tide layernorm

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 13:32:59 -
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 - layernorm - offline report

Lucy champions (this tide)

Axis	Cell	Score	Soft	Acc	Thru	Avail
hard acc	binary|none|[T][S][FP]|single|simd	1121.15	26.1	26.5	9745.4	44.1
throughput	float32|none|tween|single|simd	3096.06	25.1	30.1	28308.1	43.5
availability	uint32|none|[T][S][L]Cache|single|simd	916.56	24.5	22.5	7263.3	51.5
lucy score	float32|none|tween|single|simd	3096.06	25.1	30.1	28308.1	43.5
mobile score (trap)	binary|none|tween|single|simd	2814.23	24.9	21.9	24935.2	45.3
t->50%	bfloat16|none|sgd|single|simd	2259.42	25.4	37.1	22664.7	39.2
acc/sec	float64|none|sgd|single|simd	2503.53	25.8	36.4	23002.8	42.2

Lucy axis champions (this tide)

Axis	Mode	DType	Arch	Value
hard_acc	Mesh[T][S][FP]	nf4	tricameralx3	46.32
throughput	tween	float32	singlex1	28308.09
availability	[T][S][L]Cache	uint32	singlex1	51.53
score	tween	float32	singlex1	3096.06
soft_acc	[T][S][FP]	binary	singlex1	26.07
acc_thru	sgd	float32	singlex1	9753.40
realtime	tween	float32	singlex1	12313.17
adapt	step_tween_chain	complex64	singlex1	25.64
keep_learn	step_sgd	uintptr	bicameralx2	13.15
acc_per_sec	sgd	float64	singlex1	12.88
time_to_50	sgd	bfloat16	singlex1	0.43
consistency	sgd	float64	singlex1	100.00
stability	sgd	fp4	singlex1	100.00
mobile_score	tween	binary	singlex1	24591074~
lpd	[T][S][L]	ternary	singlex1	4.76
mspeed	sgd	float32	singlex1	1.00
mavail	[T][S][L]Cache	uint16	singlex1	1.00
mix	tween_chain	float32	singlex1	0.86
gold_std	[T][S][L]Cache	int3	singlex1	0.04

Best settings per train mode

Mode	DType	Format	Score	Soft	Acc	Avail	n
tween	float32	none	3096.1	25.1	30.1	43.5	102
tween_chain	float32	none	3065.1	25.5	34.0	44.9	102
Mesh[T]	float32	none	3052.1	25.1	25.3	43.8	102
step_sgd	float32	none	2914.2	25.6	34.4	41.4	102
step_tween_chain	float32	none	2811.5	25.6	34.9	43.8	102
MeshBP	float32	none	2794.4	25.4	31.0	43.7	102
step_tween	float32	none	2793.1	25.2	28.5	41.8	102
sgd	float32	none	2706.5	25.7	35.4	38.1	102
Step[T][S]	float32	none	2633.1	25.1	25.3	44.5	102

Mesh[T]Chain	float32	none	2548.2	25.1	26.7	45.2	102
[T][S]	int8	none	1881.1	25.1	25.1	47.1	102
[T]Alt	float32	none	1790.1	24.8	23.1	38.5	102
[T][S][HP]	int8	none	1728.7	25.0	23.7	46.5	102
[T][S][L]	float32	none	1512.0	24.8	21.5	45.7	102
Step[T]Alt	float32	none	1435.8	25.3	26.1	37.7	102
[T][S][FP]	float32	none	1343.8	24.6	20.3	44.6	102
[T][S][L]Cache	fp4	none	1242.2	25.0	24.2	49.3	102
[T][S][HP]Async	int2	none	1042.5	25.0	21.5	46.9	102
[T][S]Sparse	float32	none	1019.5	25.3	27.3	46.1	102
Mesh[T][S]	ternary	none	822.2	25.2	30.5	46.8	102
Mesh[T][S]Sparse	float32	none	677.5	25.0	23.6	45.8	102
Mesh[T][S][FP]	int2	none	675.4	25.1	30.0	47.2	102
Mesh[T]Alt	float32	none	538.7	25.0	23.4	39.3	102

Best dtype per mode

Mode	Winner dtype	Score	Soft	Acc
tween	float32	3096.1	25.1	30.1
tween_chain	float32	3065.1	25.5	34.0
Mesh[T]	float32	3052.1	25.1	25.3
step_sgd	float32	2914.2	25.6	34.4
step_tween_chain	float32	2811.5	25.6	34.9
MeshBP	float32	2794.4	25.4	31.0
step_tween	float32	2793.1	25.2	28.5
sgd	float32	2706.5	25.7	35.4
Step[T][S]	float32	2633.1	25.1	25.3
Mesh[T]Chain	float32	2548.2	25.1	26.7
[T][S]	int8	1881.1	25.1	25.1
[T]Alt	float32	1790.1	24.8	23.1
[T][S][HP]	int8	1728.7	25.0	23.7
[T][S][L]	float32	1512.0	24.8	21.5
Step[T]Alt	float32	1435.8	25.3	26.1
[T][S][FP]	float32	1343.8	24.6	20.3
[T][S][L]Cache	fp4	1242.2	25.0	24.2
[T][S][HP]Async	int2	1042.5	25.0	21.5
[T][S]Sparse	float32	1019.5	25.3	27.3
Mesh[T][S]	ternary	822.2	25.2	30.5
Mesh[T][S]Sparse	float32	677.5	25.0	23.6
Mesh[T][S][FP]	int2	675.4	25.1	30.0
Mesh[T]Alt	float32	538.7	25.0	23.4

Best mode per dtype

DType	Winner mode	Score	Soft	Acc
float32	tween	3096.1	25.1	30.1
int8	tween_chain	2912.9	25.5	33.6
binary	tween	2814.2	24.9	21.9
uint8	tween_chain	2686.7	25.6	36.2
int4	tween_chain	2662.1	25.2	29.8
int2	sgd	2591.0	24.9	26.0
bfloat16	tween_chain	2559.5	25.3	34.6
float64	tween_chain	2539.9	25.5	34.1
ternary	sgd	2482.3	25.0	26.7

fp4	tween	2381.9	25.0	25.0
fp8e4m3	Step[T][S]	2274.8	25.2	25.3
float16	tween_chain	2271.8	25.6	35.1
fp8e5m2	tween_chain	2258.3	25.3	28.9
uint32	tween_chain	2178.0	25.5	34.0
uint16	tween_chain	2094.2	25.5	33.6
uint64	tween_chain	2047.4	25.4	32.6
int64	tween_chain	2023.7	25.5	32.8
int16	tween_chain	2021.0	25.6	33.5
uint4	tween_chain	1945.7	25.2	28.5
int32	tween_chain	1898.9	25.4	32.7
complex128	tween_chain	1898.0	25.6	34.7
uint	tween_chain	1744.8	25.4	33.2
complex64	tween_chain	1722.2	25.5	33.2
uintptr	tween_chain	1701.1	25.5	33.9
uint2	sgd	1685.0	25.1	28.0
int	sgd	1615.3	25.7	35.0
nf4	tween_chain	1610.2	25.2	27.9
int3	sgd	1160.5	25.1	25.4
uint3	sgd	1088.7	24.4	25.5
int5	tween_chain	989.2	25.4	31.9
uint5	tween_chain	947.4	25.2	30.2
uint6	sgd	880.0	25.5	34.3
int6	sgd	877.1	25.4	31.8
fp6	sgd	864.2	25.5	34.3

Leaderboard (Lucy Score)

#	Cell	Score	Soft	Acc	Thru	Avail
1	float32|none|tween|single|simd	3096.1	25.1	30.1	28308.1	43.5
2	float32|none|tween_chain|single|simd	3065.1	25.5	34.0	26697.1	44.9
3	float32|none|Mesh[T]|single|simd	3052.1	25.1	25.3	27778.5	43.8
4	float32|none|step_sgd|single|simd	2914.2	25.6	34.4	27497.8	41.4
5	int8|none|tween_chain|single|simd	2912.9	25.5	33.6	25898.8	44.2
6	binary|none|tween|single|simd	2814.2	24.9	21.9	24935.2	45.3
7	float32|none|step_tween_chain|single|simd	2811.5	25.6	34.9	25108.1	43.8
8	float32|none|MeshBP|single|simd	2794.4	25.4	31.0	25238.6	43.7
9	float32|none|step_tween|single|simd	2793.1	25.2	28.5	26547.5	41.8
10	float32|none|sgd|single|simd	2706.5	25.7	35.4	27587.0	38.1
11	uint8|none|tween_chain|single|simd	2686.7	25.6	36.2	23342.4	45.0
12	int4|none|tween_chain|single|simd	2662.1	25.2	29.8	23405.6	45.1
13	int8|none|tween|single|simd	2644.8	25.1	27.2	23305.9	45.3
14	float32|none|Step[T][S]|single|simd	2633.1	25.1	25.3	23552.3	44.5
15	int8|none|MeshBP|single|simd	2627.0	25.4	33.4	22600.3	45.7
16	int2|none|sgd|single|simd	2591.0	24.9	26.0	25751.7	40.5
17	int2|none|tween_chain|single|simd	2570.2	24.9	23.6	23692.2	43.6
18	uint8|none|MeshBP|single|simd	2560.2	25.4	32.2	21537.3	46.8
19	bfloat16|none|tween_chain|single|simd	2559.5	25.3	34.6	22159.4	45.6
20	int4|none|tween|single|simd	2557.9	25.0	24.3	23828.1	43.0

Leaderboard (SoftAcc)

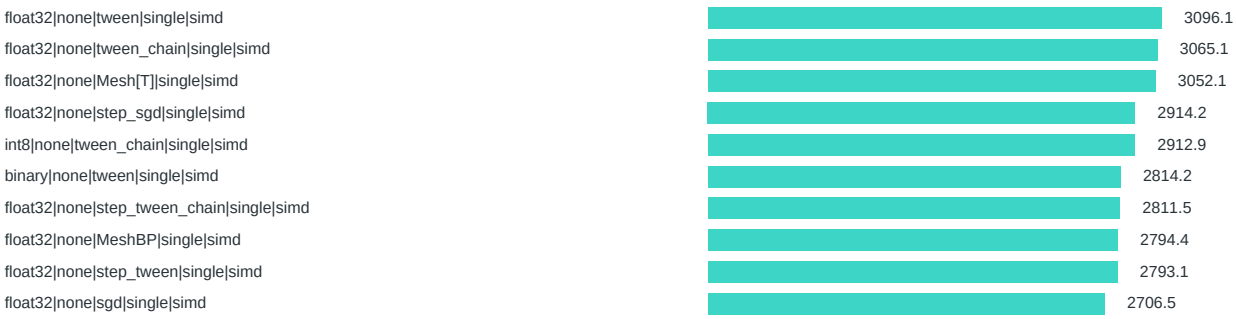
#	Cell	Score	Soft	Acc	Thru	Avail
1	float64|none|sgd|single|simd	2503.5	25.8	36.4	23002.8	42.2

2	float32|none|sgd|single|simd	2706.5	25.7	35.4	27587.0	38.1
3	uint8|none|tween_chain|single|simd	2686.7	25.6	36.2	23342.4	45.0
4	float32|none|step_sgd|single|simd	2914.2	25.6	34.4	27497.8	41.4
5	float32|none|step_tween_chain|single|simd	2811.5	25.6	34.9	25108.1	43.8
6	int8|none|step_sgd|single|simd	2470.3	25.6	34.4	24101.4	40.1
7	uint8|none|sgd|single|simd	2368.1	25.6	33.6	23028.5	40.2
8	float32|none|tween_chain|single|simd	3065.1	25.5	34.0	26697.1	44.9
9	float64|none|tween_chain|single|simd	2539.9	25.5	34.1	21412.9	46.6
10	int8|none|tween_chain|single|simd	2912.9	25.5	33.6	25898.8	44.2
11	int8|none|MeshBP|single|simd	2627.0	25.4	33.4	22600.3	45.7
12	uint8|none|MeshBP|single|simd	2560.2	25.4	32.2	21537.3	46.8
13	float32|none|MeshBP|single|simd	2794.4	25.4	31.0	25238.6	43.7
14	bfloat16|none|tween_chain|single|simd	2559.5	25.3	34.6	22159.4	45.6
15	int4|none|sgd|single|simd	2405.2	25.3	30.7	23844.9	39.8
16	ternary|none|tween_chain|single|simd	2361.5	25.3	28.3	22604.7	41.4
17	int4|none|step_sgd|single|simd	2453.9	25.2	29.7	23484.6	41.4
18	uint8|none|tween|single|simd	2383.8	25.2	32.8	22245.3	42.5
19	int4|none|tween_chain|single|simd	2662.1	25.2	29.8	23405.6	45.1
20	int4|none|Step[T][S]|single|simd	2525.2	25.2	27.8	22846.2	43.9

