	binary|none|tween|single|simd	5768.4	25.0	28.4	46295.3	49.8

3	bfloat16|none|tween_chain|single|simd	5606.3	25.0	24.3	43064.7	52.0
4	binary|none|Mesh[T]Chain|single|simd	5456.5	25.0	24.1	44055.3	49.5
5	int2|none|Step[T][S]|single|simd	5729.0	25.0	27.1	44193.9	51.8
6	uint8|none|tween_chain|single|simd	5629.6	25.0	30.2	45044.9	50.0
7	float32|none|Mesh[T]|single|simd	5648.0	25.0	30.2	46879.3	48.2
8	ternary|none|[T][S][L]|single|simd	5394.7	25.0	28.7	43072.5	50.1
9	float32|none|MeshBP|single|simd	6099.4	25.0	28.6	47319.5	51.5
10	int2|none|Mesh[T]Chain|single|simd	5752.6	25.0	32.0	45405.1	50.7
11	int8|none|tween|single|simd	5588.1	25.0	26.0	45637.5	49.0
12	int2|none|tween|single|simd	6031.4	25.0	26.9	47676.7	50.6
13	int8|none|tween_chain|single|simd	5795.3	25.0	25.5	45524.2	50.9
14	ternary|none|tween_chain|single|simd	5826.9	25.0	22.0	46347.4	50.3
15	int2|none|step_sgd|single|simd	5495.5	25.0	27.7	48859.8	45.0
16	int8|none|Step[T][S]|single|simd	5439.4	25.0	29.9	43252.9	50.3
17	int2|none|tween_chain|single|simd	6015.4	25.0	24.7	48437.5	49.7
18	float32|none|Step[T][S]|single|simd	5945.7	25.0	27.2	47347.9	50.2
19	int8|none|sgd|single|simd	5427.7	25.0	24.8	49422.5	43.9
20	fp4|none|tween_chain|single|simd	5892.4	25.0	25.0	47691.1	49.4

Leaderboard (hard Acc)

#	Cell	Score	Soft	Acc	Thru	Avail
1	int2|none|Mesh[T]Chain|single|simd	5752.6	25.0	32.0	45405.1	50.7
2	uint8|none|tween_chain|single|simd	5629.6	25.0	30.2	45044.9	50.0
3	float32|none|Mesh[T]|single|simd	5648.0	25.0	30.2	46879.3	48.2
4	int4|none|Mesh[T]Chain|single|simd	5626.4	25.0	30.0	45048.7	50.0
5	int8|none|Step[T][S]|single|simd	5439.4	25.0	29.9	43252.9	50.3
6	ternary|none|[T][S][L]|single|simd	5394.7	25.0	28.7	43072.5	50.1
7	float32|none|MeshBP|single|simd	6099.4	25.0	28.6	47319.5	51.5
8	binary|none|tween|single|simd	5768.4	25.0	28.4	46295.3	49.8
9	int2|none|step_sgd|single|simd	5495.5	25.0	27.7	48859.8	45.0
10	float32|none|Step[T][S]|single|simd	5945.7	25.0	27.2	47347.9	50.2
11	int2|none|Step[T][S]|single|simd	5729.0	25.0	27.1	44193.9	51.8
12	binary|none|MeshBP|single|simd	5775.7	25.0	27.0	45638.9	50.7
13	int2|none|tween|single|simd	6031.4	25.0	26.9	47676.7	50.6
14	int4|none|tween_chain|single|simd	6382.7	25.0	26.6	48312.7	52.9
15	int8|none|tween|single|simd	5588.1	25.0	26.0	45637.5	49.0
16	int8|none|tween_chain|single|simd	5795.3	25.0	25.5	45524.2	50.9
17	fp4|none|MeshBP|single|simd	5499.9	25.0	25.1	45325.2	48.5
18	fp4|none|[T][S][L]|single|simd	5750.2	25.0	25.1	44781.5	51.4
19	fp4|none|tween_chain|single|simd	5892.4	25.0	25.0	47691.1	49.4
20	fp4|none|tween|single|simd	5802.5	25.0	25.0	47546.8	48.8