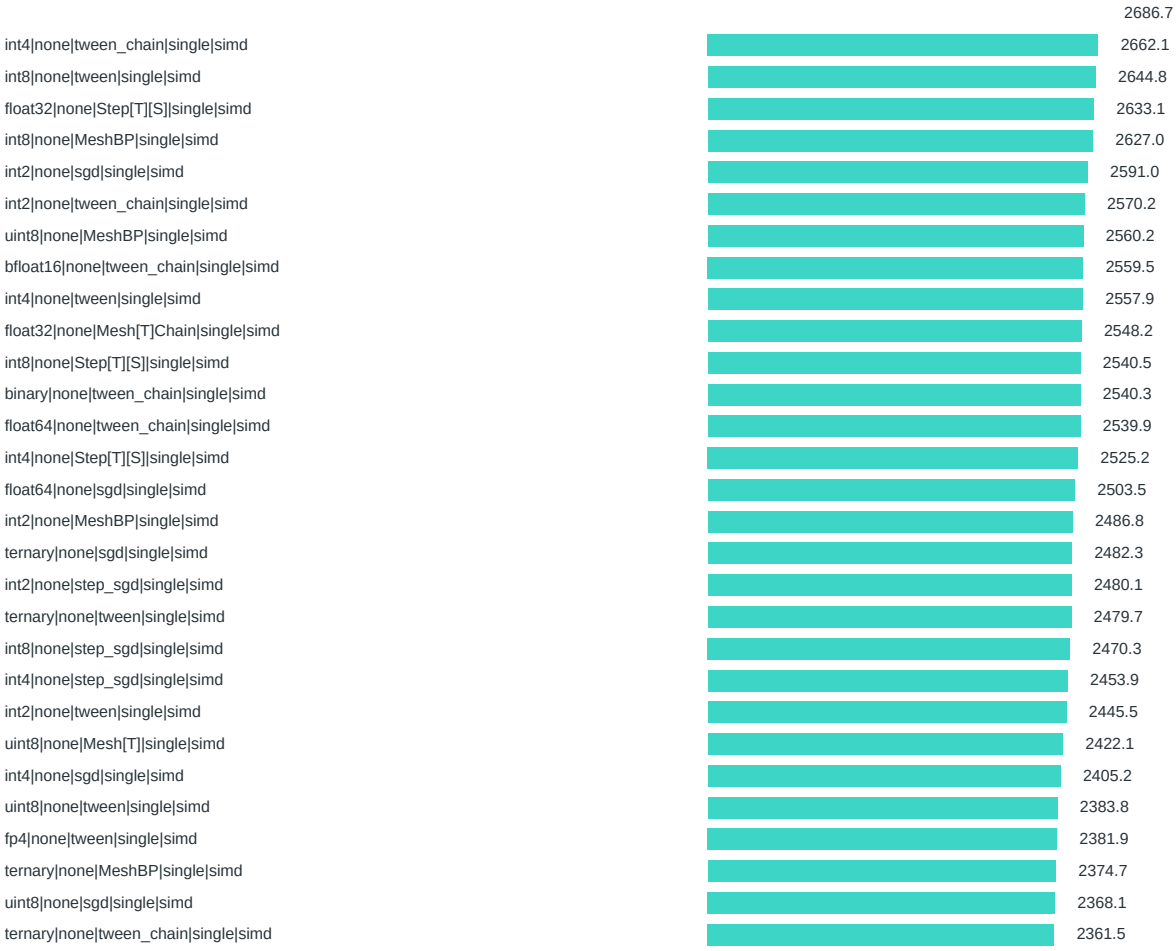
Leaderboard (hard Acc)

#	Cell	Score	Soft	Acc	Thru	Avail
1	float64|none|sgd|single|simd	2503.5	25.8	36.4	23002.8	42.2
2	uint8|none|tween_chain|single|simd	2686.7	25.6	36.2	23342.4	45.0
3	float32|none|sgd|single|simd	2706.5	25.7	35.4	27587.0	38.1
4	float32|none|step_tween_chain|single|simd	2811.5	25.6	34.9	25108.1	43.8
5	bfloat16|none|tween_chain|single|simd	2559.5	25.3	34.6	22159.4	45.6
6	int8|none|step_sgd|single|simd	2470.3	25.6	34.4	24101.4	40.1
7	float32|none|step_sgd|single|simd	2914.2	25.6	34.4	27497.8	41.4
8	float64|none|tween_chain|single|simd	2539.9	25.5	34.1	21412.9	46.6
9	float32|none|tween_chain|single|simd	3065.1	25.5	34.0	26697.1	44.9
10	uint8|none|sgd|single|simd	2368.1	25.6	33.6	23028.5	40.2
11	int8|none|tween_chain|single|simd	2912.9	25.5	33.6	25898.8	44.2
12	int8|none|MeshBP|single|simd	2627.0	25.4	33.4	22600.3	45.7
13	uint8|none|tween|single|simd	2383.8	25.2	32.8	22245.3	42.5
14	uint8|none|MeshBP|single|simd	2560.2	25.4	32.2	21537.3	46.8
15	float32|none|MeshBP|single|simd	2794.4	25.4	31.0	25238.6	43.7
16	int4|none|sgd|single|simd	2405.2	25.3	30.7	23844.9	39.8
17	float32|none|tween|single|simd	3096.1	25.1	30.1	28308.1	43.5
18	int4|none|tween_chain|single|simd	2662.1	25.2	29.8	23405.6	45.1
19	int4|none|step_sgd|single|simd	2453.9	25.2	29.7	23484.6	41.4
20	float32|none|step_tween|single|simd	2793.1	25.2	28.5	26547.5	41.8

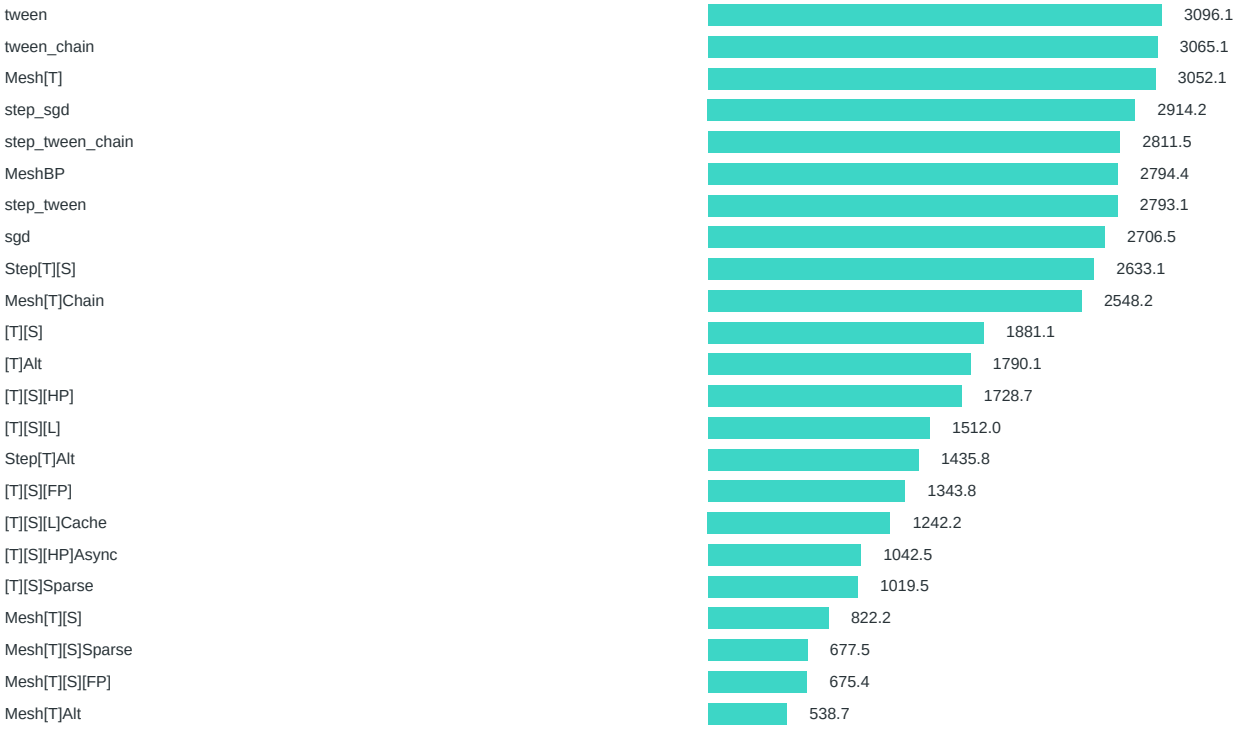
Top scores



uint8|none|tween_chain|single|simd



Best settings per mode



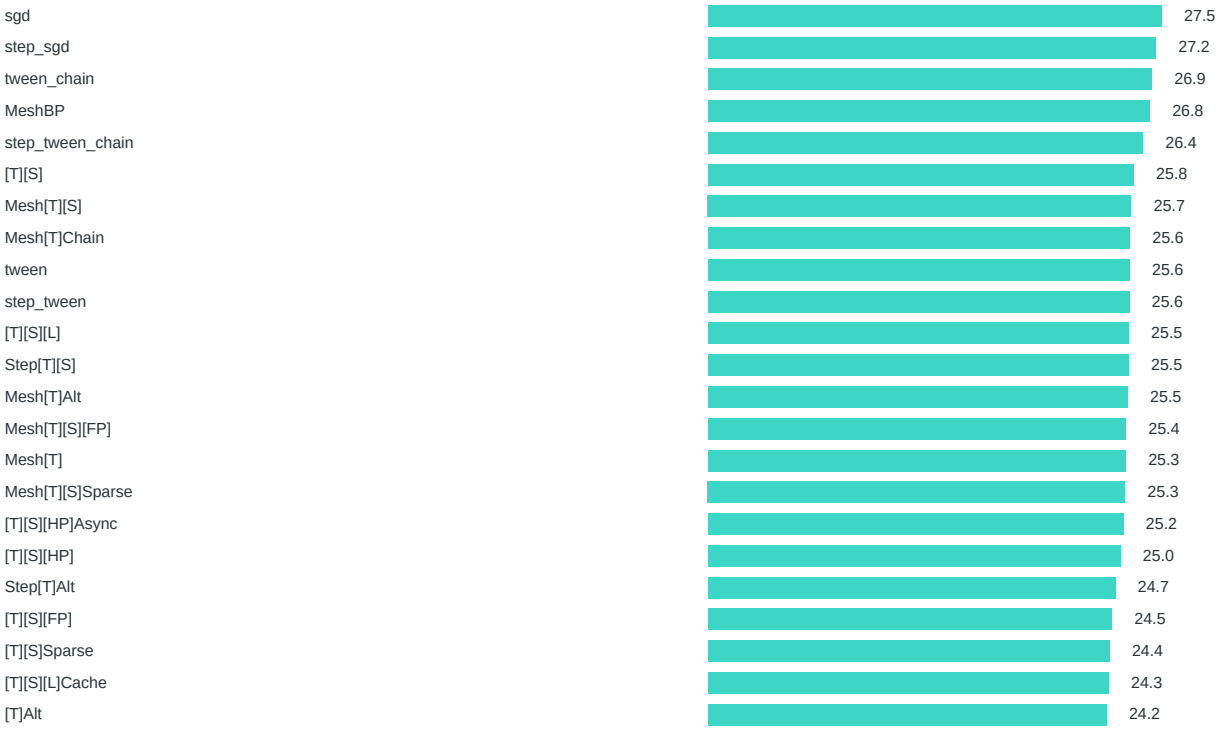
Mean Score by train mode



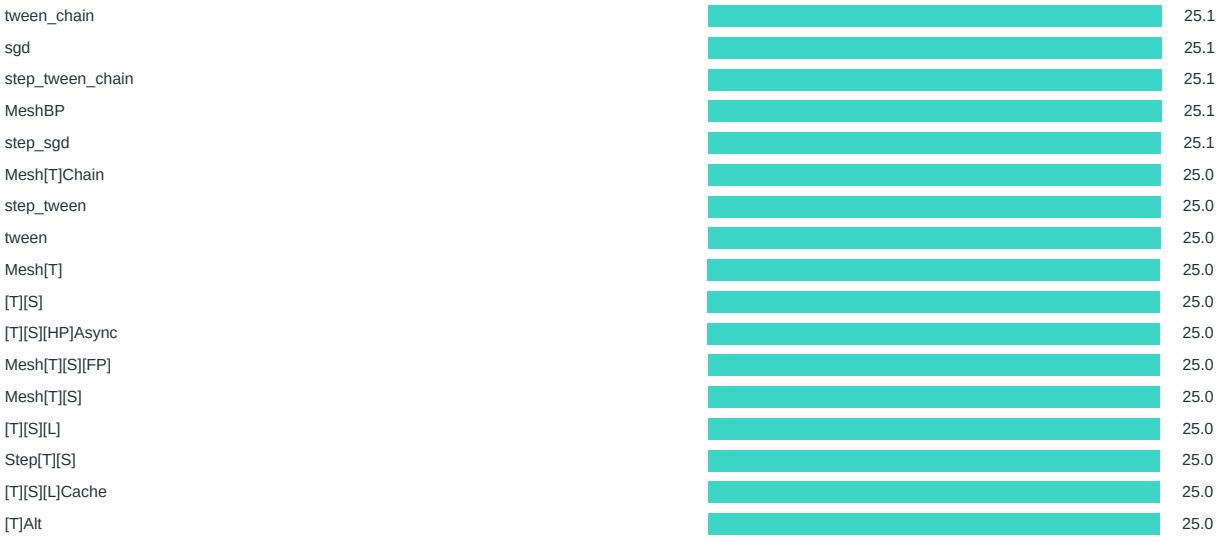
Step[T][S]



Mean hard Acc by train mode



Mean SoftAcc by train mode



[T][S][FP]

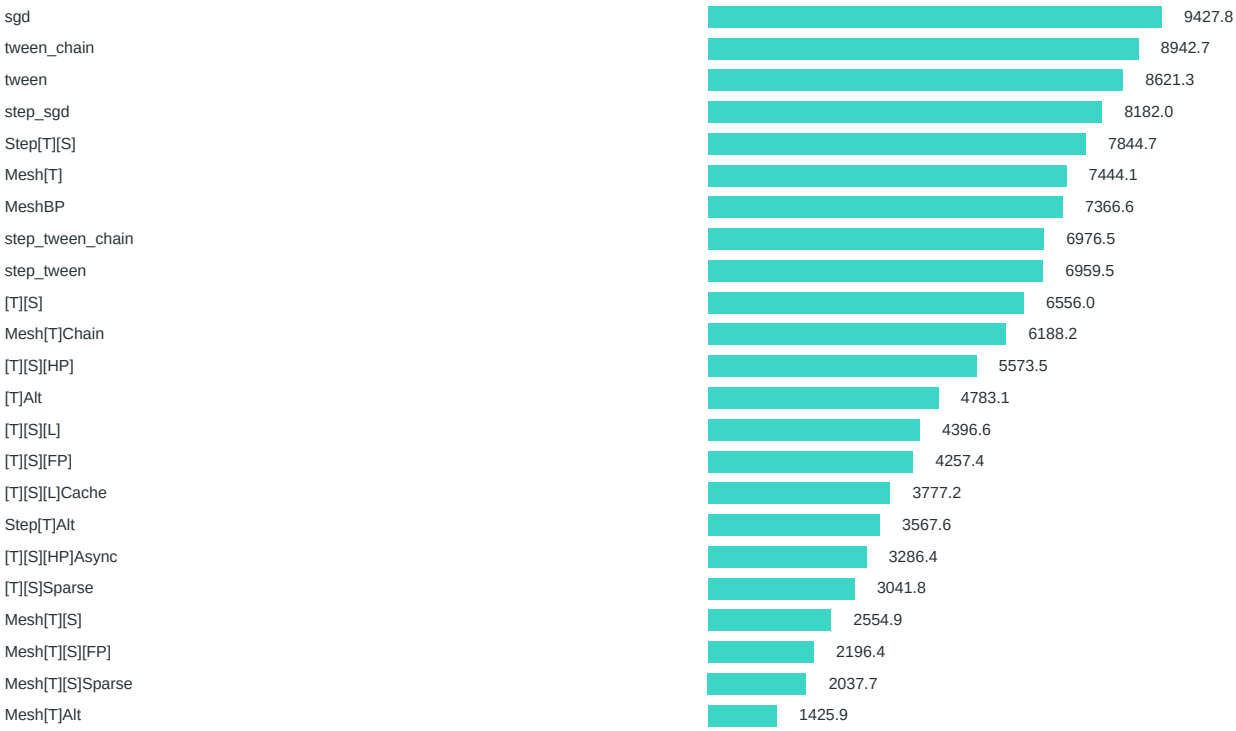




Mean Availability by train mode



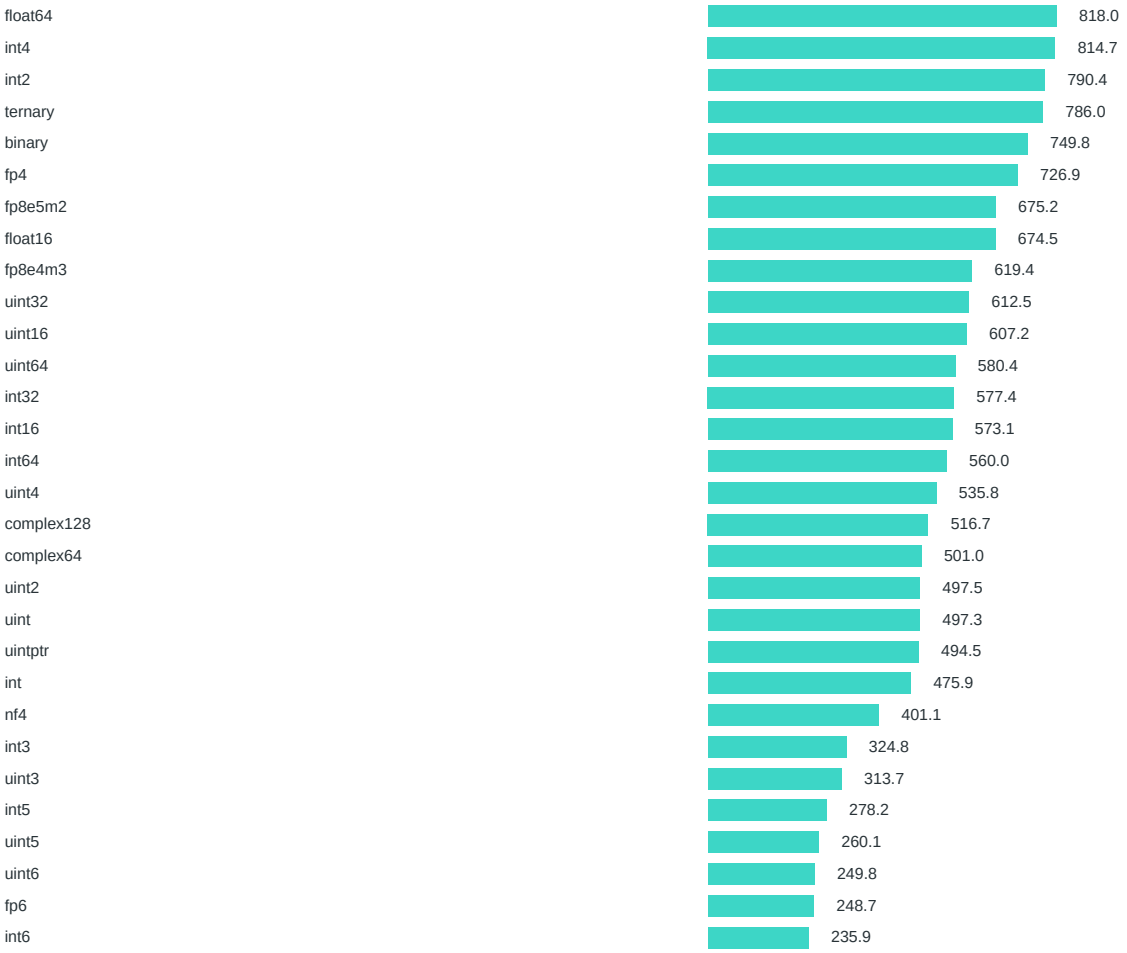
Mean Throughput by train mode



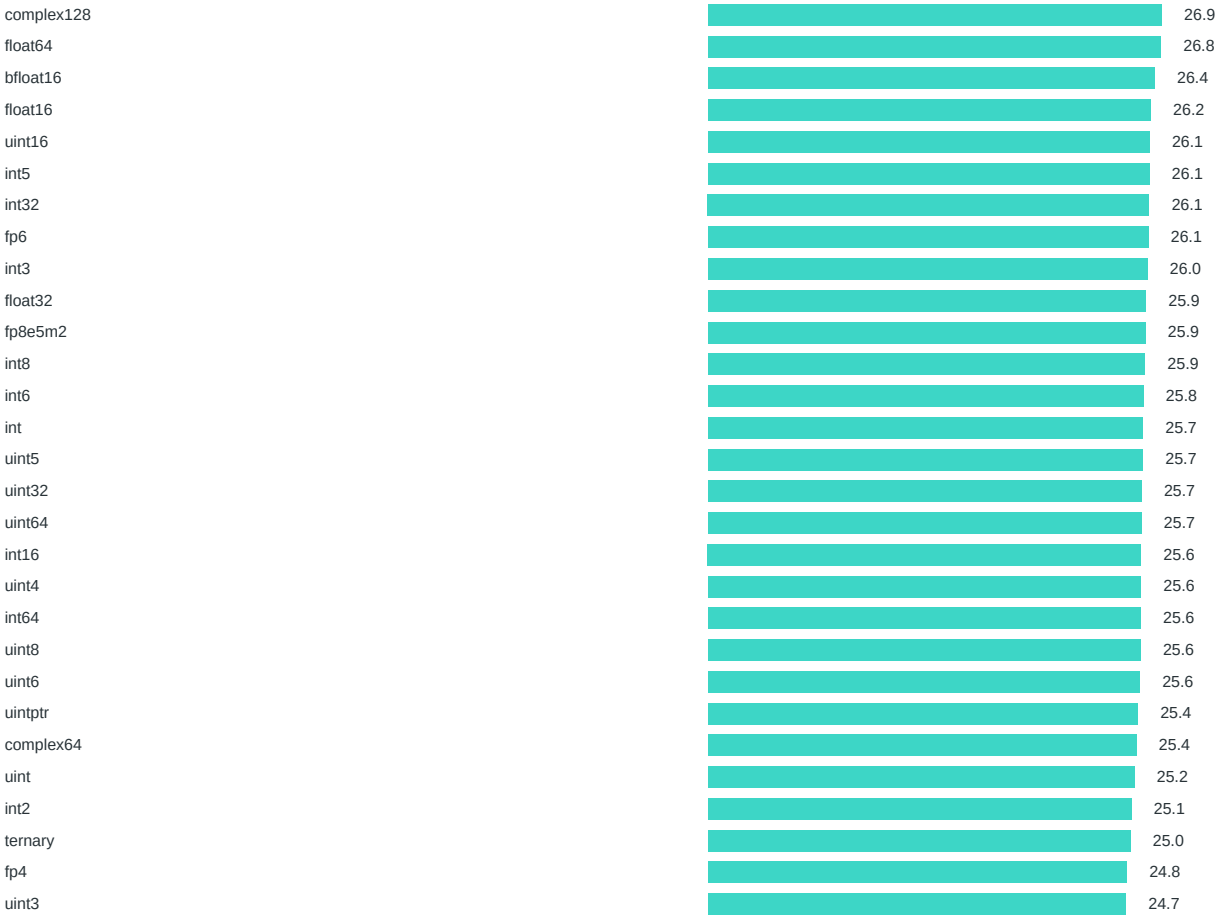
Mean Score by dtype



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	1314	1028	730	757	952	1548	1325	904	345	971	956	696
Mesh[T]	1044	911	693	511	822	1407	1075	1042	280	790	780	598
Mesh[T]Alt	156	196	87	85	111	221	141	114	39	103	120	75
Mesh[T]Chain	1068	841	651	649	786	1341	870	878	284	775	793	548
Mesh[T][S]	440	396	310	252	324	395	322	386	178	387	418	251
Mesh[T][S][FP]	338	347	234	191	299	432	295	339	122	310	261	203
Mesh[T][S]Sparse	270	318	221	206	343	393	305	344	126	300	288	183
Step[T]Alt	364	418	216	175	277	637	431	314	93	271	222	203
Step[T][S]	1090	1199	757	711	738	1360	1157	990	319	1013	1047	536
[T]Alt	598	536	371	229	469	746	468	571	144	331	436	178
[T][S]	900	977	637	837	831	1342	867	909	375	733	710	780
[T][S][FP]	620	715	401	408	510	651	632	618	244	546	461	423
[T][S][HP]	796	680	522	523	647	1017	1009	879	350	644	755	583
[T][S][HP]Async	453	532	324	342	412	590	551	460	154	412	425	283
[T][S][L]	519	566	459	302	504	731	601	621	213	450	598	488
[T][S][L]Cache	559	546	275	392	409	721	660	604	214	438	471	349
[T][S]Sparse	537	482	354	302	546	550	416	456	166	354	457	275
sgd	1567	1056	1035	996	1309	1867	1653	1229	485	1010	1273	976
step_sgd	1354	1191	734	747	1053	1707	1312	982	388	959	1115	743
step_tween	871	910	455	518	779	1387	889	896	190	598	793	429
step_tween_chain	1186	884	553	576	836	1664	1017	800	272	838	962	600
tween	1275	1256	768	830	1170	1787	1281	1194	324	882	1011	692
tween_chain	1579	1257	1095	985	1387	1998	1536	1191	415	1131	1176	853