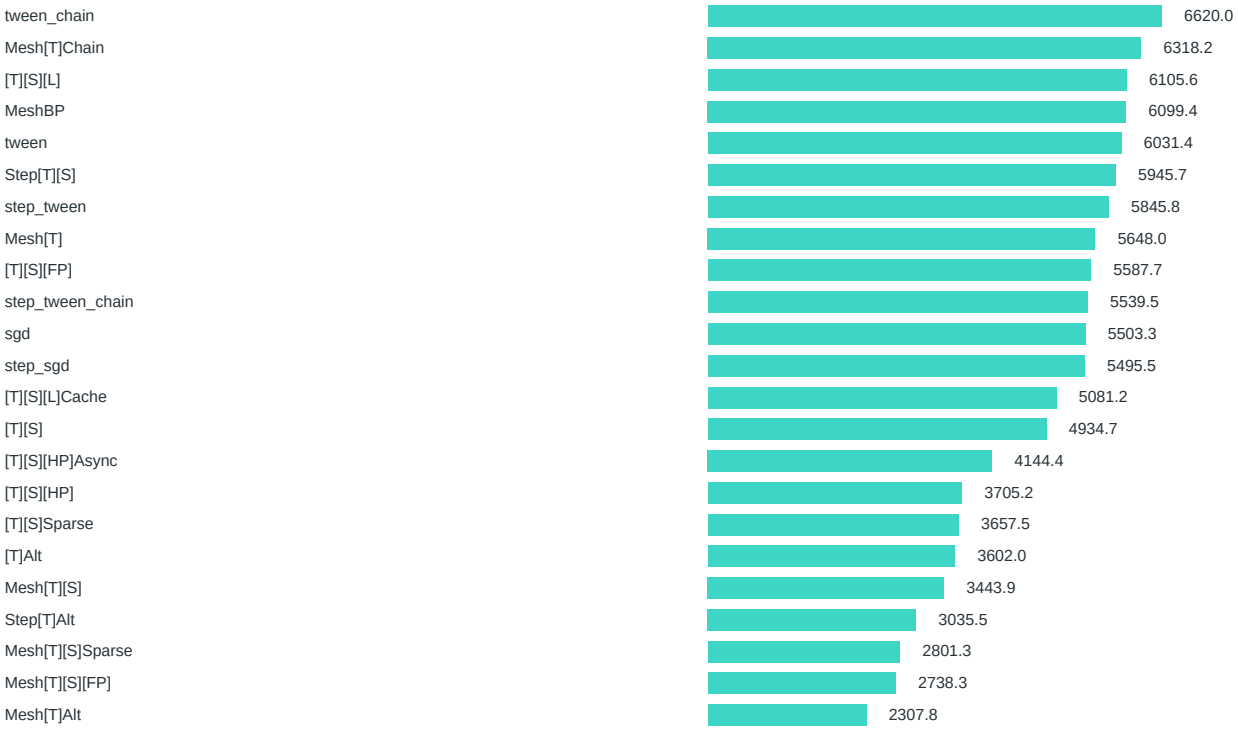
Top scores



Top scores



Best settings per mode



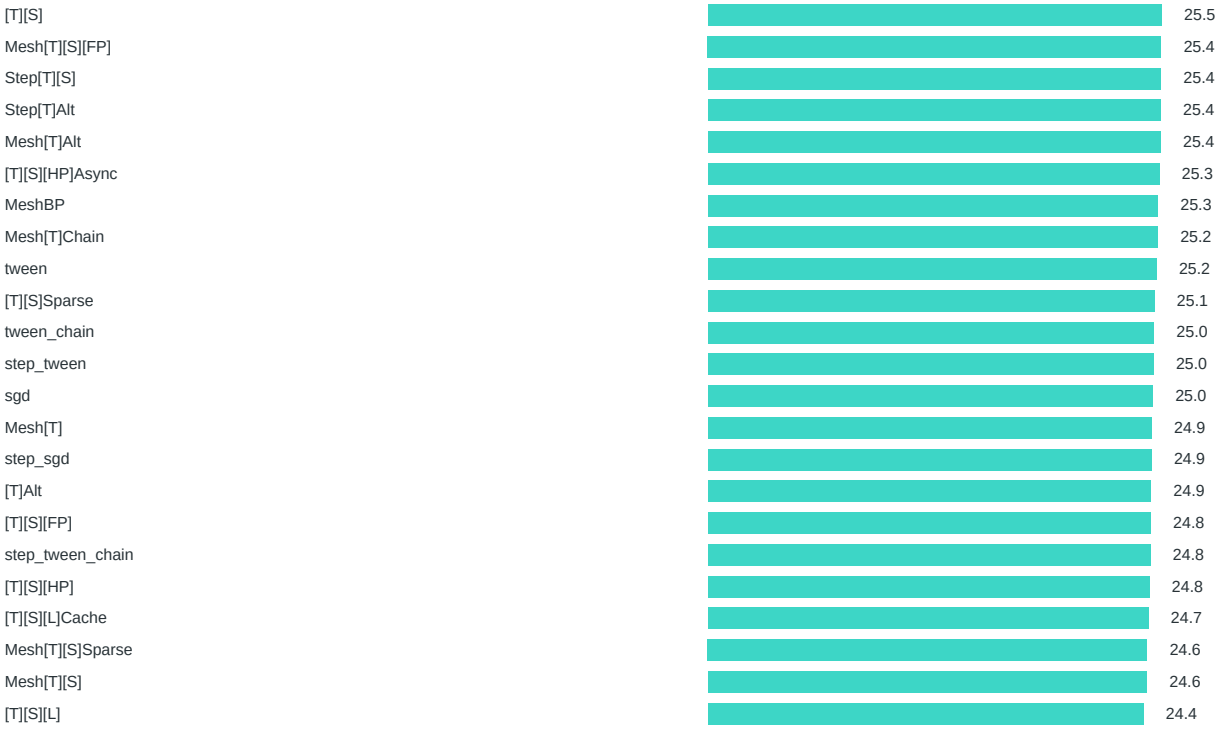
Mean Score by train mode



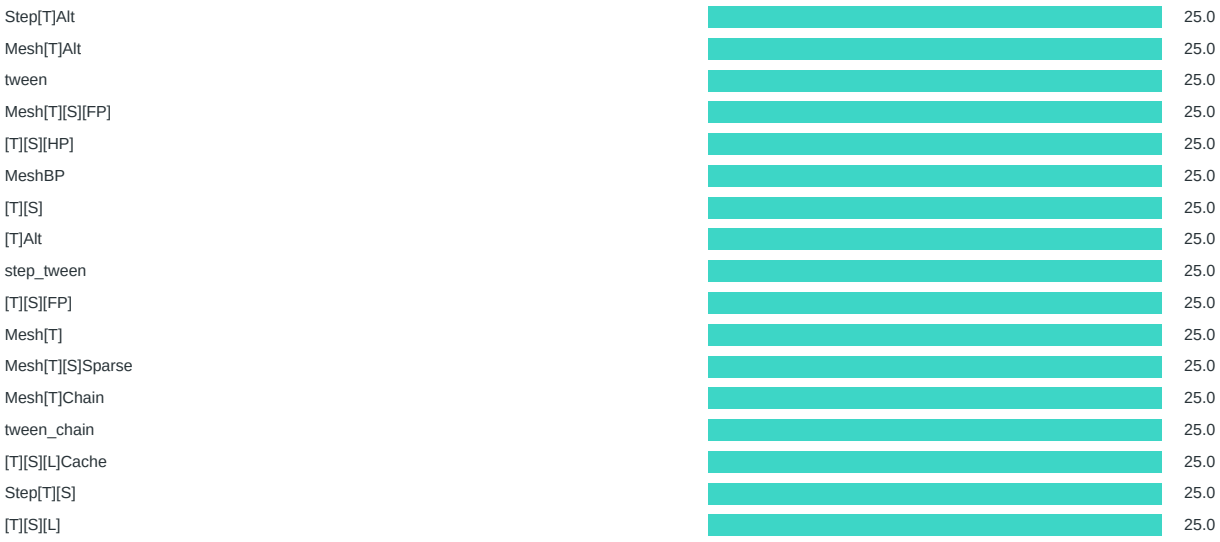
Mean Score by train mode



Mean hard Acc by train mode



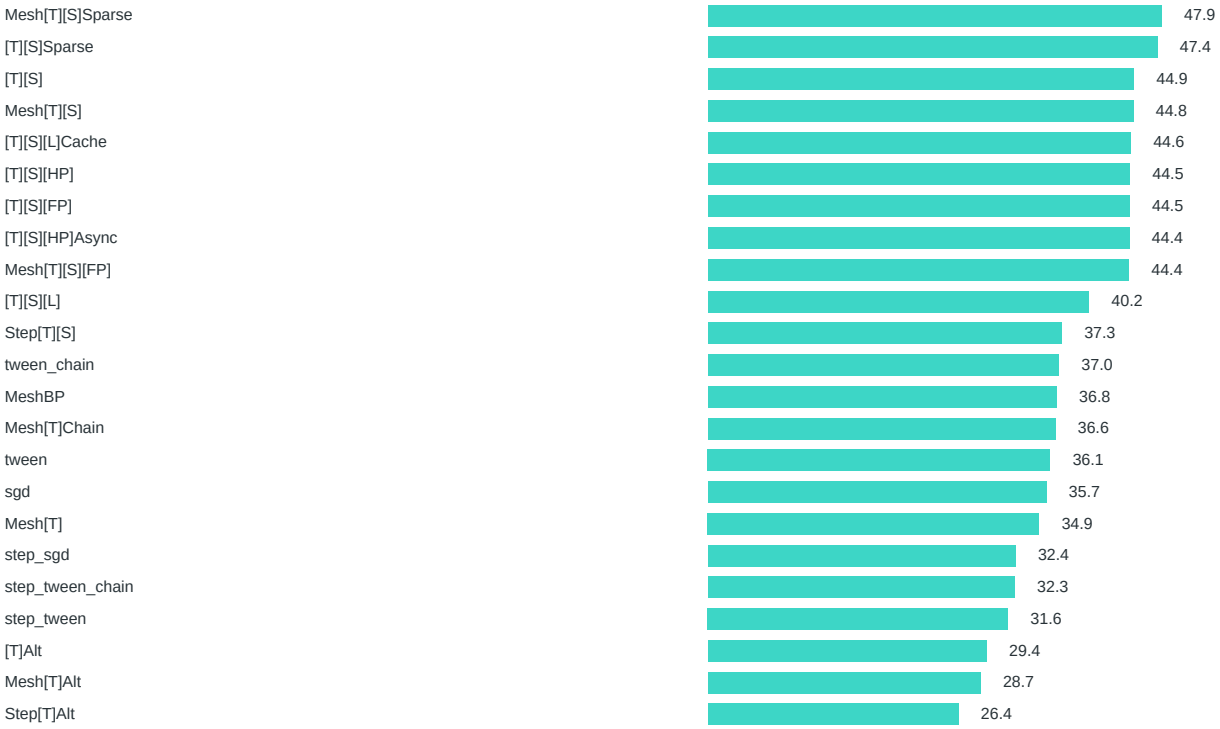
Mean SoftAcc by train mode



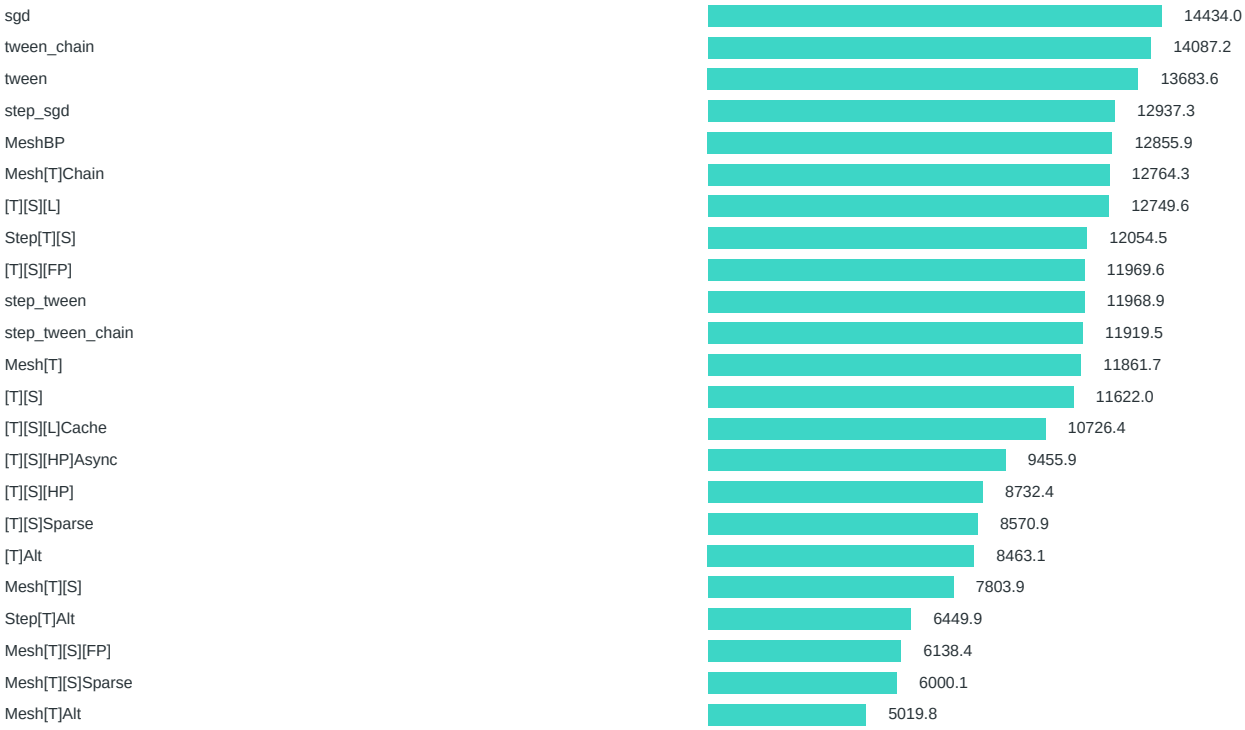
Mean SoftAcc by train mode



Mean Availability by train mode



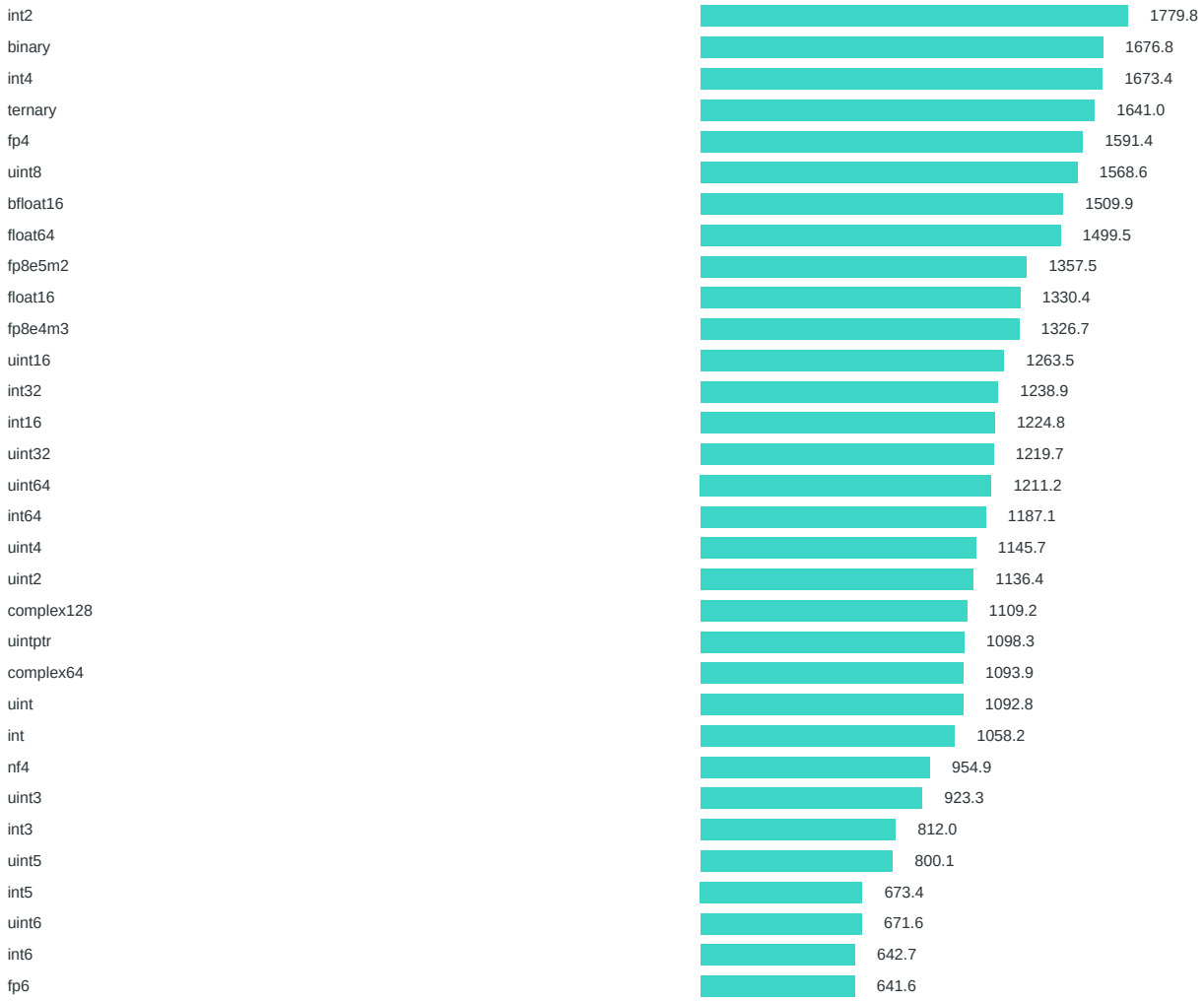
Mean Throughput by train mode



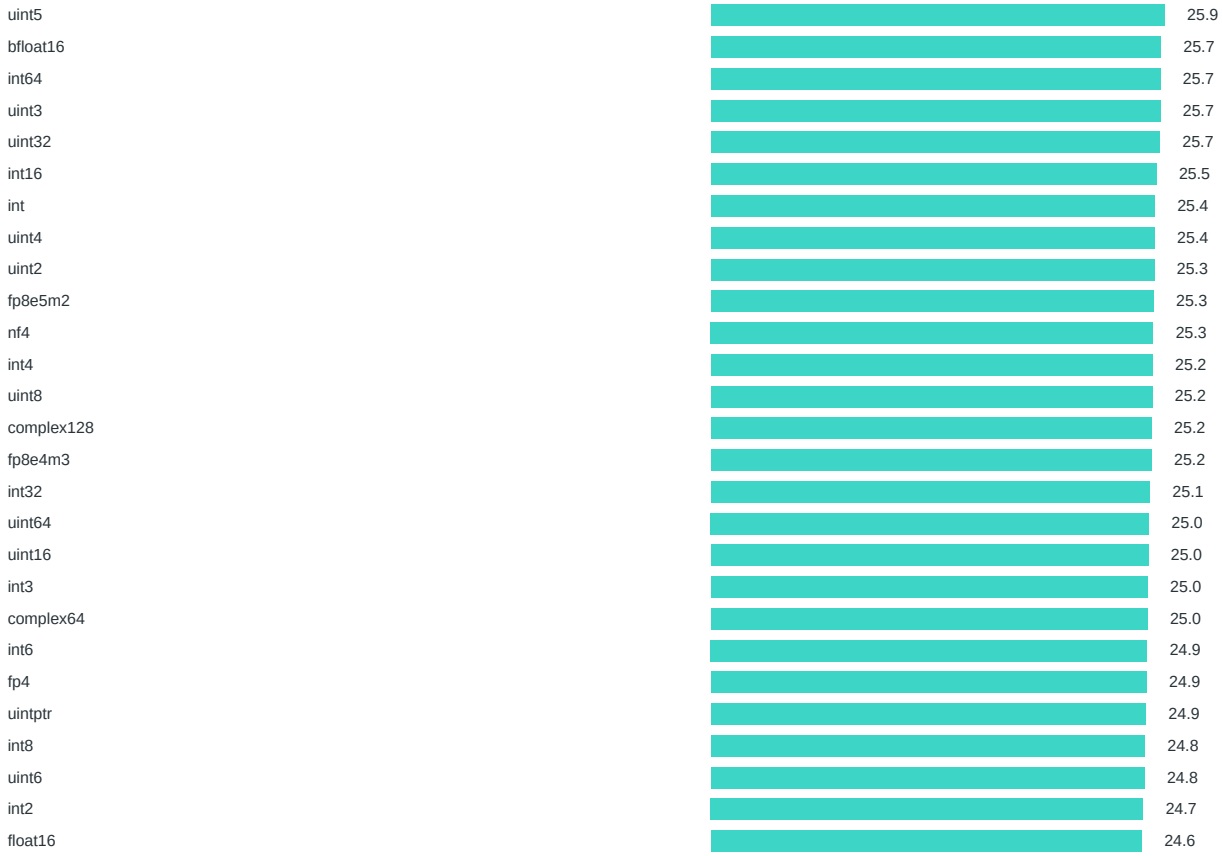
Mean Score by dtype



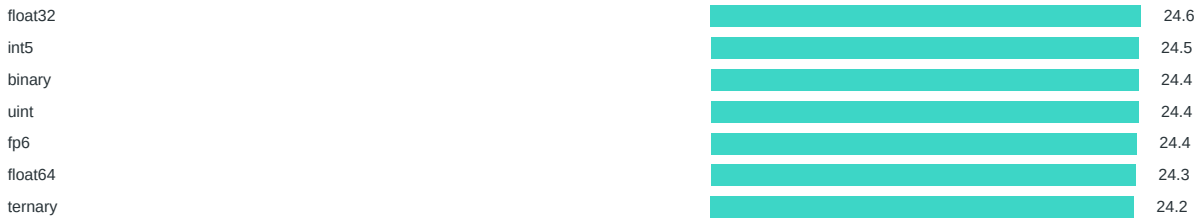
Mean Score by dtype



Mean hard Acc by dtype



Mean hard Acc by dtype



Mean Score by arch



Honesty - mean Score, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	1984	2518	1590	1495	1670	2788	1973	2005	992	1464	1640	1132
Mesh[T]	1662	1809	1180	1034	1283	2686	1781	1741	680	1444	1728	1169
Mesh[T]Alt	550	725	292	526	578	677	489	628	242	689	570	457
Mesh[T]Chain	1921	2116	1087	1521	1320	2241	1730	2051	786	1522	2159	1415
Mesh[T][S]	1546	1308	856	886	848	1302	1350	1389	547	1324	1062	948
Mesh[T][S][FP]	818	1204	694	653	583	981	936	1080	405	781	699	668
Mesh[T][S]Sparse	814	1276	777	630	982	1174	946	940	357	864	843	648
Step[T]Alt	741	780	555	500	899	1368	1030	839	264	681	659	559
Step[T][S]	1864	1874	1026	1389	1638	2769	1491	1719	586	1203	1408	1106
[T]Alt	1120	1408	906	804	1207	1315	1054	984	342	944	1001	805
[T][S]	1984	1957	1095	1443	1781	2146	2058	1841	688	1953	1600	1353
[T][S][FP]	2079	1617	1261	1318	1725	2101	1605	1906	1045	1821	1788	1666
[T][S][HP]	1355	1599	1148	858	1226	1652	1080	1347	635	1251	1059	828
[T][S][HP]Async	1568	1611	809	809	1093	1446	1221	1631	585	1489	1641	962
[T][S][L]	1762	1534	1691	1277	1782	1744	1620	2339	834	1405	1673	976
[T][S][L]Cache	1300	1907	1073	1238	1264	1903	1362	1795	780	1439	1558	951
[T][S]Sparse	1056	1341	976	722	1463	1427	1409	1443	659	1209	980	740
sgd	2100	2012	1132	1384	1626	2416	2178	1886	812	1787	1785	1373
step_sgd	1463	1958	1408	1248	1373	1930	1902	1501	708	1446	1200	1200
step_tween	1541	1473	1351	1126	1318	2320	1470	1765	623	1249	1305	1325
step_tween_chain	1694	1781	1395	1517	1436	1816	1700	1498	566	1306	1489	1164
tween	1749	2640	1566	1350	1601	2104	2201	2120	814	1475	1697	1388
tween_chain	2057	2118	1645	1435	1904	2521	1903	2153	809	1769	1679	1503

Honesty - mean Score, every mode x dtype (cols 13-24)

Honesty - mean Score, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	1543	1945	1350	1589	2476	923	758	1336	2205	1126	2041	1363
Mesh[T]	1283	1919	948	1376	1891	628	492	1253	1928	1268	1413	1101
Mesh[T]Alt	500	684	351	382	782	245	224	573	917	330	756	368
Mesh[T]Chain	1481	2787	1018	1477	2602	776	693	1438	2243	1345	1817	1390
Mesh[T][S]	1123	1235	552	1002	958	538	455	1042	1481	639	1081	1081
Mesh[T][S][FP]	514	679	733	762	1190	522	447	783	1002	532	1114	614
Mesh[T][S]Sparse	506	1137	516	587	939	554	389	660	1175	470	970	587
Step[T]Alt	618	808	265	670	1052	258	216	752	989	637	929	553
Step[T][S]	2020	2372	1056	1493	1929	950	867	1236	2582	1166	2010	1308
[T]Alt	992	942	476	917	1312	315	505	928	1251	803	1226	743
[T][S]	1631	2010	977	1499	1992	951	955	1520	1892	1244	2015	1292
[T][S][FP]	1544	2600	769	1523	1768	762	609	1600	2279	1492	1529	1155
[T][S][HP]	1065	1662	456	1319	1422	586	595	1005	1593	915	1559	1151
[T][S][HP]Async	1248	1198	687	1624	1456	840	703	990	1716	856	1422	931
[T][S][L]	1229	2047	950	1647	1601	532	807	1365	1920	1089	2396	1387
[T][S][L]Cache	1023	2562	1035	1038	1727	905	913	1233	2388	1137	1742	1145
[T][S]Sparse	1071	1538	541	1050	1585	442	679	849	1590	614	1791	1068
sgd	1674	2225	1121	1406	2302	707	686	1373	2303	1102	2086	1483
step_sgd	1175	2443	919	1179	1617	833	759	1310	2079	1010	1950	1263
step_tween	1453	1841	978	996	1851	640	614	1348	1871	904	1837	1159
step_tween_chain	1454	1338	846	1439	1777	788	510	1464	1854	739	1954	1074
tween	1804	2570	1073	1715	1666	902	852	1458	2363	1569	1958	1451
tween_chain	1219	2392	1057	1806	2596	891	1054	1789	2450	976	2148	1466

Honesty - mean Score, every mode x dtype (cols 25-34)

Honesty - mean Score, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	1498	1128	1403	1496	1348	991	905	1271	1963	1408
Mesh[T]	1628	1065	962	1233	1112	770	659	1111	2049	1535
Mesh[T]Alt	506	533	473	589	535	235	328	623	622	588
Mesh[T]Chain	1454	1266	1067	1497	1519	987	722	1698	1601	1452
Mesh[T][S]	1164	998	815	808	831	660	510	1092	1535	964
Mesh[T][S][FP]	1085	931	520	696	869	505	569	653	914	977
Mesh[T][S]Sparse	656	500	738	794	752	316	313	554	1209	940
Step[T]Alt	590	817	289	677	722	364	225	540	838	509
Step[T][S]	1872	1442	868	1369	1032	760	774	1198	1393	1327
[T]Alt	834	901	583	1030	770	507	470	935	1322	769
[T][S]	1179	1367	1099	1708	1523	946	1055	1250	1629	1157
[T][S][FP]	1519	1676	1108	1666	1087	999	945	1414	1577	1449
[T][S][HP]	1133	1211	719	715	799	708	685	1108	1406	808
[T][S][HP]Async	1600	838	953	1076	1067	690	689	1440	1077	1036
[T][S][L]	1290	1564	1293	1267	1670	1072	793	1750	2394	931
[T][S][L]Cache	1091	1511	1073	1926	1278	1274	502	1481	1211	686
[T][S]Sparse	1391	1001	900	1210	1153	740	596	1219	1468	1181
sgd	1583	1068	1017	1450	1575	1028	877	1666	2161	1567
step_sgd	1164	1169	1090	1320	1179	856	735	1205	1890	874
step_tween	1357	1434	862	1313	982	761	622	1472	1602	1339
step_tween_chain	1129	1323	1147	1297	1181	1071	749	1107	1532	1021
tween	1604	1159	1181	1704	1615	1120	818	1399	2093	1354
tween_chain	1729	1237	1075	1213	1751	1042	908	1669	2594	1391

Honesty - mean hard Acc, every mode x dtype (cols 1-12)

Honesty - mean hard Acc, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	28	27	26	24	24	27	26	25	26	25	25	25
Mesh[T]	26	27	25	24	23	26	27	25	25	25	26	27
Mesh[T]Alt	26	25	26	24	23	23	21	25	21	28	23	29
Mesh[T]Chain	26	25	26	24	24	25	25	25	28	26	26	26
Mesh[T][S]	28	21	22	24	22	24	27	25	22	26	24	28
Mesh[T][S][FP]	26	25	24	22	23	25	26	24	27	27	22	25
Mesh[T][S]Sparse	22	25	26	25	25	24	22	25	21	26	26	27
Step[T]Alt	26	23	23	25	30	26	27	23	28	23	26	27
Step[T][S]	26	23	25	27	23	30	21	24	25	25	28	24
[T]Alt	26	23	24	27	27	25	23	24	23	24	25	24
[T][S]	26	26	25	26	28	25	27	25	24	26	26	26
[T][S][FP]	28	27	26	27	25	20	23	24	28	23	26	26
[T][S][HP]	27	27	24	27	23	23	25	26	23	25	21	22
[T][S][HP]Async	24	26	22	21	19	24	22	26	23	22	26	29
[T][S][L]	26	20	28	22	23	22	22	27	26	25	29	24
[T][S][L]Cache	22	23	24	26	26	23	21	25	26	23	24	22
[T][S]Sparse	24	22	26	24	28	25	22	25	23	27	24	22
sgd	26	23	24	25	26	26	27	24	23	25	27	25
step_sgd	25	25	27	26	26	26	26	25	23	28	26	25
step_tween	27	24	26	26	25	24	24	25	24	24	25	26
step_tween_chain	24	26	27	28	25	22	24	25	24	27	28	26
tween	27	27	26	25	23	25	27	25	25	24	28	25
tween_chain	26	23	26	24	26	26	23	25	23	25	23	24

Honesty - mean hard Acc, every mode x dtype (cols 13-24)

Honesty - mean hard Acc, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	28	24	25	24	28	22	23	25	26	28	26	24
Mesh[T]	23	25	25	25	25	21	23	23	24	24	23	25
Mesh[T]Alt	26	27	29	21	24	25	26	23	24	31	23	17
Mesh[T]Chain	25	28	27	24	27	26	23	26	26	27	24	24
Mesh[T][S]	25	26	20	25	19	22	22	23	24	25	23	27
Mesh[T][S][FP]	19	24	30	27	31	26	24	24	22	22	27	25
Mesh[T][S]Sparse	24	23	26	21	25	32	25	25	24	23	25	26
Step[T]Alt	27	23	22	25	26	24	26	28	24	27	25	25
Step[T][S]	30	24	26	27	24	25	28	25	26	28	26	26
[T]Alt	28	23	27	24	27	22	29	25	24	26	25	22
[T][S]	28	24	23	24	27	26	27	24	25	24	23	23
[T][S][FP]	25	27	21	29	26	23	20	31	24	26	20	24
[T][S][HP]	23	24	20	25	24	27	24	28	25	25	25	26
[T][S][HP]Async	31	23	26	34	27	27	31	22	27	20	22	24
[T][S][L]	23	24	24	21	22	26	26	24	24	25	24	24
[T][S][L]Cache	21	30	26	22	27	23	26	27	25	29	23	22
[T][S]Sparse	26	23	28	26	23	18	25	30	24	26	25	32
sgd	25	24	25	24	25	23	23	27	24	25	25	26
step_sgd	25	27	26	27	25	24	24	24	26	22	25	23
step_tween	28	26	24	24	25	24	25	26	25	23	23	25
step_tween_chain	26	20	26	27	24	26	22	27	27	23	24	25
tween	26	26	23	26	25	26	26	25	24	27	24	24
tween_chain	25	24	25	25	25	26	25	28	26	24	24	24

Honesty - mean hard Acc, every mode x dtype (cols 25-34)

Honesty - mean hard Acc, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	22	24	26	27	27	24	24	23	24	22
Mesh[T]	27	24	24	25	27	26	26	25	24	26
Mesh[T]Alt	27	28	25	28	30	20	31	30	26	25
Mesh[T]Chain	23	26	26	23	25	25	27	25	22	27
Mesh[T][S]	27	19	26	24	25	31	24	29	27	31
Mesh[T][S][FP]	24	29	24	26	31	26	30	24	26	28
Mesh[T][S]Sparse	23	21	30	22	27	23	23	21	27	26
Step[T]Alt	26	29	25	26	26	26	25	23	24	25
Step[T][S]	27	27	24	26	23	25	23	23	24	28
[T]Alt	24	23	22	26	21	28	26	22	27	26
[T][S]	27	26	24	29	28	30	26	22	25	22
[T][S][FP]	24	29	29	27	24	21	22	25	21	26
[T][S][HP]	26	28	26	25	25	24	26	25	28	22
[T][S][HP]Async	27	24	30	30	25	27	21	26	26	26
[T][S][L]	24	23	25	24	25	27	16	35	32	17
[T][S][L]Cache	26	27	26	28	21	30	29	24	24	19
[T][S]Sparse	26	27	30	24	23	30	21	23	24	25
sgd	25	22	23	26	28	23	26	26	27	25
step_sgd	21	25	23	25	22	25	26	24	24	25
step_tween	26	27	24	24	23	26	25	26	24	26
step_tween_chain	24	24	25	25	23	24	26	25	23	23
tween	25	22	27	26	26	28	22	24	24	24
tween_chain	24	26	25	24	25	27	27	25	27	25

Honesty - mean SoftAcc, every mode x dtype (cols 1-12)

Honesty - mean SoftAcc, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]Chain	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S]Sparse	25	25	25	25	25	25	25	25	25	25	25	25
Step[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
Step[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]Async	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][L]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][L]Cache	25	25	25	25	25	25	25	25	25	25	25	25
[T][S]Sparse	25	25	25	25	25	25	25	25	25	25	25	25
sgd	25	25	25	25	25	25	25	24	25	25	25	25
step_sgd	25	25	25	25	25	25	25	25	25	25	25	25
step_tween	25	25	25	25	25	25	25	25	25	25	25	25
step_tween_chain	25	25	25	25	25	25	25	25	25	25	25	25
tween	25	25	25	25	25	25	25	25	25	25	25	25
tween_chain	25	25	25	25	25	25	25	25	25	25	25	25

Honesty - mean SoftAcc, every mode x dtype (cols 13-24)

Honesty - mean SoftAcc, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]Chain	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S]Sparse	25	25	25	25	25	25	25	25	25	25	25	25
Step[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
Step[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]Async	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][L]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][L]Cache	25	25	25	25	25	25	25	25	25	25	25	25
[T][S]Sparse	25	25	25	25	25	25	25	25	25	25	25	25
sgd	24	25	25	25	25	25	25	25	25	25	25	25
step_sgd	25	25	25	25	25	25	25	25	25	25	25	25
step_tween	25	25	25	25	25	25	25	25	25	25	25	25
step_tween_chain	25	25	25	25	25	25	25	25	25	25	25	25
tween	25	25	25	25	25	25	25	25	25	25	25	25
tween_chain	25	25	25	25	25	25	25	25	25	25	25	25

Honesty - mean SoftAcc, every mode x dtype (cols 25-34)

Honesty - mean SoftAcc, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	25	25	25	25	25	25	25	25	25	25
Mesh[T]	25	25	25	25	25	25	25	25	25	25
Mesh[T]Alt	25	25	25	25	25	25	25	25	25	25
Mesh[T]Chain	25	25	25	25	25	25	25	25	25	25
Mesh[T][S]	25	25	25	25	25	25	25	25	25	25
Mesh[T][S][FP]	25	25	25	25	25	25	25	25	25	25
Mesh[T][S]Sparse	25	25	25	25	25	25	25	25	25	25
Step[T]Alt	25	25	25	25	25	25	25	25	25	25
Step[T][S]	25	25	25	25	25	25	25	25	25	25
[T]Alt	25	25	25	25	25	25	25	25	25	25
[T][S]	25	25	25	25	25	25	25	25	25	25
[T][S][FP]	25	25	25	25	25	25	25	25	25	25
[T][S][HP]	25	25	25	25	25	25	25	25	25	25
[T][S][HP]Async	25	25	25	25	25	25	25	25	25	25
[T][S][L]	25	25	25	25	25	25	25	25	25	25
[T][S][L]Cache	25	25	25	25	25	25	25	25	25	25
[T][S]Sparse	25	25	25	25	25	25	25	25	25	25
sgd	25	24	25	25	25	25	25	25	25	25
step_sgd	25	25	25	25	25	25	25	25	25	25
step_tween	25	25	25	25	25	25	25	25	25	25
step_tween_chain	25	25	25	25	25	25	25	25	25	25
tween	25	25	25	25	25	25	25	25	25	25
tween_chain	25	25	25	25	25	25	25	25	25	25

Honesty - mean Avail, every mode x dtype (cols 1-12)

Honesty - mean Avail, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	39	41	35	36	37	41	41	35	35	37	37	36
Mesh[T]	38	39	33	34	35	40	39	33	31	36	35	33
Mesh[T]Alt	30	29	27	30	30	32	31	28	25	29	29	27
Mesh[T]Chain	40	40	35	35	38	41	41	36	33	36	37	35
Mesh[T][S]	47	45	45	46	46	45	44	43	41	47	47	44
Mesh[T][S][FP]	46	45	46	46	45	44	45	44	43	44	44	45
Mesh[T][S]Sparse	49	52	49	48	47	51	50	47	44	47	47	48
Step[T]Alt	28	28	27	25	29	30	31	26	22	28	28	28
Step[T][S]	40	41	37	37	39	42	41	38	34	38	38	37
[T]Alt	30	32	29	29	30	33	34	26	26	30	30	31
[T][S]	46	46	45	44	47	47	45	44	42	47	45	46
[T][S][FP]	45	44	43	45	48	46	46	45	42	47	47	46
[T][S][HP]	45	43	44	45	47	48	44	44	42	47	47	44
[T][S][HP]Async	46	45	43	45	47	46	46	44	41	47	45	46
[T][S][L]	43	39	41	41	42	43	43	46	39	39	42	38
[T][S][L]Cache	45	46	46	45	45	47	44	46	42	47	45	45
[T][S]Sparse	46	51	47	45	48	48	51	49	44	47	47	48
sgd	37	39	36	37	36	39	39	35	33	36	36	36
step_sgd	33	35	34	34	33	35	38	31	29	31	33	31
step_tween	32	35	31	31	32	39	35	33	27	31	32	31
step_tween_chain	34	35	31	33	31	37	36	31	28	33	33	32
tween	37	39	36	36	36	42	41	36	33	36	36	35
tween_chain	39	41	38	36	38	41	42	37	34	38	38	36

Honesty - mean Avail, every mode x dtype (cols 13-24)

Honesty - mean Avail, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	37	40	35	37	39	34	32	38	40	35	39	35
Mesh[T]	35	38	33	35	35	34	31	35	38	33	36	33
Mesh[T]Alt	30	30	27	28	31	25	26	29	33	27	31	28
Mesh[T]Chain	37	40	34	37	39	34	35	36	40	34	40	35
Mesh[T][S]	46	45	43	48	45	42	42	47	46	43	43	45
Mesh[T][S][FP]	46	42	43	46	45	42	42	46	44	43	44	44
Mesh[T][S]Sparse	44	50	45	49	50	45	45	49	53	45	50	48
Step[T]Alt	27	29	23	28	27	23	25	27	30	25	28	26
Step[T][S]	37	40	34	36	39	35	35	37	41	35	40	35
[T]Alt	30	29	26	31	31	25	25	30	32	29	31	29
[T][S]	47	46	42	46	45	42	42	46	46	42	45	45
[T][S][FP]	46	46	42	46	44	41	42	46	45	42	41	44
[T][S][HP]	47	45	40	47	44	41	43	47	46	42	45	42
[T][S][HP]Async	45	44	41	47	44	42	41	47	45	42	44	44
[T][S][L]	39	40	38	41	40	38	37	40	41	39	41	40
[T][S][L]Cache	47	46	44	44	43	42	42	46	46	42	45	43
[T][S]Sparse	49	51	43	48	49	44	44	45	52	45	51	46
sgd	36	36	34	36	37	32	33	35	38	33	38	35
step_sgd	33	37	28	35	34	30	28	33	38	28	36	31
step_tween	32	34	29	32	35	29	27	30	36	30	36	31
step_tween_chain	31	35	30	33	35	30	28	33	35	31	35	31
tween	36	39	34	37	36	33	32	35	39	34	40	34
tween_chain	36	39	36	38	39	35	36	38	41	32	39	36

Honesty - mean Avail, every mode x dtype (cols 25-34)

Honesty - mean Avail, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	37	35	35	37	36	34	34	37	41	35
Mesh[T]	38	32	33	36	34	33	30	36	39	34
Mesh[T]Alt	28	30	27	30	28	26	26	30	31	29
Mesh[T]Chain	35	36	34	38	37	33	33	35	40	36
Mesh[T][S]	47	45	44	46	46	43	43	45	45	45
Mesh[T][S][FP]	47	46	42	45	46	41	43	44	44	46
Mesh[T][S]Sparse	48	49	46	50	49	44	42	49	51	48
Step[T]Alt	27	26	22	27	27	23	22	25	27	24
Step[T][S]	37	36	34	37	36	35	35	36	40	36
[T]Alt	30	29	28	31	29	27	27	30	32	28
[T][S]	45	46	42	47	46	42	43	46	45	47
[T][S][FP]	45	45	42	46	44	42	42	46	45	45
[T][S][HP]	46	46	43	45	45	43	42	46	44	45
[T][S][HP]Async	45	45	42	47	44	42	42	47	44	45
[T][S][L]	40	40	37	41	39	39	38	41	42	40
[T][S][L]Cache	44	45	44	47	46	43	41	46	44	44
[T][S]Sparse	48	48	45	50	47	45	44	49	50	47
sgd	38	35	33	36	35	33	32	37	39	34
step_sgd	31	32	30	32	32	29	28	33	34	30
step_tween	32	31	28	31	32	28	28	32	33	31
step_tween_chain	32	32	30	32	33	30	28	33	35	32
tween	36	35	34	37	34	33	34	35	40	35
tween_chain	37	35	33	34	37	34	34	36	40	35