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	888	1130	441	839	1184	380	323	893	1471	585	1074	830
Mesh[T]	907	878	431	892	1003	256	233	780	1135	523	1138	702
Mesh[T]Alt	90	194	77	101	194	35	46	106	192	60	207	100
Mesh[T]Chain	682	805	265	628	1029	301	277	669	1083	549	870	567
Mesh[T][S]	228	485	195	279	370	200	115	270	364	209	505	231
Mesh[T][S][FP]	269	435	155	194	301	132	137	238	392	202	321	215
Mesh[T][S]Sparse	212	354	169	215	350	145	104	196	320	214	347	202
Step[T]Alt	175	439	109	193	266	103	79	192	536	172	297	215
Step[T][S]	633	1089	463	800	1325	364	308	540	1197	616	1124	631
[T]Alt	306	646	257	322	723	154	131	406	723	177	369	246
[T][S]	702	1052	663	685	1093	512	383	773	1215	650	931	612
[T][S][FP]	485	591	339	461	570	319	243	338	620	365	618	497
[T][S][HP]	604	812	360	607	858	396	274	656	899	439	839	582
[T][S][HP]Async	382	484	243	472	492	206	198	357	462	216	490	353
[T][S][L]	481	674	331	456	670	222	185	489	770	222	837	433
[T][S][L]Cache	460	541	387	448	500	231	158	365	639	309	499	292
[T][S]Sparse	336	500	231	310	382	140	148	352	552	255	506	248
sgd	1127	1383	546	1118	1436	563	468	1065	1613	661	1352	986
step_sgd	834	1174	370	880	1331	389	333	807	1529	659	1119	751
step_tween	525	941	303	625	879	234	244	606	1209	417	1086	464
step_tween_chain	774	1011	255	747	1100	305	261	702	1241	513	942	560
tween	915	1333	415	908	1226	317	340	923	1388	445	1274	734
tween_chain	1168	1229	465	1101	1453	493	437	1157	1784	764	1334	986

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	919	641	418	958	747	383	320	828	1377	777
Mesh[T]	690	759	388	752	690	269	287	751	1225	556
Mesh[T]Alt	128	95	65	99	103	56	39	113	159	108
Mesh[T]Chain	708	558	417	707	639	269	222	653	983	547
Mesh[T][S]	246	277	181	265	338	152	143	291	361	233
Mesh[T][S][FP]	294	194	176	252	221	142	136	276	335	201
Mesh[T][S]Sparse	234	182	142	228	201	104	114	227	297	184
Step[T]Alt	161	188	135	224	186	108	91	198	486	241
Step[T][S]	875	847	474	1080	588	351	332	704	963	676
[T]Alt	392	310	241	366	241	135	215	336	531	292
[T][S]	772	697	436	856	847	389	377	612	1159	630
[T][S][FP]	464	432	294	457	416	205	234	436	524	368
[T][S][HP]	629	546	360	613	632	349	315	596	701	519
[T][S][HP]Async	415	322	208	346	548	226	200	393	421	358
[T][S][L]	531	470	359	502	523	218	216	521	514	354
[T][S][L]Cache	519	313	242	423	450	287	165	397	548	429
[T][S]Sparse	320	347	227	297	251	227	152	288	430	270
sgd	1159	957	545	1085	934	508	510	1187	1520	1016
step_sgd	963	708	380	906	813	357	353	936	1433	790
step_tween	634	421	294	691	494	207	252	665	1051	494
step_tween_chain	722	653	323	698	733	276	312	790	1150	563
tween	938	803	409	1049	717	292	324	1000	1489	817
tween_chain	1253	724	502	1234	1015	475	433	1150	1779	952

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	24	28	28	27	27	30	25	26	24	27	28
Mesh[T]	24	20	27	21	25	24	27	25	23	26	25	28
Mesh[T]Alt	28	29	26	22	26	21	22	23	23	23	25	23
Mesh[T]Chain	27	22	25	26	26	28	27	24	26	24	25	27
Mesh[T][S]	29	23	30	28	24	24	23	24	30	28	29	26
Mesh[T][S][FP]	24	27	25	22	30	28	25	25	26	25	22	22
Mesh[T][S]Sparse	21	24	27	26	28	25	27	25	30	27	27	26
Step[T]Alt	27	26	30	27	22	26	27	26	26	22	23	24
Step[T][S]	24	29	27	25	20	26	29	24	26	22	27	23
[T]Alt	28	18	27	22	25	24	21	27	22	20	26	21
[T][S]	26	24	23	27	27	28	25	24	25	28	25	29
[T][S][FP]	28	29	26	24	26	22	25	25	27	24	23	27
[T][S][HP]	24	22	28	25	21	26	30	26	30	23	26	32
[T][S][HP]Async	24	26	27	27	26	24	25	24	23	27	23	22
[T][S][L]	23	25	27	21	24	25	28	25	26	21	30	28
[T][S][L]Cache	26	25	22	24	26	27	30	24	26	27	24	23
[T][S]Sparse	29	25	27	25	31	20	24	24	23	22	26	25
sgd	30	21	29	27	29	30	30	25	29	24	28	28
step_sgd	28	25	28	27	28	28	29	25	28	26	29	28
step_tween	25	23	27	27	27	26	26	25	24	24	28	25
step_tween_chain	29	24	25	27	27	28	29	25	26	26	26	28
tween	26	23	27	27	29	28	30	25	26	24	25	23
tween_chain	28	23	29	27	30	30	28	25	29	25	25	26

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	27	24	28	27	28	25	27	27	27	23	26	28
Mesh[T]	29	24	27	28	23	24	26	30	24	24	24	26
Mesh[T]Alt	23	29	27	30	29	24	25	25	23	19	29	25
Mesh[T]Chain	28	23	24	25	25	26	27	24	26	26	25	27
Mesh[T][S]	22	27	25	26	22	30	24	23	24	23	28	26
Mesh[T][S][FP]	26	29	26	22	21	26	31	25	29	30	24	25
Mesh[T][S]Sparse	24	23	28	21	27	27	22	24	23	29	27	26
Step[T]Alt	18	30	23	20	23	26	27	26	28	22	23	22
Step[T][S]	24	24	27	30	27	27	28	18	25	30	24	26
[T]Alt	19	31	26	25	30	25	27	31	28	17	17	23
[T][S]	27	24	28	26	27	29	25	26	26	28	23	23
[T][S][FP]	23	23	25	27	21	26	25	20	22	27	22	27
[T][S][HP]	24	24	23	27	25	30	22	27	25	20	26	26
[T][S][HP]Async	27	23	22	30	24	25	29	22	24	20	24	26
[T][S][L]	28	26	30	24	25	23	24	27	28	19	32	25
[T][S][L]Cache	28	21	28	27	19	26	18	25	25	25	21	19
[T][S]Sparse	26	24	33	25	21	20	23	27	25	23	25	20
sgd	31	26	25	28	27	30	27	28	29	26	26	29
step_sgd	28	24	25	27	26	29	28	27	28	28	25	28
step_tween	24	23	29	26	23	23	28	27	26	28	25	25
step_tween_chain	28	24	23	28	24	27	26	26	27	29	25	25
tween	26	27	24	25	24	24	26	25	25	23	26	24
tween_chain	28	24	23	28	25	26	28	28	28	25	27	28

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	27	26	24	30	24	28	25	28	27	29
Mesh[T]	26	27	25	26	28	23	27	28	26	22
Mesh[T]Alt	31	24	29	23	26	31	25	23	22	31
Mesh[T]Chain	26	25	27	26	25	25	25	28	27	26
Mesh[T][S]	23	28	22	26	30	24	24	27	22	26
Mesh[T][S][FP]	28	24	26	24	23	26	23	25	26	22
Mesh[T][S]Sparse	26	22	26	24	25	22	26	24	25	26
Step[T]Alt	19	22	25	26	26	28	23	26	26	23
Step[T][S]	26	26	25	31	23	29	23	25	21	25
[T]Alt	26	20	26	25	23	21	26	25	24	25
[T][S]	27	26	22	28	27	27	23	24	29	24
[T][S][FP]	24	24	25	23	24	24	27	23	23	20
[T][S][HP]	24	21	22	24	27	23	27	23	25	24
[T][S][HP]Async	27	27	23	24	31	27	26	27	22	26
[T][S][L]	23	24	26	28	29	22	28	27	23	23
[T][S][L]Cache	25	22	20	23	27	30	20	23	25	26
[T][S]Sparse	26	27	25	17	23	28	22	21	24	22
sgd	28	27	24	28	27	27	29	29	28	28
step_sgd	28	26	23	29	26	28	29	29	28	27
step_tween	26	21	26	26	24	23	27	26	27	27
step_tween_chain	30	25	26	25	26	23	26	26	30	27
tween	27	24	25	28	22	25	25	27	28	27
tween_chain	29	23	25	27	25	29	28	27	31	27

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	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

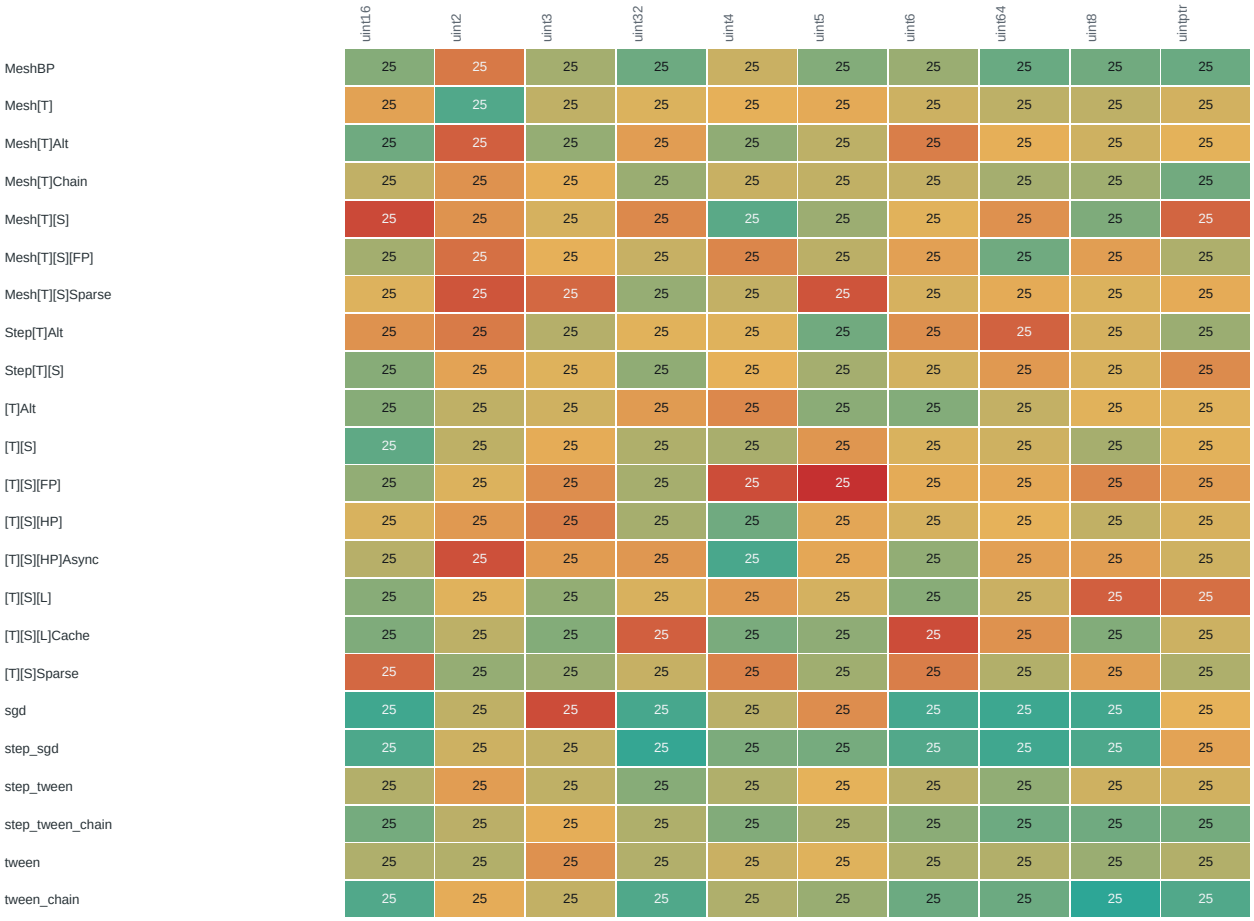
Honesty - mean SoftAcc, every mode x dtype (cols 13-24)

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	25	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)