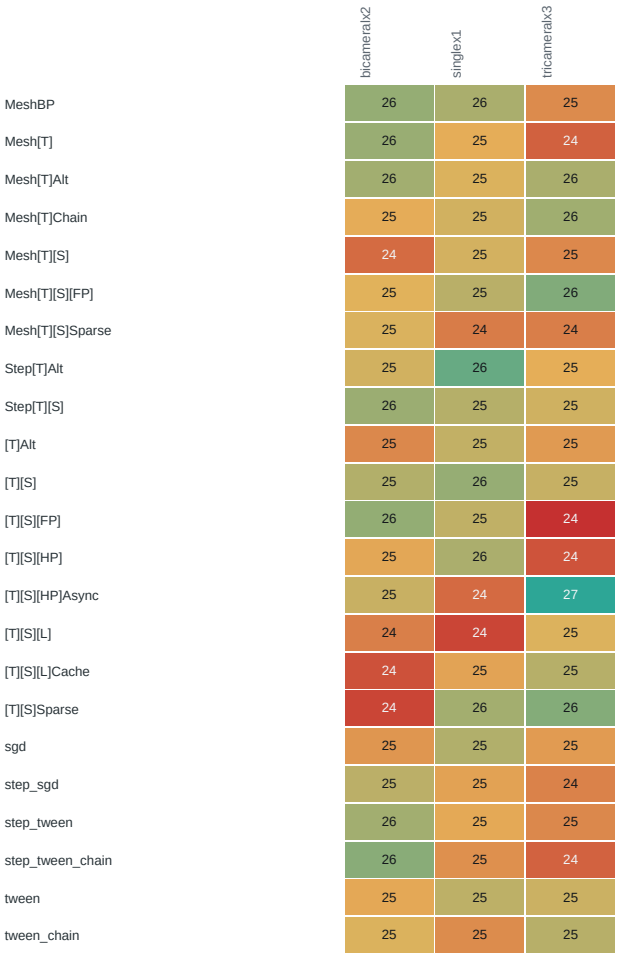
Mean Score, every mode x arch

Mean Score, every mode x arch

	bicameralx2	singlex1	tricameralx3
MeshBP	313	4198	193
Mesh[T]	259	3624	159
Mesh[T]Alt	65	1442	43
Mesh[T]Chain	273	4152	181
Mesh[T][S]	275	2547	172
Mesh[T][S][FP]	238	1907	158
Mesh[T][S]Sparse	279	1774	199
Step[T]Alt	69	1844	46
Step[T][S]	300	3838	195
[T]Alt	108	2507	69
[T][S]	449	3689	344
[T][S][FP]	453	3762	286
[T][S][HP]	358	2579	298
[T][S][HP]Async	355	2837	250
[T][S][L]	366	3776	237
[T][S][L]Cache	369	3381	260
[T][S]Sparse	382	2596	296
sgd	367	4046	258
step_sgd	290	3540	172
step_tween	216	3536	140
step_tween_chain	213	3546	136
tween	334	4226	217
tween_chain	325	4394	218

Mean hard Acc, every mode x arch

Mean hard Acc, every mode x arch



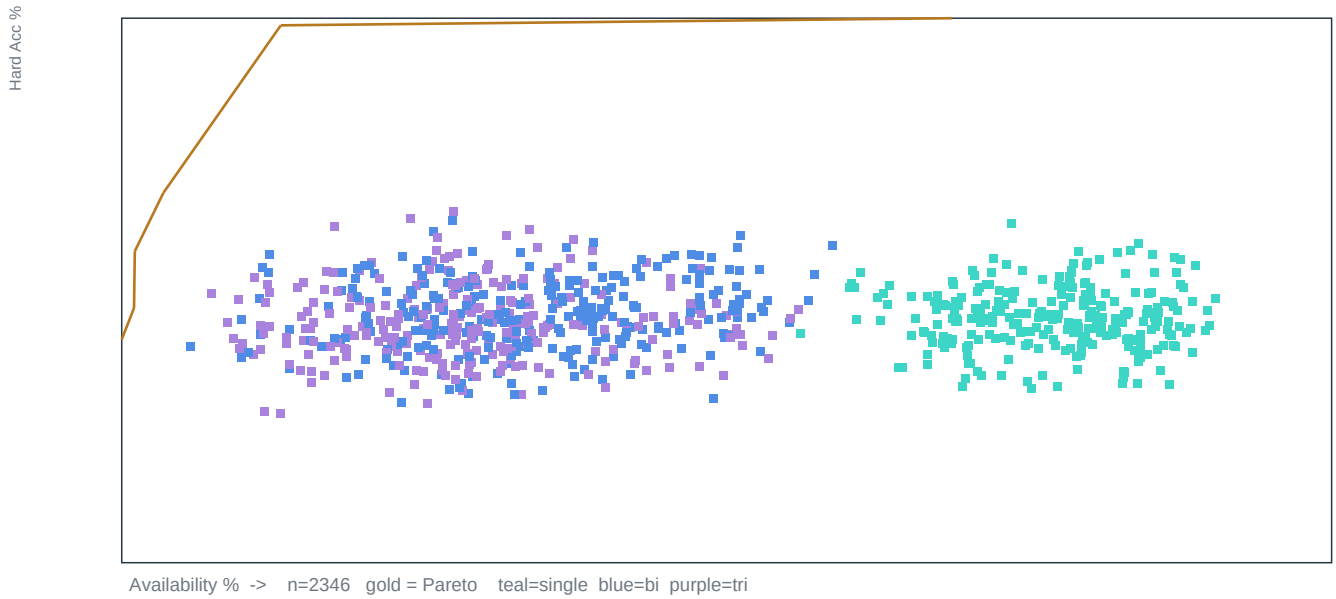
	bicameralx2	singlex1	tricameralx3
MeshBP	26	26	25
Mesh[T]	26	25	24
Mesh[T]Alt	26	25	26
Mesh[T]Chain	25	25	26
Mesh[T][S]	24	25	25
Mesh[T][S][FP]	25	25	26
Mesh[T][S]Sparse	25	24	24
Step[T]Alt	25	26	25
Step[T][S]	26	25	25
[T]Alt	25	25	25
[T][S]	25	26	25
[T][S][FP]	26	25	24
[T][S][HP]	25	26	24
[T][S][HP]Async	25	24	27
[T][S][L]	24	24	25
[T][S][L]Cache	24	25	25
[T][S]Sparse	24	26	26
sgd	25	25	25
step_sgd	25	25	24
step_tween	26	25	25
step_tween_chain	26	25	24
tween	25	25	25
tween_chain	25	25	25

Mean Avail, every mode x arch

Mean Avail, every mode x arch

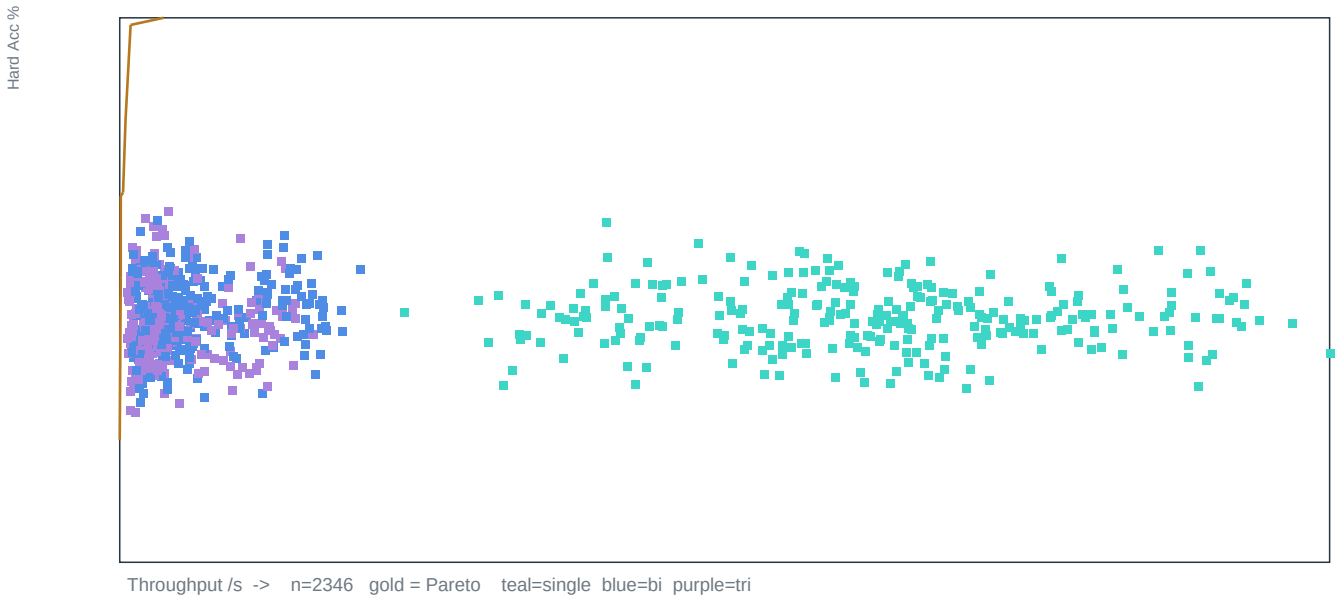
	bicameralx2	singlex1	tricameralx3
MeshBP	31	51	29
Mesh[T]	29	48	27
Mesh[T]Alt	22	44	21
Mesh[T]Chain	31	50	28
Mesh[T][S]	42	53	39
Mesh[T][S][FP]	43	51	39
Mesh[T][S]Sparse	46	52	45
Step[T]Alt	20	40	19
Step[T][S]	32	49	30
[T]Alt	23	44	21
[T][S]	42	53	40
[T][S][FP]	42	52	40
[T][S][HP]	43	51	40
[T][S][HP]Async	42	52	39
[T][S][L]	36	50	34
[T][S][L]Cache	42	52	40
[T][S]Sparse	46	51	45
sgd	32	44	31
step_sgd	28	44	25
step_tween	25	46	23
step_tween_chain	26	47	24
tween	31	49	29
tween_chain	32	50	29