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	38	37	38	38	39	40	37	32	39	38	37
Mesh[T]	38	37	35	36	36	38	39	36	30	36	36	35
Mesh[T]Alt	27	28	26	28	26	32	29	25	23	28	27	26
Mesh[T]Chain	40	39	38	39	39	40	39	38	32	39	40	36
Mesh[T][S]	43	43	43	44	43	42	43	42	42	43	44	44
Mesh[T][S][FP]	45	45	44	44	44	43	44	43	42	43	44	44
Mesh[T][S]Sparse	47	47	45	46	47	47	47	48	43	47	46	46
Step[T]Alt	26	25	25	24	26	29	28	23	21	25	24	24
Step[T][S]	40	37	38	37	38	40	39	36	31	40	39	36
[T]Alt	28	29	28	27	28	31	30	28	24	27	28	27
[T][S]	43	44	45	46	44	45	44	43	43	42	43	45
[T][S][FP]	43	44	42	45	43	44	45	43	42	44	43	45
[T][S][HP]	44	43	44	44	43	44	45	42	42	44	44	43
[T][S][HP]Async	44	44	43	44	44	44	45	42	42	44	43	45
[T][S][L]	41	38	42	40	41	41	39	40	36	40	40	42
[T][S][L]Cache	44	44	44	45	44	44	44	44	41	44	43	45
[T][S]Sparse	47	48	47	46	47	48	47	47	45	47	47	45
sgd	37	36	38	38	37	36	39	37	32	37	37	38
step_sgd	34	36	31	32	34	35	36	34	29	33	35	32
step_tween	33	34	29	29	32	34	35	33	25	31	31	29
step_tween_chain	35	34	30	31	33	37	34	32	28	33	34	31
tween	38	39	35	36	38	39	38	38	30	37	38	35
tween_chain	39	39	39	39	40	40	40	38	31	39	40	38

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	40	38	34	37	38	32	31	39	40	36	39	38
Mesh[T]	36	35	32	37	38	29	30	34	36	33	39	37
Mesh[T]Alt	27	28	25	27	28	23	24	29	30	26	29	27
Mesh[T]Chain	39	39	33	37	38	32	31	39	38	36	37	37
Mesh[T][S]	43	44	44	44	43	43	41	43	43	43	44	42
Mesh[T][S][FP]	44	45	43	45	43	43	43	45	43	43	43	43
Mesh[T][S]Sparse	46	47	45	46	46	44	43	45	47	45	46	46
Step[T]Alt	25	26	23	25	25	21	20	24	27	25	27	25
Step[T][S]	38	40	33	36	39	32	32	39	38	35	39	37
[T]Alt	27	29	26	28	28	24	23	27	29	25	29	27
[T][S]	44	44	46	44	44	43	42	45	45	43	44	43
[T][S][FP]	46	44	44	43	44	43	43	44	43	44	45	45
[T][S][HP]	44	44	44	43	44	42	40	43	43	44	43	44
[T][S][HP]Async	45	44	43	45	44	43	41	44	43	44	43	44
[T][S][L]	43	40	38	41	39	38	36	41	39	39	39	41
[T][S][L]Cache	44	45	45	44	43	42	43	43	45	43	43	45
[T][S]Sparse	46	49	43	46	47	45	43	46	48	46	47	46
sgd	38	37	35	38	37	33	34	38	37	35	36	37
step_sgd	34	36	28	33	37	27	27	32	36	32	35	32
step_tween	31	34	27	31	34	27	27	31	35	28	34	30
step_tween_chain	32	36	28	33	35	26	28	32	36	30	35	31
tween	37	37	31	37	37	29	31	38	39	32	37	36
tween_chain	40	38	34	39	39	32	31	40	40	37	38	37

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	38	37	34	38	38	32	30	37	39	38
Mesh[T]	36	35	32	36	36	29	29	35	40	35
Mesh[T]Alt	28	28	26	28	27	24	25	29	31	27
Mesh[T]Chain	38	38	34	39	38	31	29	37	39	37
Mesh[T][S]	43	43	43	43	44	42	41	43	43	43
Mesh[T][S][FP]	44	44	45	44	44	44	42	45	44	45
Mesh[T][S]Sparse	45	47	45	46	46	45	43	46	45	45
Step[T]Alt	24	25	22	23	24	22	22	24	28	26
Step[T][S]	39	38	35	39	39	33	31	38	39	38
[T]Alt	28	27	27	27	27	24	24	27	29	27
[T][S]	43	43	44	44	44	42	40	43	44	44
[T][S][FP]	43	44	44	45	44	43	42	45	43	44
[T][S][HP]	44	44	44	43	44	44	43	45	43	44
[T][S][HP]Async	43	44	42	43	44	42	41	43	44	44
[T][S][L]	43	41	39	41	44	37	36	42	38	42
[T][S][L]Cache	45	45	44	46	44	43	43	44	43	45
[T][S]Sparse	45	45	45	46	45	44	44	46	48	45
sgd	38	38	35	37	37	33	33	38	38	37
step_sgd	32	33	29	33	32	27	28	33	37	32
step_tween	31	31	27	31	30	26	26	31	34	30
step_tween_chain	32	33	28	33	33	27	29	33	36	31
tween	37	36	32	37	36	30	29	37	39	36
tween_chain	41	38	34	39	40	31	31	39	40	37

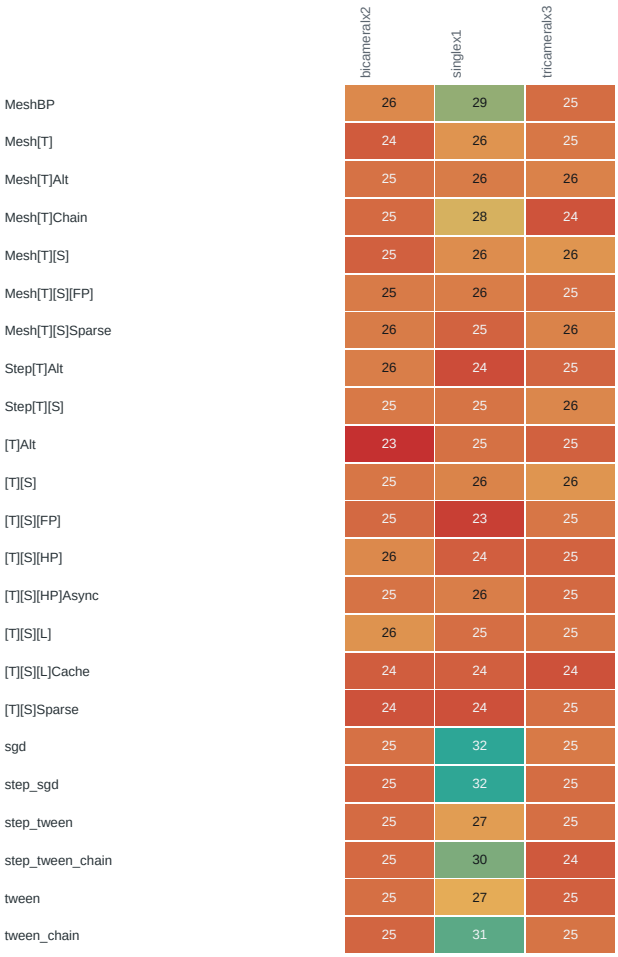
Mean Score, every mode x arch

Mean Score, every mode x arch

	bicameralx2	singlex1	tricameralx3
MeshBP	369	1897	286
Mesh[T]	349	1604	271
Mesh[T]Alt	49	251	37
Mesh[T]Chain	320	1479	223
Mesh[T][S]	169	574	139
Mesh[T][S][FP]	159	479	120
Mesh[T][S]Sparse	159	421	129
Step[T]Alt	112	554	77
Step[T][S]	408	1638	328
[T]Alt	156	846	110
[T][S]	426	1296	567
[T][S][FP]	288	845	235
[T][S][HP]	398	1162	292
[T][S][HP]Async	215	738	170
[T][S][L]	271	943	201
[T][S][L]Cache	256	805	196
[T][S]Sparse	235	601	193
sgd	524	2237	432
step_sgd	380	2010	266
step_tween	301	1378	213
step_tween_chain	288	1672	231
tween	466	1881	347
tween_chain	473	2366	380

Mean hard Acc, every mode x arch

Mean hard Acc, every mode x arch



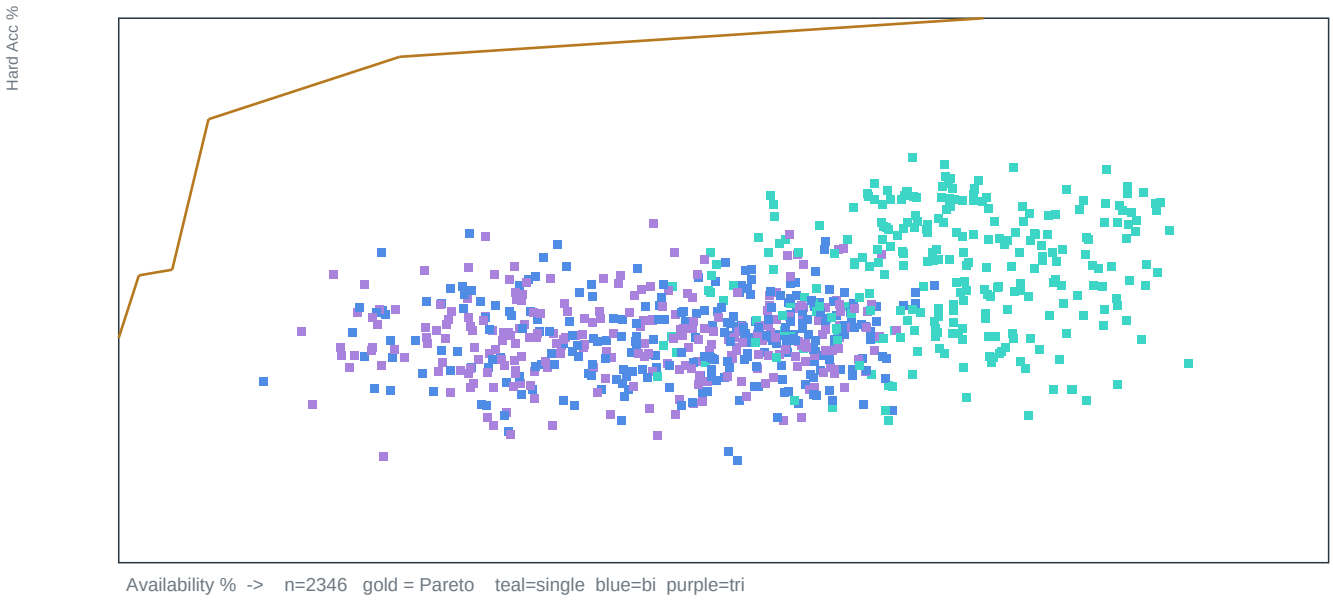
	bicameralx2	singlex1	tricameralx3
MeshBP	26	29	25
Mesh[T]	24	26	25
Mesh[T]Alt	25	26	26
Mesh[T]Chain	25	28	24
Mesh[T][S]	25	26	26
Mesh[T][S][FP]	25	26	25
Mesh[T][S]Sparse	26	25	26
Step[T]Alt	26	24	25
Step[T][S]	25	25	26
[T]Alt	23	25	25
[T][S]	25	26	26
[T][S][FP]	25	23	25
[T][S][HP]	26	24	25
[T][S][HP]Async	25	26	25
[T][S][L]	26	25	25
[T][S][L]Cache	24	24	24
[T][S]Sparse	24	24	25
sgd	25	32	25
step_sgd	25	32	25
step_tween	25	27	25
step_tween_chain	25	30	24
tween	25	27	25
tween_chain	25	31	25