Pillars - Availability vs hard Acc

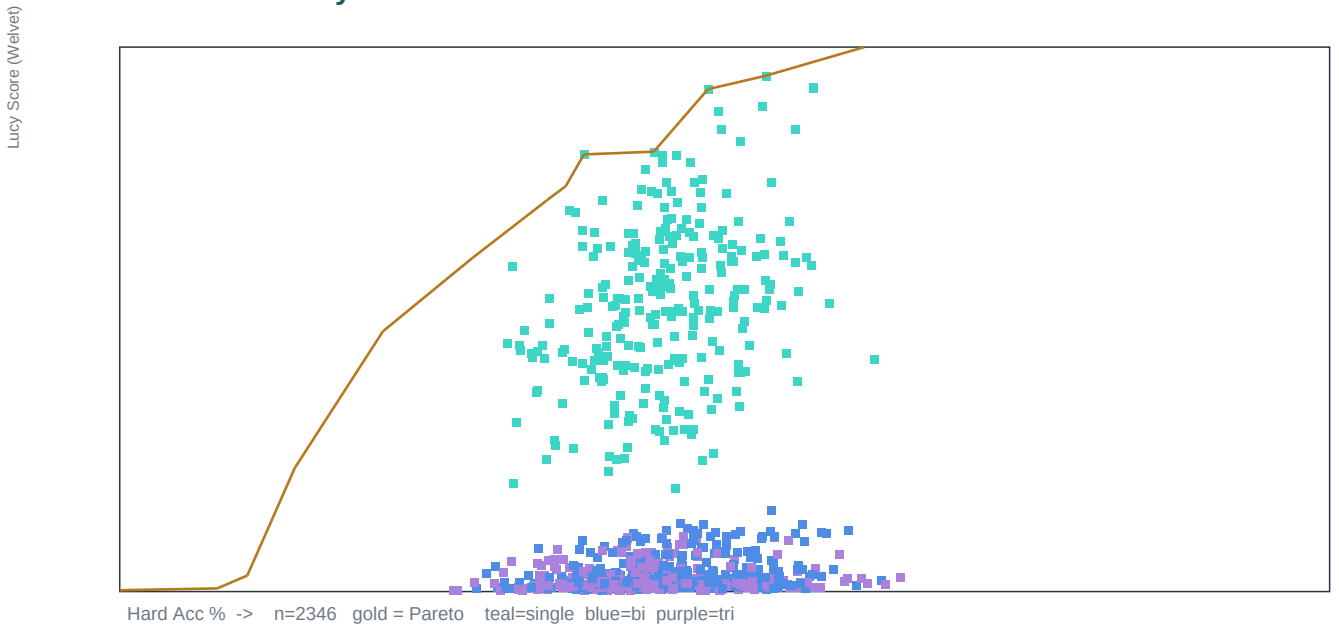


Pillars - Throughput vs hard Acc

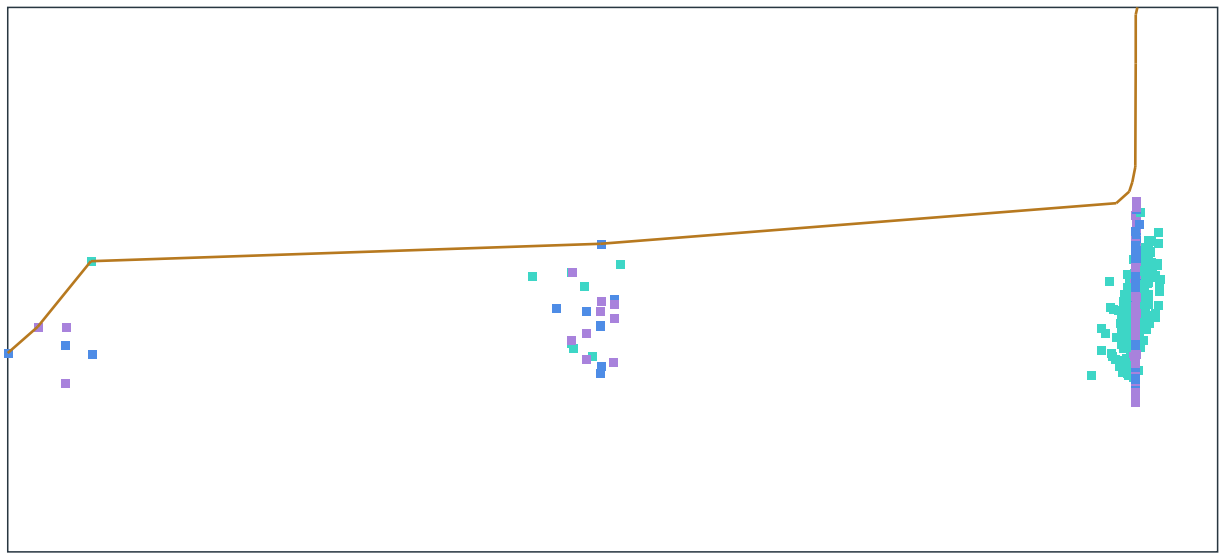
Pillars - Throughput vs hard Acc



Pareto - hard Acc vs Lucy Score

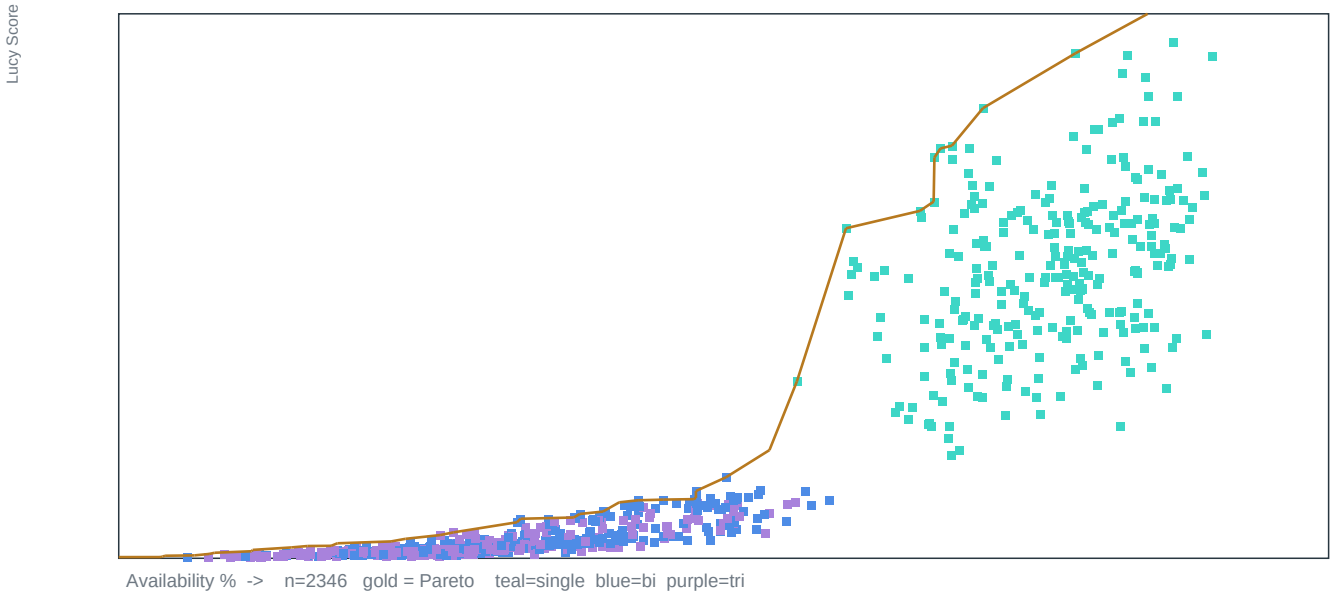


SoftAcc (serve-confidence) vs hard Acc

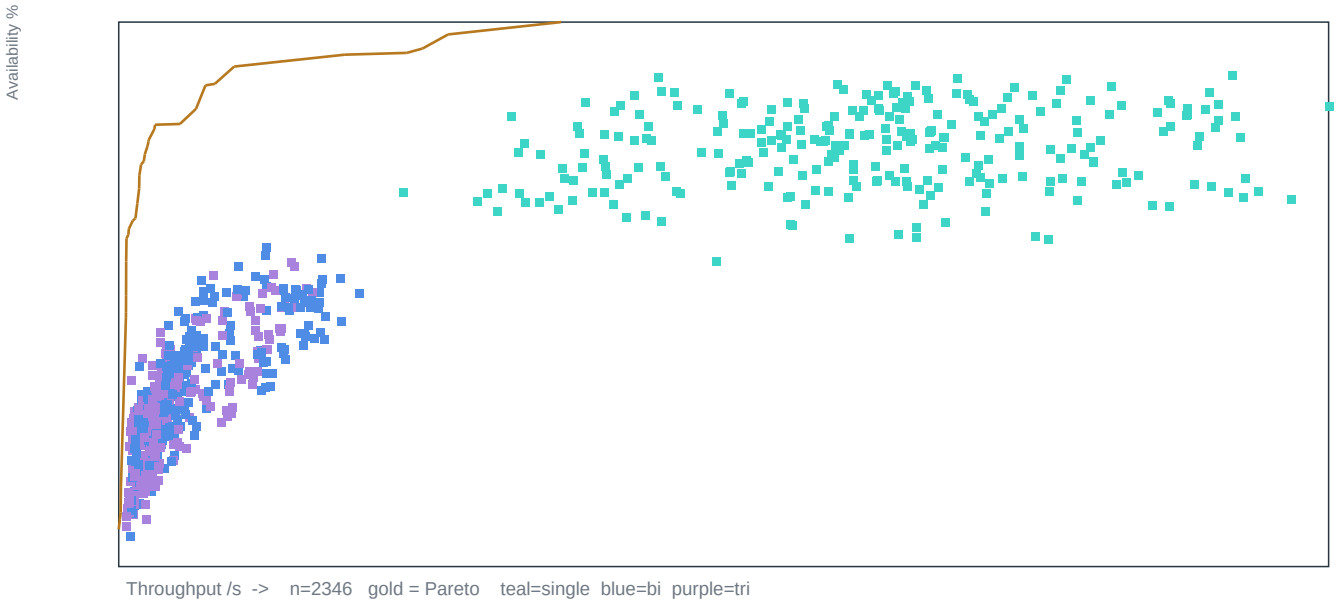



SoftAcc % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

Avail vs Lucy Score (duty clock)



Pillars - Throughput vs Availability



AdaptPct vs hard Acc



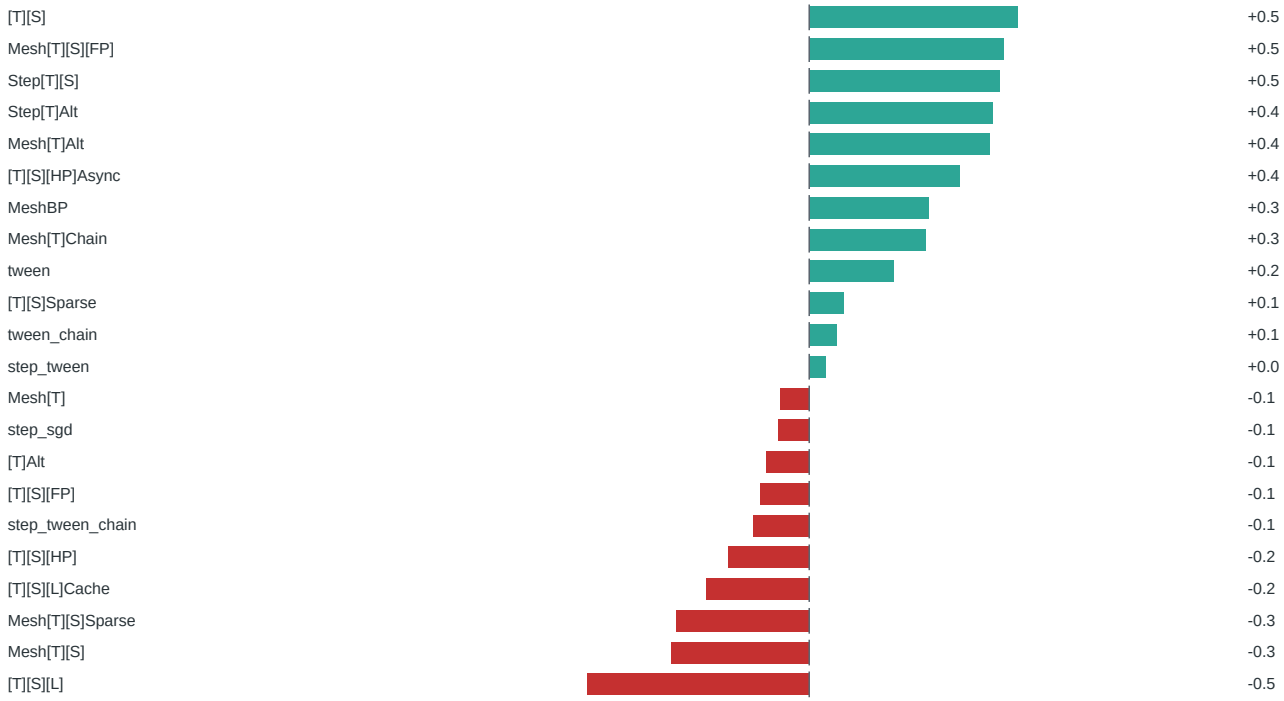

AdaptPct % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

vs sgd - matched dtype x format x arch

AccDelta is the honest column. ScoreDelta is usually Availability (duty clock), not a better chain rule. Acc win = AccDelta > 0.5. Score win = ScoreDelta > 1. Baseline is discovered from the board, not a frozen StepBP list.

mode	n	AccD	Acc win%	SoftD	AvailD	ThruD	ScoreD	Score win%
[T][S]	102	+0.5	48	+0.2	+9.2	-2812	-63.5	68
Mesh[T][S][FP]	102	+0.5	45	+0.2	+8.7	-8296	-789.4	9
Step[T][S]	102	+0.5	55	+0.2	+1.6	-2379	-113.3	22
Step[T]Alt	102	+0.4	44	+0.2	-9.3	-7984	-904.6	0
Mesh[T]Alt	102	+0.4	48	+0.2	-7.0	-9414	-1040.7	0
[T][S][HP]Async	102	+0.4	47	+0.2	+8.8	-4978	-410.2	43
MeshBP	102	+0.3	48	+0.2	+1.1	-1578	+10.7	26
Mesh[T]Chain	102	+0.3	49	+0.2	+0.9	-1670	-22.1	25
tween	102	+0.2	48	+0.2	+0.4	-750	+34.8	39
[T][S]Sparse	102	+0.1	42	+0.2	+11.7	-5863	-466.1	43
tween_chain	102	+0.1	43	+0.2	+1.3	-347	+88.2	47
step_tween	102	+0.0	50	+0.2	-4.0	-2465	-260.3	5
Mesh[T]	102	-0.1	40	+0.2	-0.8	-2572	-209.8	10
step_sgd	102	-0.1	43	+0.1	-3.3	-1497	-223.4	15
[T]Alt	102	-0.1	45	+0.2	-6.3	-5971	-662.6	0
[T][S][FP]	102	-0.1	47	+0.2	+8.8	-2464	-57.4	65
step_tween_chain	102	-0.1	42	+0.2	-3.3	-2515	-258.7	9
[T][S][HP]	102	-0.2	43	+0.2	+8.8	-5702	-479.2	40
[T][S][L]Cache	102	-0.2	41	+0.2	+8.9	-3708	-220.7	49
Mesh[T][S]Sparse	102	-0.3	39	+0.2	+12.2	-8434	-807.0	12
Mesh[T][S]	102	-0.3	45	+0.2	+9.2	-6630	-559.4	16
[T][S][L]	102	-0.5	37	+0.2	+4.5	-1684	-97.6	49

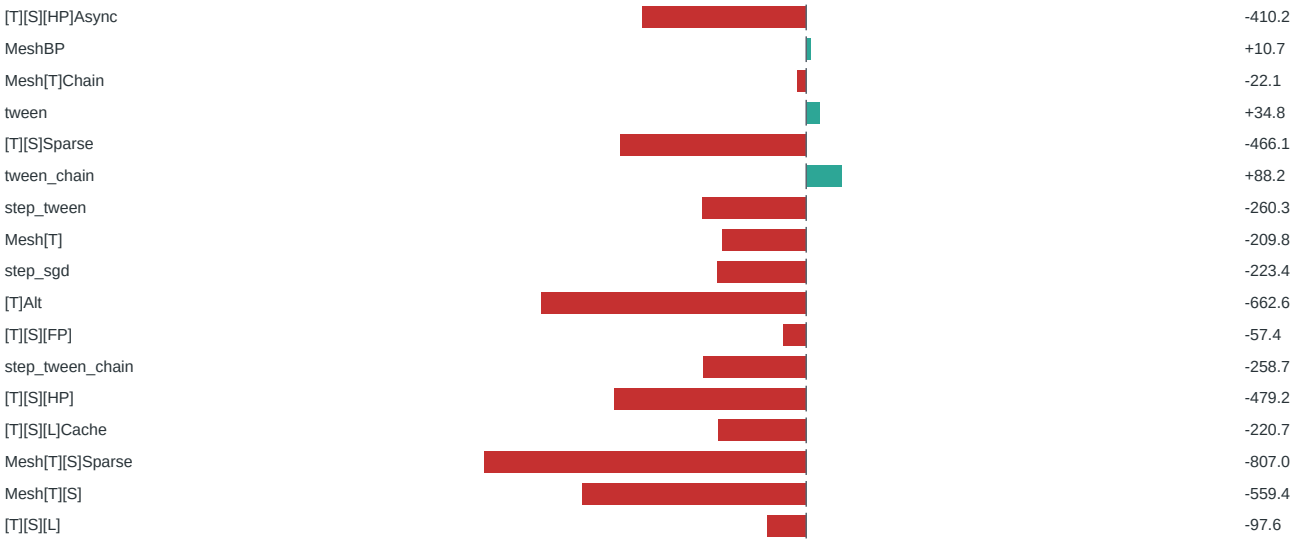
mean AccD vs sgd



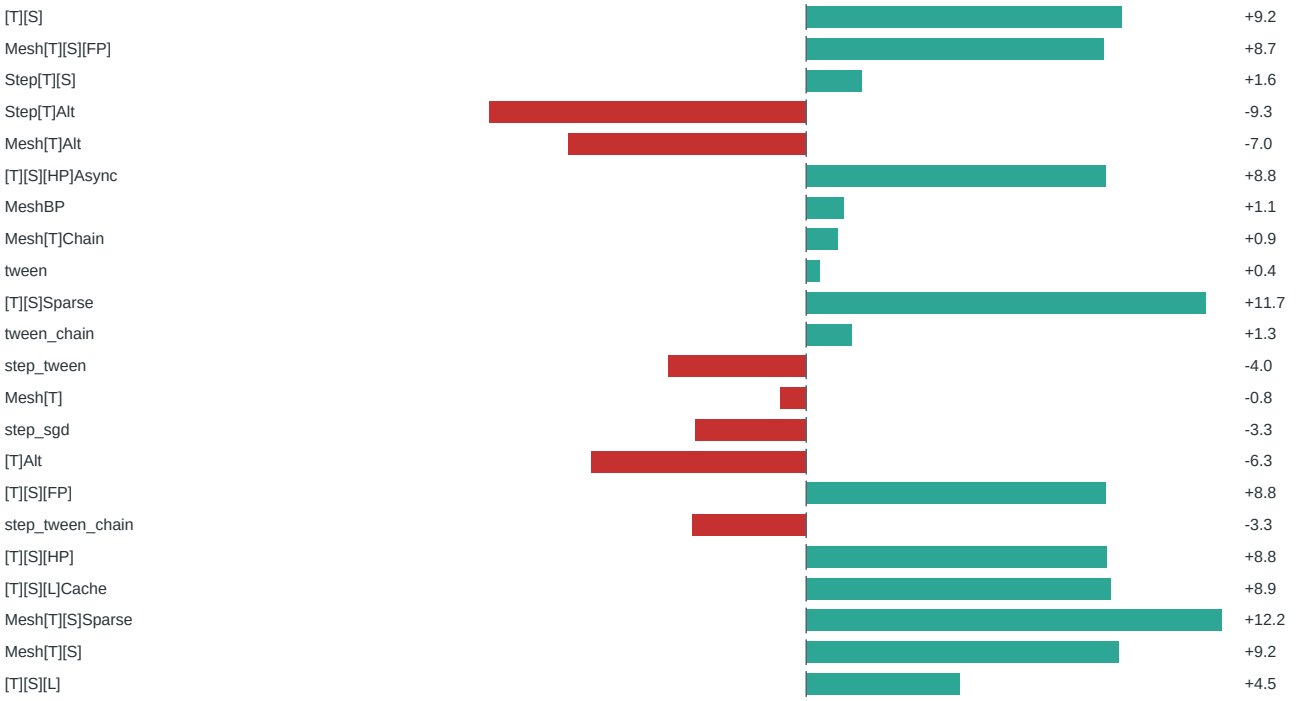
mean ScoreD vs sgd (duty clock)



mean ScoreD vs sgd (duty clock)



mean AvailD vs sgd



AccD vs sgd, every mode x dtype (cols 1-12)

AccD vs sgd, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	+2	+3	+2	-1	-2	+1	-1	+1	+3	-0	-2	+0
Mesh[T]	+0	+4	+1	-1	-3	+0	+0	+1	+2	-0	-1	+2
Mesh[T]Alt	+0	+2	+2	-1	-3	-3	-6	+1	-2	+2	-4	+5
Mesh[T]Chain	-0	+2	+2	-1	-2	-1	-2	+0	+5	+1	-1	+2
Mesh[T][S]	+2	-3	-2	-1	-4	-2	+0	+0	-1	+1	-3	+3
Mesh[T][S][FP]	-0	+2	-0	-3	-3	-1	-1	-1	+4	+2	-5	+0
Mesh[T][S]Sparse	-4	+2	+2	+0	-1	-1	-5	+1	-2	+1	-1	+3
Step[T]Alt	+0	+0	-1	-0	+4	+0	-1	-1	+5	-2	-1	+2
Step[T][S]	+0	-0	+1	+2	-2	+4	-6	-1	+2	+0	+1	-1
[T]Alt	+0	-0	+0	+2	+1	-1	-4	-0	+0	-1	-2	-0
[T][S]	+0	+2	+1	+1	+2	-0	-0	+1	+1	+1	-1	+2
[T][S][FP]	+2	+3	+2	+2	-1	-6	-4	-0	+5	-2	-1	+2
[T][S][HP]	+1	+4	-0	+2	-3	-3	-3	+2	+0	-1	-6	-3
[T][S][HP]Async	-2	+2	-2	-4	-7	-1	-5	+2	+0	-4	-1	+4
[T][S][L]	-0	-3	+4	-3	-3	-4	-5	+3	+3	-1	+3	-1
[T][S][L]Cache	-4	-1	-0	+1	+0	-3	-6	+1	+3	-2	-3	-3
[T][S]Sparse	-2	-2	+2	-0	+2	-0	-5	+1	+0	+2	-3	-2
step_sgd	-1	+1	+3	+1	-0	-0	-1	+1	+0	+3	-0	+1
step_tween	+1	+0	+2	+1	-0	-1	-3	+1	+1	-2	-2	+2
step_tween_chain	-2	+3	+3	+3	-1	-3	-3	+0	+1	+1	+1	+1
tween	+1	+3	+2	+0	-3	-1	+0	+1	+2	-1	+1	+1
tween_chain	+0	-0	+2	-1	-0	-0	-4	+1	+0	+0	-4	-0

AccD vs sgd, every mode x dtype (cols 13-24)

AccD vs sgd, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	+3	+0	+0	-0	+3	-1	+1	-2	+2	+3	+1	-1
Mesh[T]	-3	+1	+0	+0	+0	-2	+0	-4	-0	-1	-3	-1
Mesh[T]Alt	+1	+3	+4	-3	-1	+1	+4	-4	-0	+6	-2	-9
Mesh[T]Chain	-1	+4	+2	-1	+1	+3	-0	-1	+2	+1	-1	-2
Mesh[T][S]	+0	+2	-5	+0	-6	-1	-0	-4	-0	-0	-3	+1
Mesh[T][S][FP]	-7	-0	+5	+3	+6	+3	+1	-3	-2	-3	+1	-1
Mesh[T][S]Sparse	-1	-1	+1	-4	-1	+9	+2	-2	-1	-2	-0	+1
Step[T]Alt	+1	-1	-3	+1	+1	+1	+4	+1	-0	+2	-0	-1
Step[T][S]	+5	+0	+1	+2	-2	+1	+5	-2	+2	+3	+1	+1
[T]Alt	+3	-1	+3	+0	+2	-1	+6	-2	+0	+1	-0	-4
[T][S]	+2	+0	-2	-0	+2	+2	+5	-3	+1	-1	-3	-3
[T][S][FP]	-0	+3	-4	+4	+1	-0	-2	+4	+0	+1	-5	-2
[T][S][HP]	-3	-0	-5	+1	-2	+4	+1	+1	+1	+0	-0	+0
[T][S][HP]Async	+5	-0	+2	+9	+1	+3	+8	-5	+3	-5	-4	-1
[T][S][L]	-2	-0	-1	-3	-4	+2	+4	-3	-0	-0	-1	-2
[T][S][L]Cache	-5	+6	+1	-2	+1	-0	+3	+0	+1	+4	-2	-3
[T][S]Sparse	+0	-0	+3	+1	-2	-6	+2	+3	-0	+1	-1	+6
step_sgd	-1	+3	+1	+2	-1	+0	+2	-3	+2	-3	-0	-3
step_tween	+2	+2	-1	-0	-0	+1	+3	-1	+1	-2	-2	-0
step_tween_chain	+0	-4	+1	+3	-1	+3	-1	-0	+3	-2	-2	-1
tween	+1	+2	-2	+1	-1	+3	+3	-2	-0	+2	-1	-2
tween_chain	-1	-0	-0	+1	+0	+2	+2	+1	+2	-1	-1	-2

AccD vs sgd, every mode x dtype (cols 25-34)

AccD vs sgd, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	-3	+3	+4	+1	-1	+1	-2	-3	-3	-3
Mesh[T]	+1	+3	+2	-1	-1	+3	+1	-1	-3	+1
Mesh[T]Alt	+2	+7	+3	+2	+2	-3	+5	+4	-1	-0
Mesh[T]Chain	-2	+4	+4	-4	-3	+2	+1	-0	-5	+1
Mesh[T][S]	+2	-2	+4	-2	-4	+8	-2	+3	+0	+6
Mesh[T][S][FP]	-1	+7	+1	-0	+3	+3	+4	-2	-1	+3
Mesh[T][S]Sparse	-2	-1	+7	-5	-1	-0	-3	-5	-0	+1
Step[T]Alt	+1	+8	+2	+0	-2	+3	-1	-3	-3	-0
Step[T][S]	+2	+5	+1	-0	-5	+2	-3	-3	-3	+2
[T]Alt	-1	+2	-0	+0	-7	+5	+0	-4	-0	+1
[T][S]	+1	+4	+1	+3	-1	+7	-0	-4	-2	-3
[T][S][FP]	-1	+7	+6	+1	-5	-2	-4	-1	-6	+0
[T][S][HP]	+1	+6	+4	-1	-3	+1	-0	-1	+2	-3
[T][S][HP]Async	+2	+2	+7	+4	-3	+4	-4	+0	-1	+1
[T][S][L]	-1	+1	+3	-3	-4	+4	-10	+9	+5	-8
[T][S][L]Cache	+1	+6	+3	+2	-7	+7	+3	-2	-3	-6
[T][S]Sparse	+1	+6	+7	-2	-5	+7	-5	-2	-3	-1
step_sgd	-4	+4	+1	-1	-6	+2	+1	-2	-3	-1
step_tween	+1	+5	+1	-2	-5	+3	-0	+0	-3	+1
step_tween_chain	-1	+2	+2	-1	-5	+1	+0	-1	-4	-2
tween	+0	+1	+5	-0	-3	+4	-3	-2	-3	-1
tween_chain	-1	+5	+2	-2	-3	+4	+2	-1	-0	+0

ScoreD vs sgd, every mode x dtype (cols 1-12)

ScoreD vs sgd, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	-116	+506	+458	+111	+45	+371	-205	+119	+180	-322	-145	-241
Mesh[T]	-438	-203	+47	-350	-342	+270	-397	-145	-132	-343	-57	-204
Mesh[T]Alt	-1550	-1287	-840	-858	-1047	-1739	-1689	-1258	-570	-1098	-1215	-916
Mesh[T]Chain	-179	+104	-45	+137	-305	-175	-449	+165	-26	-265	+374	+42
Mesh[T][S]	-554	-704	-276	-498	-777	-1114	-828	-497	-265	-463	-723	-425
Mesh[T][S][FP]	-1282	-808	-438	-730	-1043	-1436	-1242	-806	-407	-1006	-1087	-706
Mesh[T][S]Sparse	-1286	-736	-355	-754	-643	-1242	-1232	-946	-455	-923	-942	-726
Step[T]Alt	-1359	-1232	-577	-884	-726	-1048	-1148	-1047	-548	-1106	-1127	-814
Step[T][S]	-236	-138	-106	+5	+12	+353	-687	-167	-226	-584	-377	-268
[T]Alt	-980	-604	-226	-580	-419	-1101	-1124	-902	-470	-843	-784	-569
[T][S]	-117	-55	-37	+59	+155	-270	-120	-45	-124	+166	-185	-21
[T][S][FP]	-21	-395	+128	-66	+100	-315	-573	+20	+234	+34	+3	+293
[T][S][HP]	-745	-413	+16	-526	-399	-764	-1099	-539	-176	-535	-726	-546
[T][S][HP]Async	-532	-400	-323	-574	-533	-970	-958	-255	-226	-298	-144	-411
[T][S][L]	-338	-477	+559	-106	+157	-672	-558	+453	+22	-382	-112	-398
[T][S][L]Cache	-800	-105	-59	-146	-361	-514	-816	-91	-32	-348	-227	-422
[T][S]Sparse	-1044	-670	-156	-662	-162	-989	-769	-443	-153	-578	-806	-633
step_sgd	-637	-54	+276	-135	-252	-486	-276	-385	-104	-341	-586	-173
step_tween	-559	-539	+219	-258	-308	-96	-708	-122	-188	-538	-481	-48
step_tween_chain	-406	-231	+263	+133	-190	-600	-478	-388	-246	-481	-296	-209
tween	-351	+628	+434	-34	-25	-312	+23	+234	+2	-312	-88	+15
tween_chain	-43	+107	+513	+51	+278	+104	-275	+267	-2	-18	-107	+129

ScoreD vs sgd, every mode x dtype (cols 13-24)

ScoreD vs sgd, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	-131	-280	+229	+184	+174	+217	+72	-37	-98	+24	-45	-120
Mesh[T]	-391	-306	-172	-30	-411	-79	-194	-120	-375	+166	-673	-383
Mesh[T]Alt	-1174	-1541	-769	-1024	-1520	-462	-463	-800	-1385	-772	-1330	-1115
Mesh[T]Chain	-193	+562	-102	+72	+300	+70	+6	+65	-59	+243	-269	-93
Mesh[T][S]	-551	-990	-569	-404	-1343	-168	-231	-331	-822	-463	-1005	-403
Mesh[T][S][FP]	-1160	-1546	-387	-644	-1112	-185	-240	-590	-1301	-570	-972	-869
Mesh[T][S]Sparse	-1168	-1088	-604	-819	-1363	-152	-298	-713	-1128	-632	-1116	-896
Step[T]Alt	-1056	-1417	-856	-736	-1250	-449	-471	-620	-1314	-465	-1157	-931
Step[T][S]	+346	+147	-64	+87	-373	+243	+181	-136	+280	+64	-76	-175
[T]Alt	-681	-1283	-645	-489	-990	-392	-182	-444	-1052	-299	-859	-740
[T][S]	-43	-215	-143	+93	-310	+244	+269	+147	-411	+142	-71	-191
[T][S][FP]	-130	+375	-352	+117	-534	+55	-77	+227	-23	+390	-556	-328
[T][S][HP]	-609	-563	-664	-87	-880	-121	-91	-368	-710	-187	-527	-332
[T][S][HP]Async	-426	-1027	-434	+218	-846	+133	+16	-383	-586	-246	-664	-552
[T][S][L]	-445	-178	-171	+241	-701	-175	+120	-8	-383	-13	+311	-96
[T][S][L]Cache	-651	+337	-85	-368	-575	+199	+227	-140	+85	+35	-344	-338
[T][S]Sparse	-603	-687	-580	-355	-716	-265	-7	-524	-712	-489	-295	-415
step_sgd	-499	+218	-201	-227	-685	+126	+72	-63	-224	-92	-136	-220
step_tween	-221	-384	-142	-409	-451	-67	-73	-24	-432	-199	-249	-324
step_tween_chain	-220	-887	-274	+33	-525	+81	-176	+91	-448	-363	-132	-409
tween	+130	+345	-48	+309	-636	+195	+165	+85	+60	+467	-127	-32
tween_chain	-455	+167	-63	+400	+295	+185	+367	+416	+147	-127	+62	-17

ScoreD vs sgd, every mode x dtype (cols 25-34)

ScoreD vs sgd, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	-85	+59	+386	+46	-227	-37	+29	-395	-199	-159
Mesh[T]	+45	-3	-55	-217	-464	-258	-218	-555	-113	-32
Mesh[T]Alt	-1077	-535	-544	-861	-1041	-793	-549	-1044	-1540	-979
Mesh[T]Chain	-129	+198	+50	+47	-56	-42	-155	+32	-561	-115
Mesh[T][S]	-420	-70	-202	-641	-744	-368	-367	-574	-627	-602
Mesh[T][S][FP]	-498	-138	-497	-754	-706	-523	-308	-1013	-1247	-590
Mesh[T][S]Sparse	-927	-568	-279	-656	-824	-712	-564	-1112	-952	-626
Step[T]Alt	-993	-251	-728	-773	-853	-664	-652	-1126	-1324	-1057
Step[T][S]	+289	+373	-149	-81	-543	-268	-103	-468	-768	-239
[T]Alt	-750	-168	-434	-420	-805	-521	-407	-731	-839	-797
[T][S]	-404	+298	+82	+259	-52	-82	+178	-416	-532	-410
[T][S][FP]	-64	+607	+91	+216	-488	-29	+68	-252	-585	-118
[T][S][HP]	-450	+142	-297	-735	-776	-320	-192	-558	-755	-758
[T][S][HP]Async	+17	-230	-64	-374	-508	-338	-188	-226	-1085	-530
[T][S][L]	-293	+495	+277	-183	+95	+44	-84	+84	+233	-636
[T][S][L]Cache	-492	+442	+56	+476	-297	+245	-375	-185	-951	-881
[T][S]Sparse	-192	-68	-117	-240	-422	-288	-281	-447	-693	-385
step_sgd	-419	+100	+73	-130	-396	-172	-142	-461	-271	-692
step_tween	-226	+366	-155	-137	-594	-268	-255	-194	-559	-227
step_tween_chain	-454	+254	+131	-153	-395	+43	-128	-559	-630	-546
tween	+21	+90	+164	+254	+40	+92	-59	-267	-69	-213
tween_chain	+146	+168	+58	-237	+175	+14	+31	+3	+432	-176

AvailD vs sgd, every mode x dtype (cols 1-12)