Mean Avail, every mode x arch

Mean Avail, every mode x arch

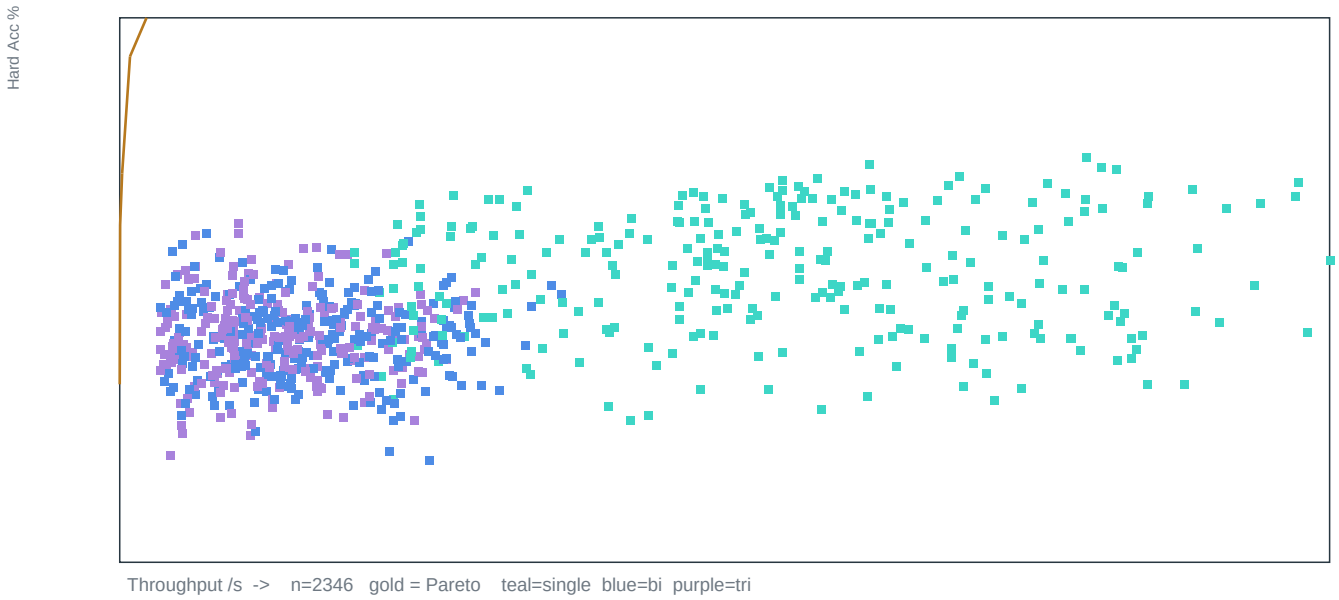
	bicamerax2	single×1	tricamerax3
MeshBP	35	43	33
Mesh[T]	33	41	32
Mesh[T]Alt	25	33	23
Mesh[T]Chain	35	43	33
Mesh[T][S]	41	47	41
Mesh[T][S][FP]	42	47	42
Mesh[T][S]Sparse	46	48	44
Step[T]Alt	22	30	21
Step[T][S]	35	42	34
[T]Alt	25	33	23
[T][S]	42	47	42
[T][S][FP]	42	47	42
[T][S][HP]	42	47	41
[T][S][HP]Async	42	47	41
[T][S][L]	38	45	37
[T][S][L]Cache	42	48	42
[T][S]Sparse	46	47	45
sgd	35	40	35
step_sgd	31	39	28
step_tween	28	37	27
step_tween_chain	29	39	28
tween	34	41	32
tween_chain	35	44	34

Pillars - Availability vs hard Acc

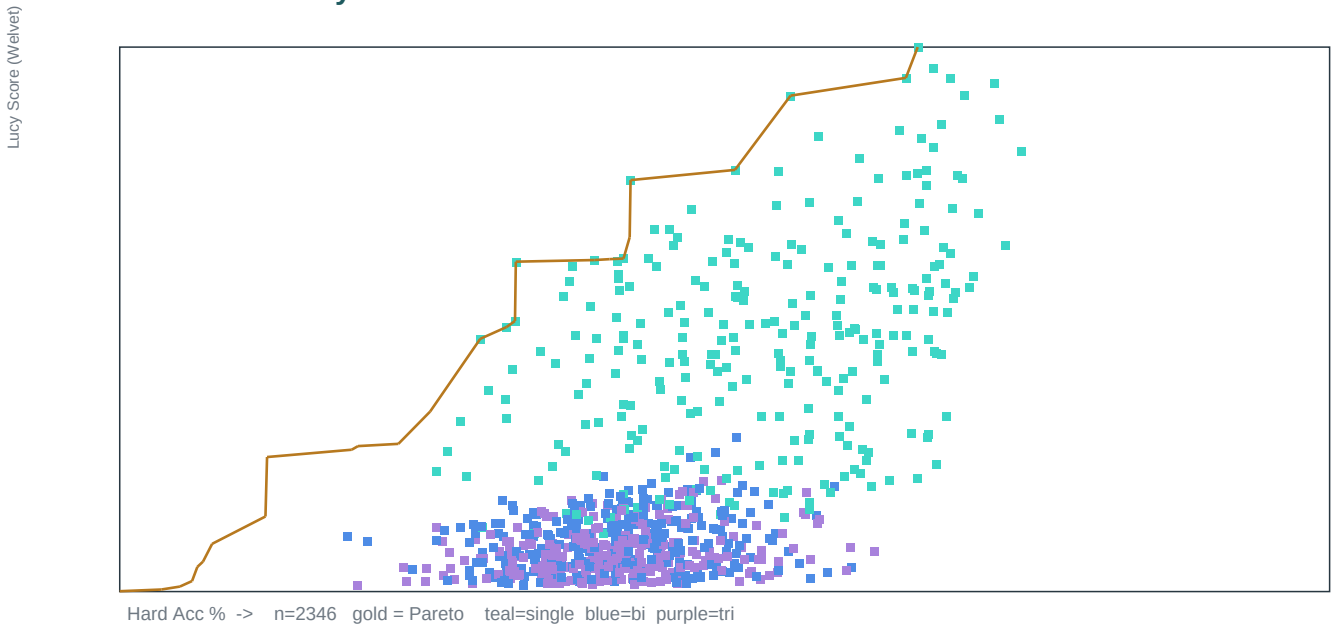


Pillars - Throughput vs hard Acc

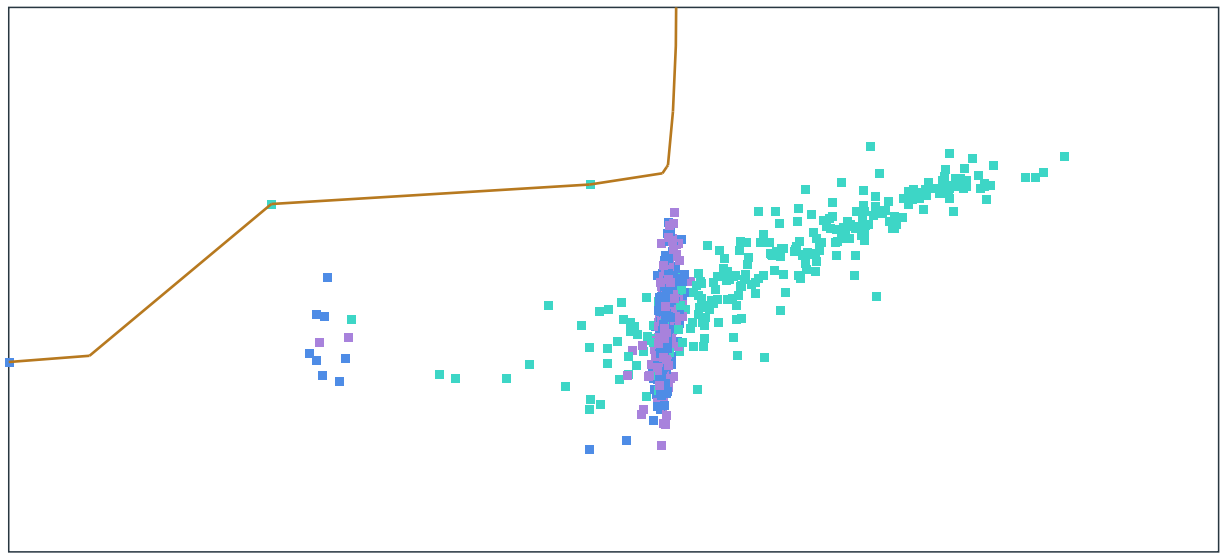
Pillars - Throughput vs hard Acc



Pareto - hard Acc vs Lucy Score

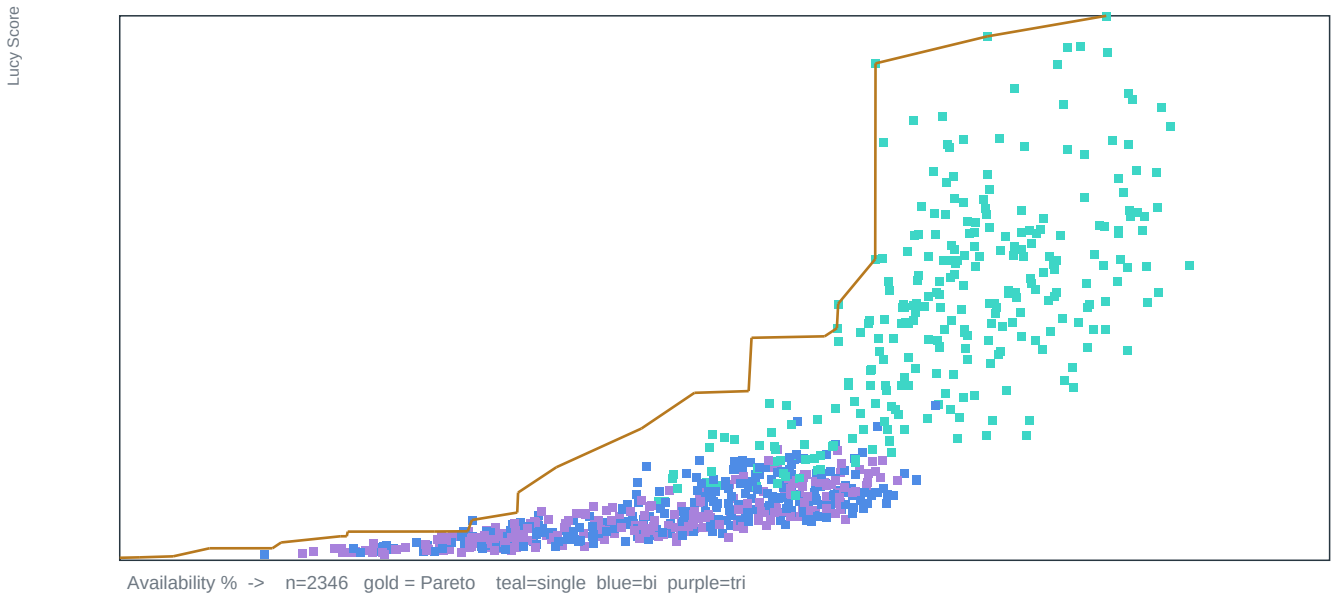


SoftAcc (serve-confidence) vs hard Acc

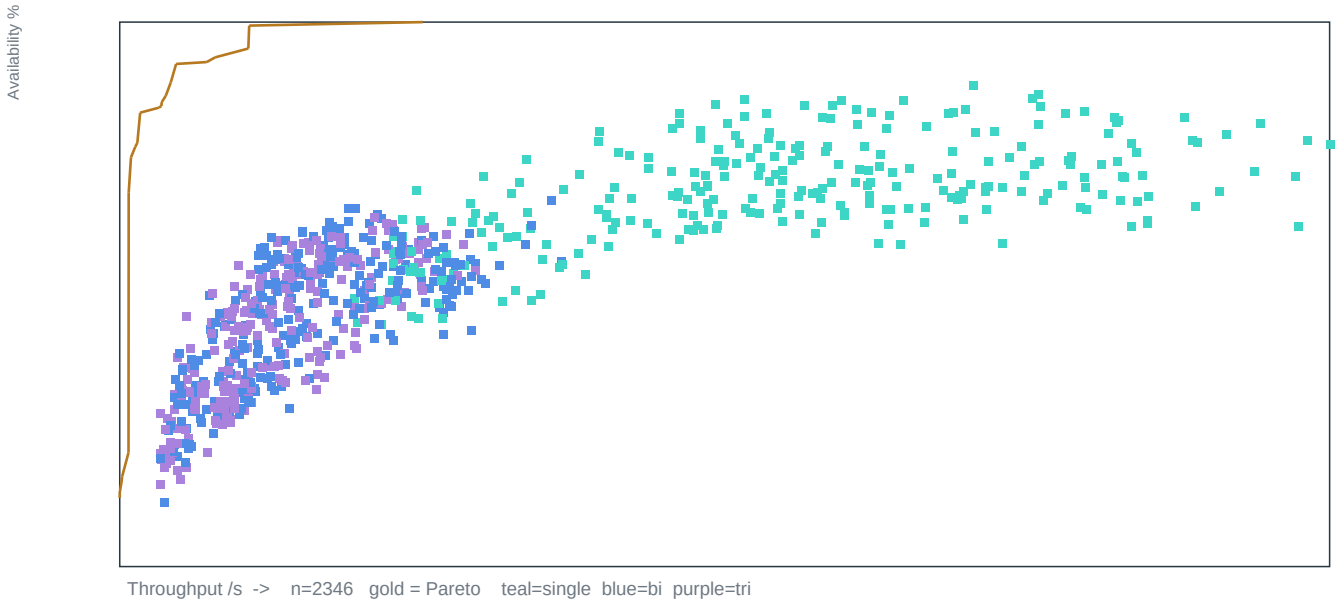



SoftAcc % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

Avail vs Lucy Score (duty clock)