AvailD vs sgd, every mode x dtype (cols 1-12)

	bfloat16	binary	complex128	complex64	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int
MeshBP	+1	+2	-1	-0	+0	+2	+2	-0	+2	+1	+1	-0
Mesh[T]	+0	+0	-2	-3	-2	+2	+1	-2	-1	-1	-1	-3
Mesh[T]Alt	-7	-10	-9	-7	-6	-6	-8	-8	-7	-7	-7	-9
Mesh[T]Chain	+2	+1	-0	-1	+1	+3	+2	+0	+1	-0	+1	-1
Mesh[T][S]	+9	+6	+10	+9	+9	+6	+5	+8	+9	+11	+11	+8
Mesh[T][S][FP]	+9	+6	+11	+9	+8	+6	+6	+9	+11	+8	+8	+9
Mesh[T][S]Sparse	+12	+13	+13	+12	+11	+12	+11	+11	+11	+11	+11	+11
Step[T]Alt	-10	-11	-9	-11	-8	-8	-8	-9	-10	-8	-8	-8
Step[T][S]	+2	+2	+1	+1	+2	+4	+2	+3	+2	+1	+2	+1
[T]Alt	-7	-7	-7	-8	-6	-5	-4	-9	-7	-7	-6	-5
[T][S]	+9	+7	+9	+8	+11	+8	+6	+9	+10	+11	+9	+9
[T][S][FP]	+8	+5	+7	+9	+11	+8	+7	+9	+10	+11	+11	+9
[T][S][HP]	+7	+4	+9	+8	+11	+9	+5	+9	+10	+10	+11	+8
[T][S][HP]Async	+8	+6	+7	+9	+10	+8	+7	+9	+9	+10	+9	+10
[T][S][L]	+6	-0	+5	+4	+5	+4	+4	+11	+6	+2	+6	+2
[T][S][L]Cache	+8	+7	+10	+9	+9	+9	+5	+10	+9	+11	+9	+9
[T][S]Sparse	+8	+12	+11	+9	+12	+10	+12	+14	+11	+11	+11	+12
step_sgd	-5	-4	-2	-3	-4	-3	-0	-4	-4	-5	-3	-5
step_tween	-5	-4	-4	-6	-5	+0	-4	-3	-6	-5	-4	-5
step_tween_chain	-3	-4	-5	-4	-5	-1	-3	-4	-5	-4	-3	-5
tween	-0	+1	+0	-1	-0	+3	+2	+1	+1	-0	+0	-2
tween_chain	+2	+2	+2	-0	+2	+3	+3	+1	+2	+1	+2	-0

AvailD vs sgd, every mode x dtype (cols 13-24)

AvailD vs sgd, every mode x dtype (cols 13-24)

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	+1	+3	+1	+1	+2	+2	-1	+2	+2	+2	+1	-0
Mesh[T]	-1	+2	-1	-1	-2	+2	-2	-0	+0	+0	-2	-2
Mesh[T]Alt	-6	-6	-7	-8	-7	-7	-7	-6	-5	-6	-8	-7
Mesh[T]Chain	+1	+4	+0	+2	+2	+1	+2	+1	+2	+1	+1	+0
Mesh[T][S]	+11	+9	+9	+12	+8	+10	+9	+12	+7	+10	+5	+10
Mesh[T][S][FP]	+10	+6	+9	+10	+8	+9	+9	+11	+6	+10	+6	+9
Mesh[T][S]Sparse	+9	+14	+11	+14	+13	+12	+11	+14	+14	+12	+12	+13
Step[T]Alt	-9	-7	-11	-7	-10	-9	-8	-8	-8	-8	-11	-9
Step[T][S]	+1	+4	-0	+0	+2	+2	+1	+2	+3	+2	+2	+1
[T]Alt	-6	-7	-8	-5	-7	-7	-8	-6	-6	-4	-7	-6
[T][S]	+11	+10	+8	+10	+8	+10	+9	+11	+8	+10	+7	+10
[T][S][FP]	+10	+10	+8	+10	+6	+9	+8	+10	+7	+10	+3	+9
[T][S][HP]	+11	+9	+6	+11	+7	+9	+10	+11	+8	+10	+7	+7
[T][S][HP]Async	+10	+8	+7	+12	+7	+10	+8	+12	+7	+10	+6	+9
[T][S][L]	+3	+4	+4	+6	+3	+6	+4	+4	+3	+6	+3	+5
[T][S][L]Cache	+11	+10	+10	+9	+6	+10	+9	+10	+8	+10	+6	+9
[T][S]Sparse	+13	+15	+9	+13	+12	+12	+11	+9	+14	+12	+13	+11
step_sgd	-2	+1	-6	-1	-3	-2	-5	-2	-0	-4	-2	-4
step_tween	-4	-2	-5	-4	-2	-4	-6	-5	-2	-2	-2	-4
step_tween_chain	-5	-2	-4	-3	-2	-2	-5	-2	-3	-2	-3	-4
tween	+0	+3	+0	+1	-2	+1	-1	-0	+1	+2	+2	-1
tween_chain	+0	+3	+1	+2	+2	+3	+3	+2	+3	-1	+1	+1

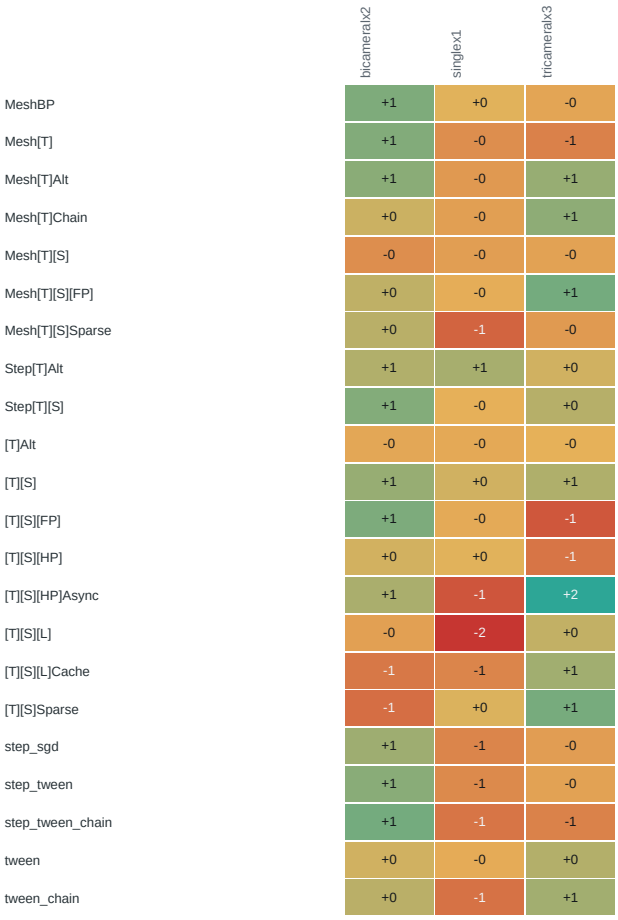
AvailD vs sgd, every mode x dtype (cols 25-34)

AvailD vs sgd, every mode x dtype (cols 25-34)

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	-1	+1	+2	+1	+0	+2	+1	+0	+2	+1
Mesh[T]	+0	-3	+0	+0	-2	+0	-2	-1	+0	-0
Mesh[T]Alt	-10	-5	-5	-5	-8	-6	-6	-7	-8	-5
Mesh[T]Chain	-2	+1	+1	+2	+1	+0	+1	-1	+1	+2
Mesh[T][S]	+9	+10	+11	+11	+10	+10	+11	+9	+6	+12
Mesh[T][S][FP]	+10	+12	+10	+9	+10	+9	+11	+7	+5	+12
Mesh[T][S]Sparse	+11	+14	+13	+14	+14	+11	+10	+12	+12	+14
Step[T]Alt	-10	-9	-10	-8	-9	-10	-10	-11	-12	-10
Step[T][S]	-0	+2	+2	+2	+0	+2	+3	-0	+1	+2
[T]Alt	-8	-5	-5	-5	-7	-5	-6	-7	-7	-6
[T][S]	+7	+12	+9	+11	+10	+10	+10	+9	+6	+13
[T][S][FP]	+7	+10	+9	+11	+8	+9	+10	+10	+6	+11
[T][S][HP]	+8	+11	+10	+9	+9	+10	+10	+9	+5	+12
[T][S][HP]Async	+7	+10	+9	+12	+8	+9	+10	+11	+5	+11
[T][S][L]	+3	+6	+5	+5	+3	+6	+6	+4	+3	+6
[T][S][L]Cache	+6	+10	+11	+11	+11	+10	+8	+9	+5	+10
[T][S]Sparse	+10	+13	+12	+14	+11	+13	+12	+12	+11	+13
step_sgd	-6	-3	-2	-3	-3	-4	-5	-3	-4	-4
step_tween	-5	-4	-4	-5	-4	-4	-4	-5	-6	-3
step_tween_chain	-5	-3	-2	-3	-3	-3	-4	-3	-4	-2
tween	-1	+1	+1	+1	-1	+0	+2	-1	+1	+1
tween_chain	-1	+1	+0	-2	+2	+1	+1	-1	+1	+2

AccD vs sgd, every mode x arch

AccD vs sgd, every mode x arch



Family collapse - Step* vs non-Step

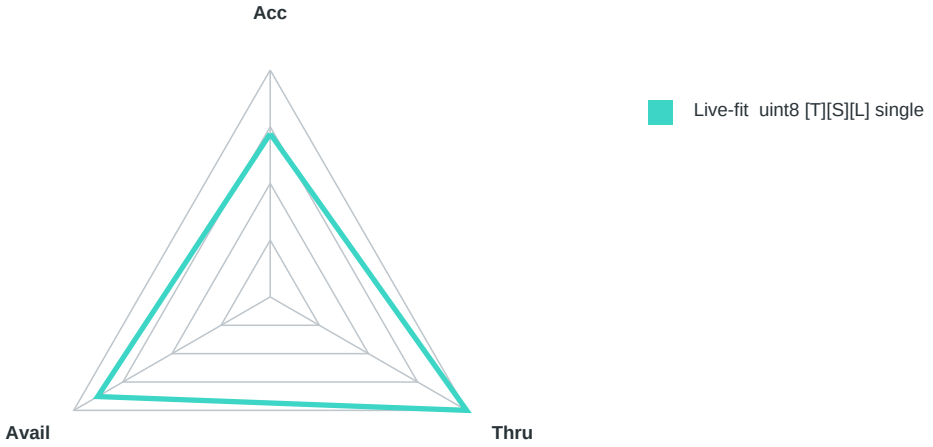
Step* is a 1D pipe (one sample enters layer 0 per tick; output is the sample that entered depth ticks ago). Non-Step of the same family is a full-chain update. AccD is a real scheduler split, not leftover warm-up forwards.

step	plain	n	mean |AccD|
Step[T]Alt	[T]Alt	102	3.34
Step[T][S]	[T][S]	102	3.56
step_sgd	sgd	102	2.87
step_tween	tween	102	2.83
step_tween_chain	tween_chain	102	3.00

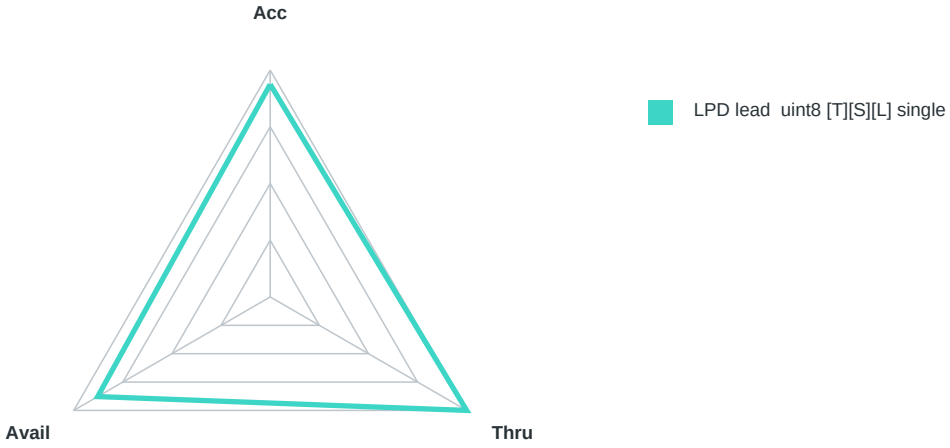
Consciousness - Acc, Throughput, Availability

Synthetic organism / Lucy density: can the net run and train at the same time in a small box. Lucy Score = Throughput x Availability x Acc / 10,000 (hard Acc; SoftAcc is serve-confidence only). SGD that blocks serve dies on Availability. Q = geomean Acc/Thru/Avail vs learner peaks (traps do not set Thru/Avail). LPD = Q x shrink vs Acc-champ RAM; 0 unless Acc keep >=70%. Gold = all 3 pillars >=80% at <=20% Acc-champ RAM. Gold-std = Acc >=80% plus Thru or Avail, then smallest then fastest. Score/MiB is the binary trap.
Acc champ uint|none|[T][S]Sparse|bicameral|simd Acc 48.0 Thru 2089 Avail 43.8% 10.0 KiB (RAM reference)
Lucy Score champ (T x Avail x Acc) int2|none|Mesh[T]Chain|single|simd Score 7353.3 Acc 32.0 Soft 25 0.0 KiB
Live-fit champ (best Q) uint8|none|[T][S][L]|single|simd Acc 34.6 Thru 35347 Avail 48.4% 0.1 KiB
Board fastest float32|none|tween_chain|single|simd Thru 52468 (traps may own this) Best availability uint4|none|Mesh[T][S]|single|simd 56.9%
Learner Thru peak 35347 learner Avail peak 55.1%

Consciousness radar - Acc / Thru / Avail vs learner peaks



Memory density radar - same pillars x shrink vs Acc champ (traps sit at origin)



No gold cell yet. Need all three pillars at 80% of learner peaks in one fifth of Acc-champ RAM.

Lucy density (LPD) - Q x shrink vs Acc-champ RAM; 0 if Acc keep < 70%

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
-	uint8 [T][S][L] single	72	100	88	86	1	32.0	27.46	34.6	35347	0.1
-	int16 Step[T][S] single	72	92	92	85	2	32.0	27.13	34.6	32406	0.2
-	fp8e5m2 [T][S][HP]Async single	72	71	94	78	1	32.0	25.01	34.5	24922	0.1
-	uint5 [T][S][L]Cache single	74	52	100	73	1	32.0	23.27	35.5	18392	0.1
-	uint16 Mesh[T][S][FP] single	73	45	98	68	2	32.0	21.86	35.2	15736	0.2
-	uint3 Mesh[T][S]Sparse single	77	30	95	60	0	32.0	19.21	36.9	10471	0.0
-	int5 Mesh[T][S]Sparse single	71	24	93	54	0	32.0	17.28	33.9	8522	0.0
-	uint6 Mesh[T]Alt single	71	20	71	47	1	32.0	14.94	34.0	7157	0.1
-	ternary Mesh[T][S]Sparse bicameral	74	13	92	45	3	32.0	14.42	35.8	4743	0.3
-	uint2 [T][S][FP] bicameral	74	9	79	38	3	30.5	11.59	35.3	3313	0.3
-	uintptr Mesh[T][S]Sparse single	79	36	98	65	6	15.9	10.37	37.9	12619	0.6
-	uint2 Mesh[T][S][FP] tricameral	75	3	73	26	4	23.3	6.12	35.9	1173	0.4
-	int2 Mesh[T]Alt tricameral	75	5	40	24	4	24.4	5.96	35.8	1711	0.4
-	uint2 Mesh[T]Alt bicameral	71	2	41	19	3	30.5	5.86	34.2	854	0.3

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
-	nf4 [T][S][L]Cache bicameral	70	6	70	31	6	16.0	5.01	33.8	2194	0.6
-	uint4 Mesh[T][S]Sparse bicameral	73	5	88	32	6	15.6	4.95	35.0	1740	0.6
-	uint4 Mesh[T][S][FP] bicameral	73	5	81	31	6	15.6	4.84	35.2	1772	0.6
-	int4 Mesh[T][S][FP] tricameral	78	9	70	37	8	12.2	4.50	37.7	3204	0.8
-	int3 [T][S]Sparse tricameral	80	3	74	26	6	16.3	4.29	38.3	1102	0.6
-	int3 [T][S][L]Cache tricameral	70	3	69	25	6	16.3	4.06	33.7	1135	0.6