Pillars - Throughput vs Availability



AdaptPct vs hard Acc



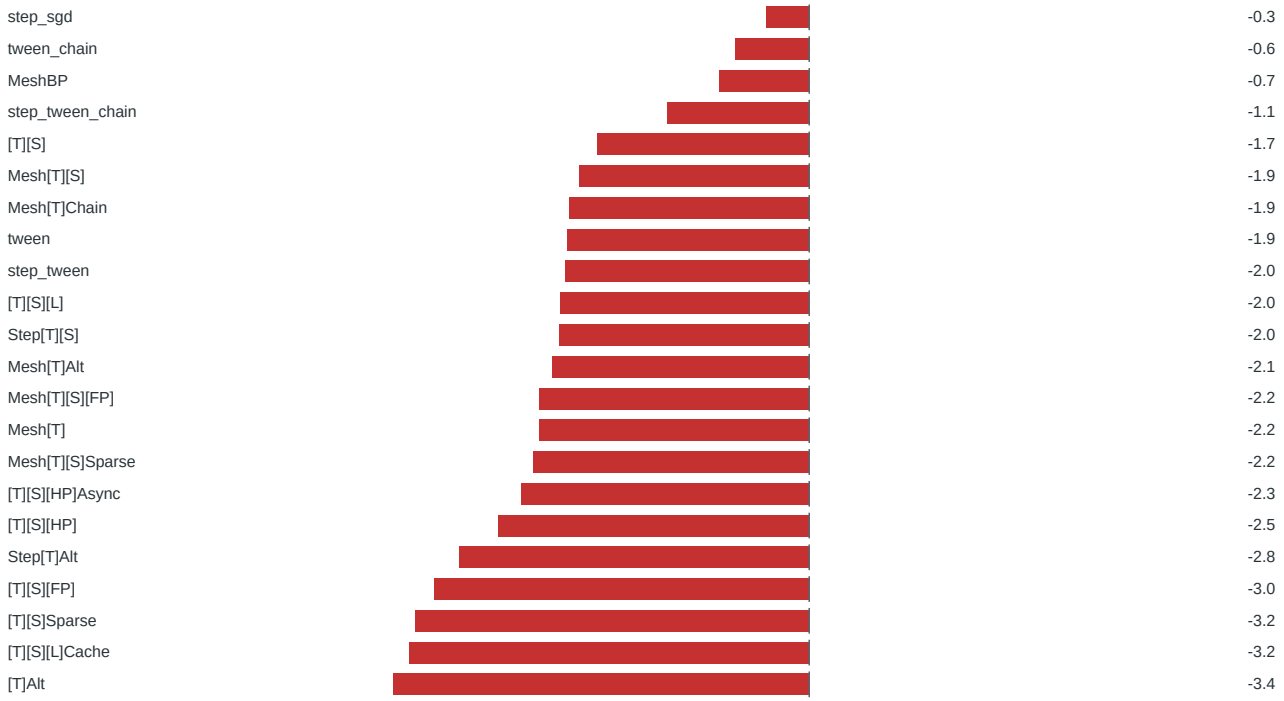

AdaptPct % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

vs sgd - matched dtype x format x arch

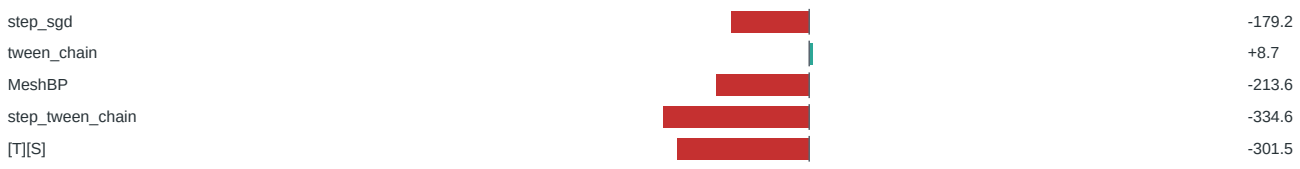
AccDelta is the honest column. ScoreDelta is usually Availability (duty clock), not a better chain rule. Acc win = AccDelta > 0.5. Score win = ScoreDelta > 1. Baseline is discovered from the board, not a frozen StepBP list.

mode	n	AccD	Acc win%	SoftD	AvailD	ThruD	ScoreD	Score win%
step_sgd	102	-0.3	30	-0.0	-4.0	-1246	-179.2	9
tween_chain	102	-0.6	30	+0.0	+1.0	-485	+8.7	31
MeshBP	102	-0.7	30	-0.0	+0.4	-2061	-213.6	7
step_tween_chain	102	-1.1	29	-0.0	-4.5	-2451	-334.6	1
[T][S]	102	-1.7	33	-0.1	+7.2	-2872	-301.5	29
Mesh[T][S]	102	-1.9	36	-0.1	+6.4	-6873	-770.6	0
Mesh[T]Chain	102	-1.9	26	-0.1	+0.4	-3240	-390.7	0
tween	102	-1.9	30	-0.1	-0.8	-806	-166.7	12
step_tween	102	-2.0	33	-0.1	-5.9	-2468	-433.7	0
[T][S][L]	102	-2.0	39	-0.1	+3.3	-5031	-593.0	0
Step[T][S]	102	-2.0	34	-0.1	+0.4	-1583	-273.4	11
Mesh[T]Alt	102	-2.1	34	-0.1	-9.5	-8002	-952.4	0
Mesh[T][S][FP]	102	-2.2	28	-0.1	+7.2	-7231	-812.0	0
Mesh[T]	102	-2.2	29	-0.1	-1.5	-1984	-323.4	1
Mesh[T][S]Sparse	102	-2.2	38	-0.1	+9.3	-7390	-828.2	0
[T][S][HP]Async	102	-2.3	33	-0.1	+6.9	-6141	-690.1	0
[T][S][HP]	102	-2.5	31	-0.1	+6.9	-3854	-447.2	12
Step[T]Alt	102	-2.8	30	-0.1	-12.1	-5860	-817.1	0
[T][S][FP]	102	-3.0	32	-0.1	+7.3	-5170	-608.6	2
[T][S]Sparse	102	-3.2	27	-0.1	+9.5	-6386	-721.5	0
[T][S][L]Cache	102	-3.2	28	-0.1	+7.4	-5651	-645.7	0
[T]Alt	102	-3.4	33	-0.1	-9.3	-4645	-694.1	0

mean AccD vs sgd



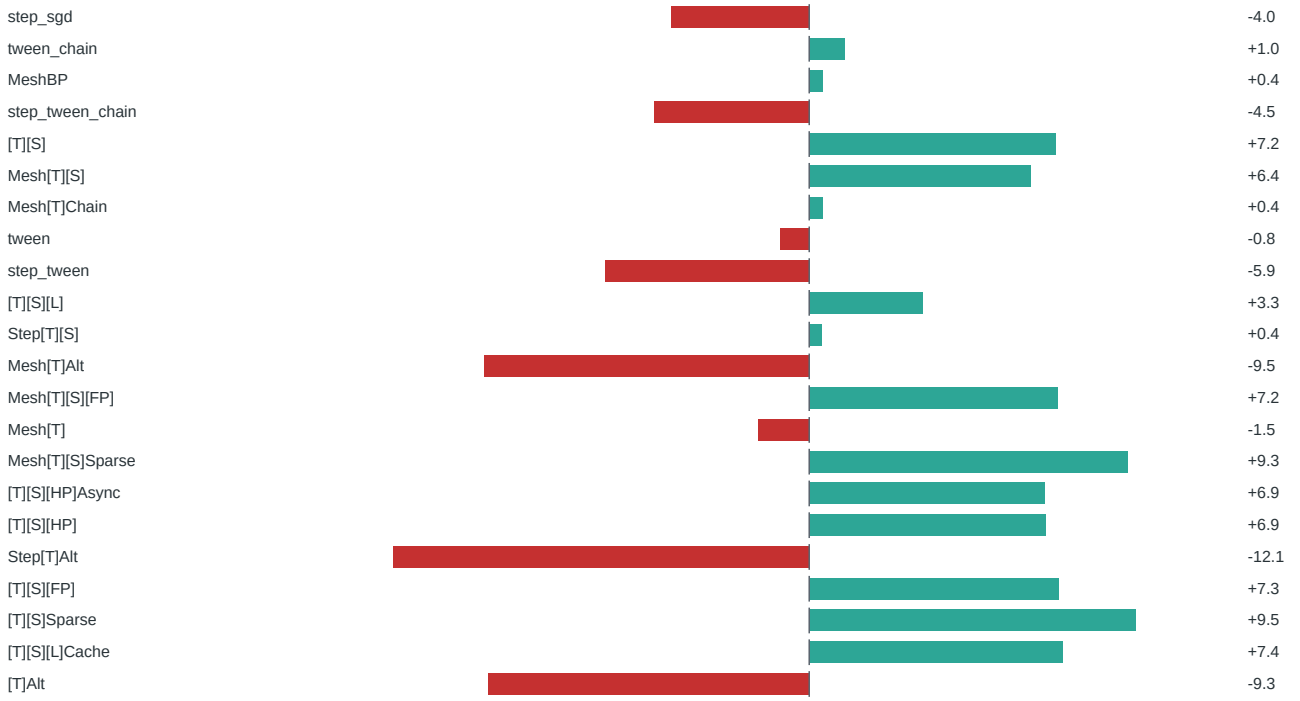
mean ScoreD vs sgd (duty clock)



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	-1	+0	-2	-3	-0	+0	-3	+1	-0	+1
Mesh[T]	-6	-1	-2	-6	-5	-6	-3	-0	-6	+2	-3	+0
Mesh[T]Alt	-2	+8	-4	-5	-4	-9	-8	-2	-6	-1	-3	-4
Mesh[T]Chain	-4	+1	-4	-2	-4	-2	-3	-1	-3	+0	-3	-0
Mesh[T][S]	-1	+2	+0	+1	-6	-6	-7	-1	+2	+4	+1	-2
Mesh[T][S][FP]	-6	+6	-5	-6	+0	-3	-5	-0	-3	+2	-5	-6
Mesh[T][S]Sparse	-9	+3	-2	-2	-1	-5	-3	-0	+1	+3	-1	-1
Step[T]Alt	-3	+4	+1	-0	-7	-4	-3	+1	-3	-1	-4	-4
Step[T][S]	-6	+8	-2	-2	-9	-5	-2	-1	-3	-1	-1	-5
[T]Alt	-3	-3	-2	-5	-5	-6	-9	+1	-7	-4	-1	-7
[T][S]	-4	+3	-7	-0	-2	-2	-5	-1	-4	+5	-3	+2
[T][S][FP]	-3	+8	-3	-4	-3	-9	-6	-0	-2	-0	-5	-0
[T][S][HP]	-6	+1	-2	-2	-9	-4	-1	+1	+1	-0	-2	+4
[T][S][HP]Async	-6	+5	-2	-0	-4	-6	-5	-1	-6	+4	-5	-5
[T][S][L]	-7	+4	-3	-6	-5	-5	-2	-0	-3	-3	+2	+1
[T][S][L]Cache	-4	+4	-8	-4	-4	-4	+0	-1	-3	+3	-3	-5
[T][S]Sparse	-1	+4	-2	-3	+2	-10	-7	-1	-6	-2	-2	-3
step_sgd	-2	+4	-1	-0	-1	-3	-2	-0	-1	+3	+1	+1
step_tween	-5	+2	-2	-0	-2	-4	-4	+0	-5	+0	-0	-3
step_tween_chain	-1	+3	-4	-1	-3	-3	-1	-0	-3	+2	-2	+1
tween	-4	+2	-3	-0	-0	-3	-0	-0	-3	-0	-2	-5
tween_chain	-2	+2	-1	-0	+0	-1	-2	-0	-0	+1	-2	-1

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	-4	-1	+4	-0	+1	-4	+1	-1	-2	-2	-0	-1
Mesh[T]	-2	-2	+2	+0	-4	-5	-1	+2	-4	-1	-2	-2
Mesh[T]Alt	-8	+3	+3	+2	+3	-6	-2	-3	-5	-7	+3	-4
Mesh[T]Chain	-3	-2	-1	-3	-2	-3	+1	-4	-2	+1	-1	-2
Mesh[T][S]	-9	+1	+0	-2	-4	+1	-2	-5	-5	-3	+2	-3
Mesh[T][S][FP]	-5	+3	+1	-6	-5	-3	+5	-3	+0	+5	-2	-4
Mesh[T][S]Sparse	-6	-3	+3	-6	+0	-3	-5	-5	-5	+4	+1	-3
Step[T]Alt	-12	+5	-1	-7	-4	-4	+0	-2	-1	-3	-3	-7
Step[T][S]	-7	-2	+2	+2	+0	-2	+1	-11	-4	+5	-2	-3
[T]Alt	-12	+6	+1	-3	+4	-5	+0	+2	-0	-8	-9	-6
[T][S]	-4	-2	+3	-2	+0	-1	-2	-2	-3	+2	-3	-6
[T][S][FP]	-8	-2	+0	-1	-6	-4	-1	-8	-7	+1	-4	-2
[T][S][HP]	-6	-2	-2	-0	-1	+0	-4	-1	-4	-5	-0	-3
[T][S][HP]Async	-4	-3	-3	+3	-3	-4	+2	-6	-5	-6	-2	-2
[T][S][L]	-3	+1	+5	-4	-2	-6	-3	-1	-1	-6	+6	-4
[T][S][L]Cache	-2	-5	+3	-1	-8	-3	-9	-3	-3	-0	-5	-10
[T][S]Sparse	-5	-2	+8	-2	-6	-9	-3	-2	-3	-2	-1	-8
step_sgd	-3	-2	-0	-1	-1	-0	+2	-2	-0	+3	-1	-1
step_tween	-6	-2	+4	-2	-4	-6	+2	-1	-3	+2	-1	-4
step_tween_chain	-3	-2	-2	+0	-2	-2	-0	-2	-2	+4	-0	-4
tween	-5	+1	-1	-3	-3	-6	-0	-4	-4	-3	+0	-4
tween_chain	-3	-1	-2	-0	-2	-3	+1	-0	-1	-0	+1	-1