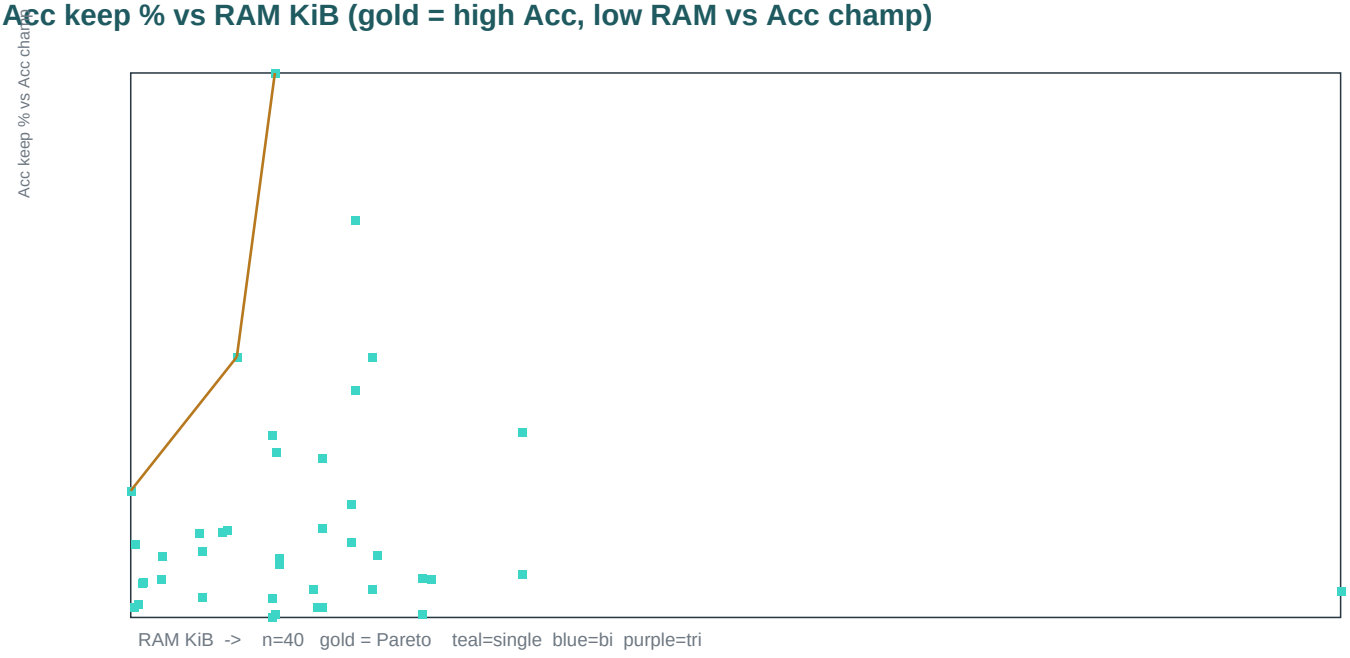
Consciousness rank - Q = geomean Acc/Thru/Avail keep

Band	Cell	Acc%	Thru%	Avail%	Q%	LPD	Thru	Avail
-	uint8 [T][S][L] single	72	100	88	86	27.46	35347	48.4
-	int16 Step[T][S] single	72	92	92	85	27.13	32406	50.8
-	fp8e5m2 [T][S][HP]Async single	72	71	94	78	25.01	24922	51.9
-	uint5 [T][S][L]Cache single	74	52	100	73	23.27	18392	55.1
-	uint16 Mesh[T][S][FP] single	73	45	98	68	21.86	15736	53.8
-	uintptr Mesh[T][S]Sparse single	79	36	98	65	10.37	12619	54.1
-	uint3 Mesh[T][S]Sparse single	77	30	95	60	19.21	10471	52.5
-	int5 Mesh[T][S]Sparse single	71	24	93	54	17.28	8522	51.0
-	float32 Step[T][S] bicameral	71	25	69	50	1.00	8918	38.3
-	uint6 Mesh[T]Alt single	71	20	71	47	14.94	7157	39.1

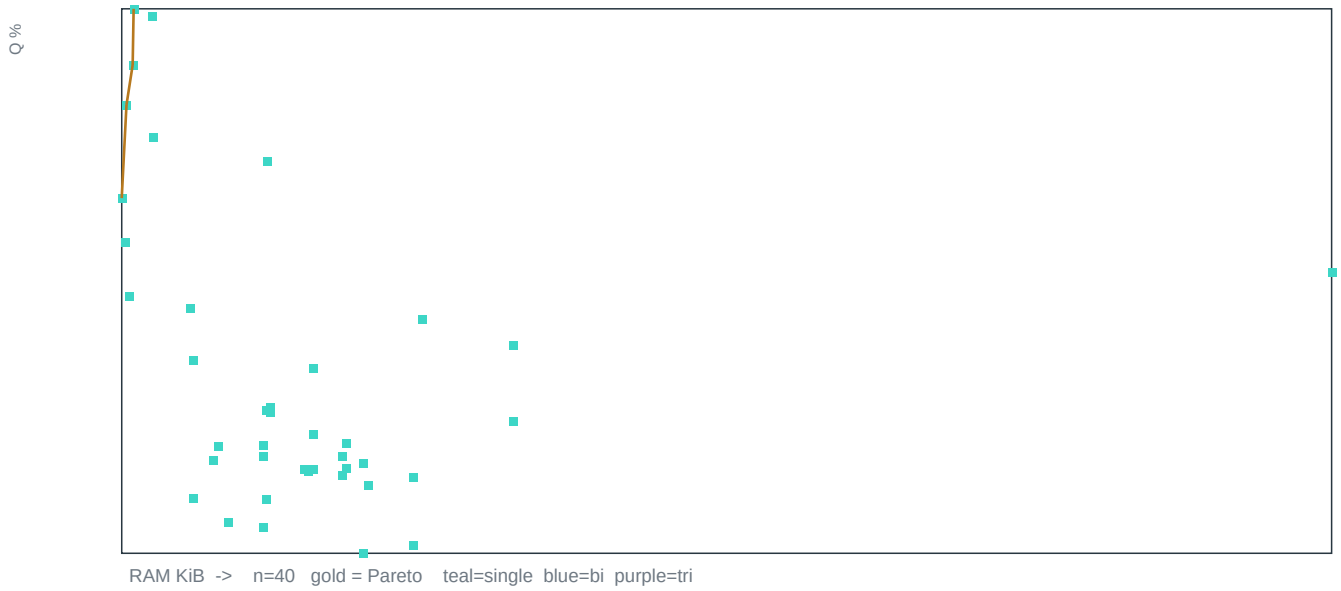
Trap - tiny RAM, Acc keep < 70% (Score/MiB and SoftAcc Score lie here)

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
trap	binary sgd single	46	100	80	72	0	32.0	0.00	22.2	47374	0.0
trap	binary step_sgd single	56	100	79	76	0	32.0	0.00	26.8	41597	0.0
trap	binary tween single	59	100	90	81	0	32.0	0.00	28.4	46295	0.0
trap	binary tween_chain single	45	100	91	74	0	32.0	0.00	21.8	47137	0.0
trap	binary step_tween single	42	100	84	71	0	32.0	0.00	20.2	37745	0.0
trap	binary step_tween_chain single	51	100	85	75	0	32.0	0.00	24.4	39113	0.0
trap	binary MeshBP single	56	100	92	80	0	32.0	0.00	27.0	45639	0.0
trap	binary Mesh[T] single	48	100	88	75	0	32.0	0.00	23.0	37418	0.0
trap	binary Mesh[T]Chain single	50	100	90	77	0	32.0	0.00	24.1	44055	0.0
trap	binary [T][S] single	51	93	93	76	0	32.0	0.00	24.7	32916	0.0

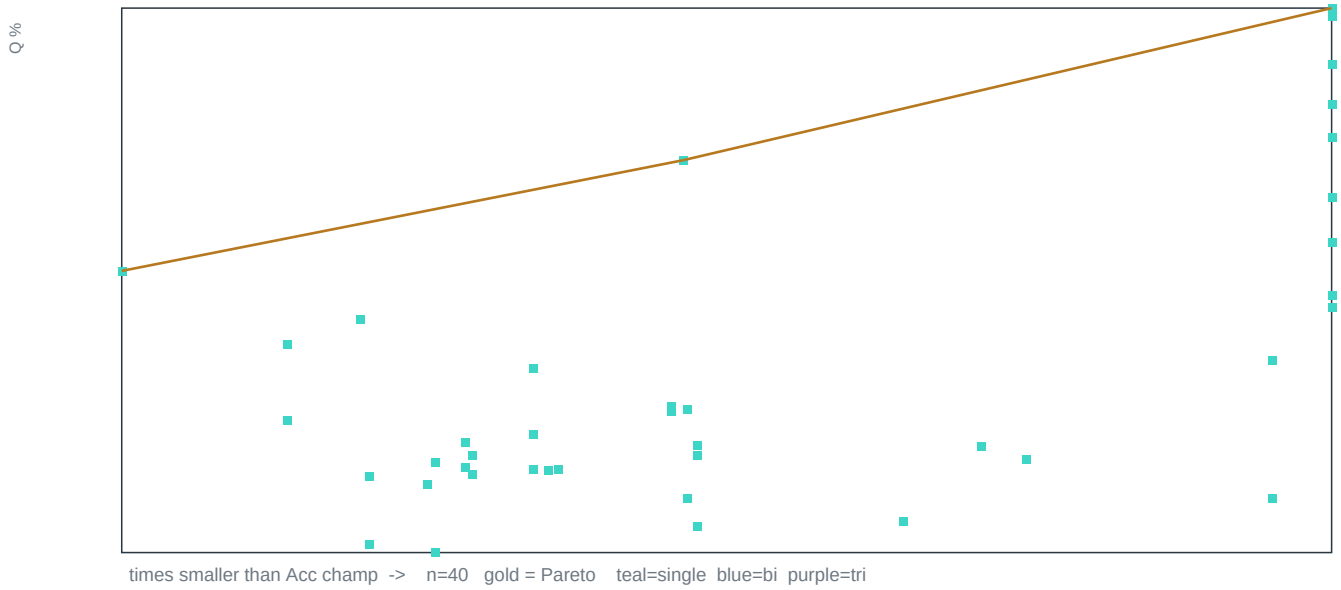
Acc keep % vs RAM KiB (gold = high Acc, low RAM vs Acc champ)



Q% vs RAM KiB (gold = high consciousness, low RAM)



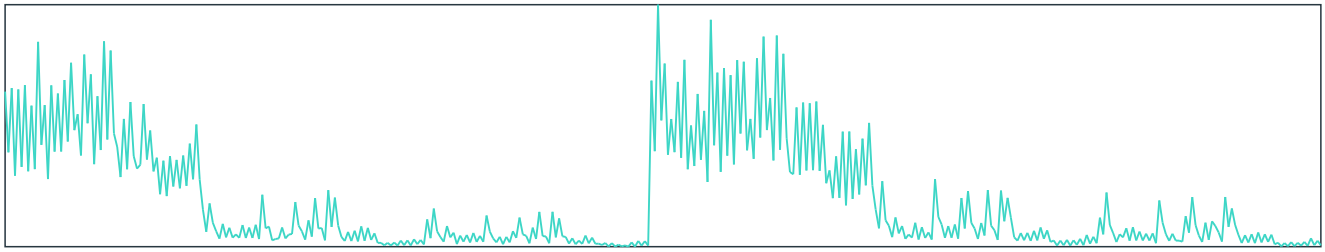
Q% vs shrink vs Acc champ (gold = upper right)



Top Lucy density (LPD)

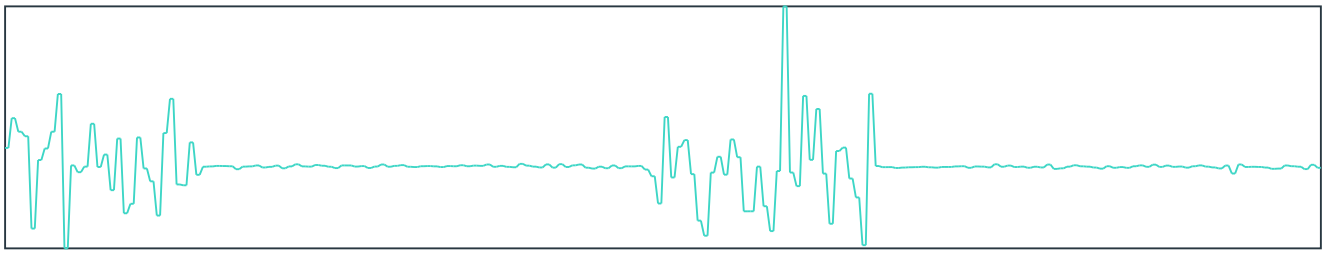


Live pulse (Score)



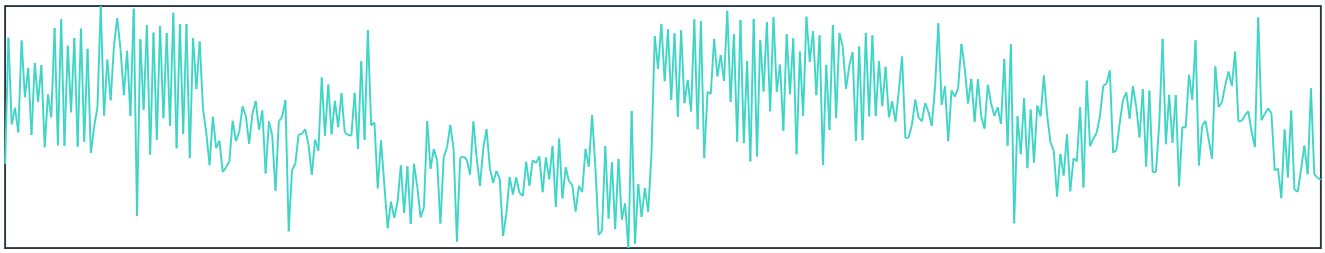
n=400 min=43.51 max=5326.94

Live pulse (SoftAcc)



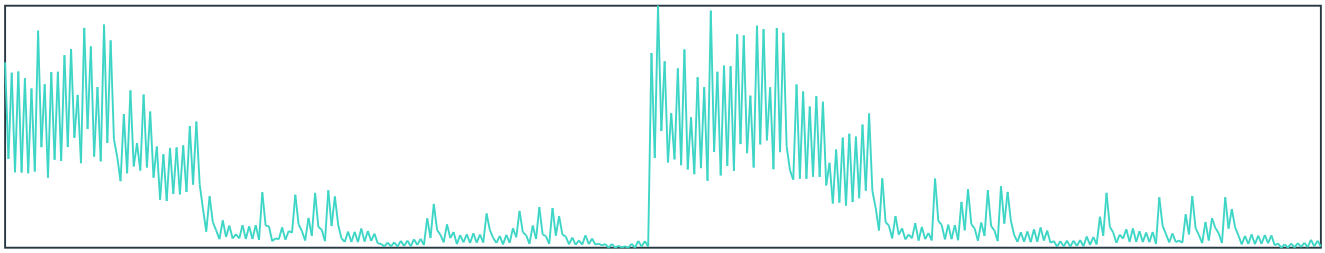
n=400 min=24.95 max=25.10

Live pulse (Availability)



n=400 min=34.31 max=54.96

Live pulse (Throughput)



n=400 min=507.24 max=42990.63

Queue by train mode (this epoch)

Mode	Done	Run	Left	Total