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	-1	-1	-1	+2	-3	+1	-4	-1	-1	+1
Mesh[T]	-2	-1	+1	-2	+1	-4	-2	-1	-2	-6
Mesh[T]Alt	+3	-3	+4	-5	-1	+4	-4	-6	-6	+3
Mesh[T]Chain	-2	-3	+2	-2	-2	-2	-5	-1	-1	-2
Mesh[T][S]	-5	+1	-2	-2	+3	-3	-5	-2	-6	-2
Mesh[T][S][FP]	-0	-3	+2	-4	-3	-1	-6	-4	-2	-6
Mesh[T][S]Sparse	-2	-6	+1	-4	-2	-5	-3	-5	-3	-2
Step[T]Alt	-9	-5	+1	-2	-1	+1	-6	-3	-2	-5
Step[T][S]	-2	-1	+1	+4	-4	+2	-6	-4	-6	-3
[T]Alt	-2	-7	+1	-2	-4	-6	-3	-4	-4	-3
[T][S]	-1	-1	-2	+0	+0	+0	-6	-5	+1	-5
[T][S][FP]	-4	-3	+1	-4	-3	-3	-2	-6	-4	-8
[T][S][HP]	-4	-7	-2	-3	+0	-4	-3	-6	-3	-4
[T][S][HP]Async	-1	+0	-1	-4	+4	+0	-4	-2	-6	-2
[T][S][L]	-5	-3	+2	+0	+2	-5	-1	-2	-5	-5
[T][S][L]Cache	-3	-6	-4	-5	-0	+3	-10	-6	-3	-2
[T][S]Sparse	-2	-0	+1	-11	-4	+1	-7	-8	-4	-6
step_sgd	+0	-2	-1	+1	-1	+1	-0	-0	-0	-1
step_tween	-2	-6	+1	-1	-3	-4	-2	-3	-1	-1
step_tween_chain	+2	-2	+2	-3	-1	-4	-4	-3	+2	-1
tween	-1	-3	+1	+0	-4	-2	-4	-3	+0	-1
tween_chain	+1	-4	+1	-1	-2	+2	-2	-2	+4	-1

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	-253	-29	-305	-239	-357	-320	-328	-325	-140	-39	-317	-280
Mesh[T]	-523	-145	-341	-485	-487	-460	-578	-187	-205	-220	-494	-378
Mesh[T]Alt	-1411	-860	-947	-911	-1198	-1646	-1512	-1115	-446	-907	-1154	-902
Mesh[T]Chain	-498	-215	-384	-348	-522	-527	-783	-351	-201	-234	-480	-429
Mesh[T][S]	-1127	-660	-725	-744	-985	-1472	-1331	-844	-307	-623	-855	-726
Mesh[T][S][FP]	-1228	-709	-800	-806	-1010	-1435	-1358	-890	-363	-700	-1013	-773
Mesh[T][S]Sparse	-1297	-738	-813	-791	-966	-1475	-1348	-885	-359	-710	-985	-794
Step[T]Alt	-1203	-638	-819	-821	-1032	-1230	-1222	-916	-392	-739	-1051	-774
Step[T][S]	-476	+143	-278	-285	-571	-507	-496	-239	-166	+3	-226	-441
[T]Alt	-969	-520	-663	-767	-840	-1122	-1185	-658	-342	-678	-837	-798
[T][S]	-667	-79	-398	-160	-477	-525	-786	-320	-110	-277	-563	-196
[T][S][FP]	-946	-341	-634	-588	-799	-1216	-1021	-611	-242	-463	-812	-554
[T][S][HP]	-771	-376	-513	-473	-661	-851	-644	-350	-135	-366	-518	-393
[T][S][HP]Async	-1114	-524	-710	-655	-897	-1277	-1103	-769	-331	-597	-848	-694
[T][S][L]	-1048	-490	-575	-694	-804	-1136	-1052	-608	-272	-559	-675	-488
[T][S][L]Cache	-1008	-510	-760	-604	-900	-1146	-993	-625	-271	-571	-802	-627
[T][S]Sparse	-1029	-575	-681	-694	-762	-1317	-1237	-773	-319	-656	-816	-702
step_sgd	-213	+135	-300	-250	-256	-160	-341	-247	-97	-50	-158	-233
step_tween	-696	-146	-579	-479	-530	-480	-765	-333	-295	-411	-480	-548
step_tween_chain	-381	-172	-482	-421	-472	-204	-636	-429	-213	-171	-311	-376
tween	-292	+200	-266	-167	-138	-81	-372	-35	-161	-127	-262	-285
tween_chain	+12	+200	+61	-12	+79	+131	-117	-38	-70	+122	-97	-124

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	-239	-253	-105	-279	-252	-182	-145	-172	-143	-75	-277	-157
Mesh[T]	-220	-505	-115	-226	-433	-306	-235	-284	-478	-138	-214	-285
Mesh[T]Alt	-1037	-1190	-469	-1016	-1242	-527	-422	-958	-1422	-601	-1145	-886
Mesh[T]Chain	-445	-578	-282	-490	-407	-261	-191	-396	-531	-111	-481	-420
Mesh[T][S]	-899	-899	-351	-839	-1067	-363	-353	-794	-1250	-452	-847	-756
Mesh[T][S][FP]	-858	-948	-391	-924	-1135	-430	-331	-826	-1222	-459	-1030	-771
Mesh[T][S]Sparse	-915	-1030	-377	-903	-1086	-417	-365	-869	-1294	-446	-1005	-784
Step[T]Alt	-952	-944	-437	-925	-1170	-459	-389	-873	-1078	-489	-1055	-771
Step[T][S]	-494	-295	-83	-318	-111	-198	-160	-524	-417	-44	-228	-356
[T]Alt	-821	-737	-290	-795	-713	-409	-337	-659	-891	-483	-983	-740
[T][S]	-426	-331	+117	-433	-343	-51	-85	-291	-398	-11	-420	-374
[T][S][FP]	-643	-792	-207	-657	-867	-244	-225	-727	-994	-295	-734	-489
[T][S][HP]	-524	-571	-186	-511	-579	-167	-195	-408	-714	-221	-513	-405
[T][S][HP]Async	-746	-899	-303	-645	-944	-356	-270	-708	-1151	-444	-862	-634
[T][S][L]	-646	-710	-215	-662	-766	-341	-283	-576	-844	-438	-515	-554
[T][S][L]Cache	-667	-842	-160	-670	-936	-332	-310	-699	-974	-351	-852	-694
[T][S]Sparse	-792	-883	-315	-808	-1054	-422	-321	-713	-1062	-406	-846	-739
step_sgd	-293	-209	-176	-238	-106	-173	-135	-257	-84	-2	-232	-235
step_tween	-603	-443	-243	-492	-557	-329	-224	-459	-404	-244	-266	-522
step_tween_chain	-353	-372	-291	-371	-336	-257	-207	-362	-373	-148	-409	-426
tween	-213	-50	-131	-210	-210	-245	-128	-141	-225	-216	-78	-253
tween_chain	+41	-155	-81	-17	+17	-70	-31	+93	+171	+103	-18	-0

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	-240	-316	-127	-127	-187	-125	-191	-359	-143	-239
Mesh[T]	-468	-197	-157	-333	-244	-239	-223	-436	-295	-460
Mesh[T]Alt	-1030	-862	-481	-986	-831	-452	-471	-1074	-1361	-908
Mesh[T]Chain	-451	-399	-129	-378	-295	-239	-289	-534	-537	-469
Mesh[T][S]	-913	-680	-365	-820	-596	-356	-367	-896	-1159	-783
Mesh[T][S][FP]	-865	-763	-369	-833	-714	-366	-374	-911	-1185	-815
Mesh[T][S]Sparse	-925	-775	-404	-857	-734	-404	-396	-960	-1223	-833
Step[T]Alt	-998	-769	-410	-861	-748	-400	-419	-990	-1034	-775
Step[T][S]	-284	-110	-72	-4	-346	-157	-178	-483	-557	-340
[T]Alt	-766	-647	-305	-718	-694	-373	-296	-852	-989	-724
[T][S]	-386	-260	-110	-229	-87	-119	-133	-575	-361	-386
[T][S][FP]	-695	-525	-251	-628	-518	-303	-276	-751	-996	-648
[T][S][HP]	-529	-411	-185	-472	-303	-158	-195	-592	-819	-497
[T][S][HP]Async	-743	-634	-337	-738	-386	-281	-311	-794	-1099	-658
[T][S][L]	-627	-487	-187	-583	-411	-289	-295	-667	-1006	-662
[T][S][L]Cache	-640	-644	-303	-662	-484	-221	-345	-790	-972	-587
[T][S]Sparse	-839	-610	-319	-788	-683	-281	-358	-899	-1090	-746
step_sgd	-196	-249	-165	-178	-121	-151	-157	-252	-87	-226
step_tween	-525	-536	-251	-393	-440	-300	-258	-523	-469	-522
step_tween_chain	-436	-304	-222	-387	-201	-231	-198	-397	-370	-453
tween	-221	-154	-136	-36	-218	-216	-186	-187	-31	-199
tween_chain	+95	-233	-44	+149	+81	-32	-77	-37	+259	-64

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	+2	+2	-1	-0	+1	+2	+1	-0	+0	+2	+1	-1
Mesh[T]	+1	+1	-3	-2	-1	+1	-0	-1	-2	-1	-0	-3
Mesh[T]Alt	-10	-8	-11	-11	-11	-4	-10	-12	-8	-9	-10	-12
Mesh[T]Chain	+3	+2	+0	+1	+1	+3	-0	+1	+0	+2	+4	-2
Mesh[T][S]	+6	+7	+5	+6	+6	+5	+4	+5	+10	+6	+7	+6
Mesh[T][S][FP]	+8	+8	+7	+6	+7	+7	+5	+6	+10	+6	+7	+6
Mesh[T][S]Sparse	+10	+11	+7	+8	+10	+11	+7	+11	+12	+10	+10	+8
Step[T]Alt	-11	-11	-13	-14	-12	-7	-12	-14	-11	-12	-13	-14
Step[T][S]	+3	+1	+0	-1	+1	+3	-0	-0	-1	+2	+2	-2
[T]Alt	-9	-7	-10	-11	-9	-6	-9	-9	-7	-10	-9	-11
[T][S]	+6	+7	+7	+8	+7	+8	+5	+6	+11	+5	+6	+7
[T][S][FP]	+6	+8	+4	+7	+6	+8	+6	+6	+10	+6	+7	+7
[T][S][HP]	+7	+7	+6	+6	+6	+7	+6	+5	+10	+7	+7	+5
[T][S][HP]Async	+7	+7	+5	+6	+7	+8	+6	+5	+11	+7	+7	+7
[T][S][L]	+4	+2	+4	+2	+4	+4	+0	+3	+4	+2	+3	+4
[T][S][L]Cache	+7	+7	+6	+7	+6	+8	+5	+7	+10	+6	+7	+7
[T][S]Sparse	+10	+12	+10	+8	+10	+12	+8	+10	+13	+10	+10	+7
step_sgd	-3	-1	-7	-7	-4	-1	-3	-3	-3	-5	-2	-6
step_tween	-4	-2	-8	-9	-5	-2	-4	-4	-7	-6	-5	-9
step_tween_chain	-2	-3	-7	-7	-4	+1	-5	-5	-4	-4	-3	-7
tween	+1	+3	-2	-2	+1	+2	-1	+1	-2	+0	+1	-3
tween_chain	+2	+3	+1	+1	+2	+4	+1	+1	-1	+2	+3	+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	+2	+2	-1	-0	+1	-1	-3	+1	+2	+1	+3	+1
Mesh[T]	-2	-2	-3	-1	+1	-4	-4	-4	-1	-2	+2	+0
Mesh[T]Alt	-11	-9	-9	-11	-9	-10	-10	-9	-7	-9	-8	-10
Mesh[T]Chain	+1	+2	-1	-1	+1	-1	-3	+1	+1	+1	+1	-0
Mesh[T][S]	+5	+7	+9	+6	+6	+10	+7	+5	+6	+8	+7	+5
Mesh[T][S][FP]	+6	+8	+8	+7	+7	+10	+9	+6	+6	+8	+6	+6
Mesh[T][S]Sparse	+8	+10	+11	+9	+9	+11	+10	+7	+10	+10	+10	+9
Step[T]Alt	-13	-11	-12	-13	-12	-12	-14	-14	-10	-10	-10	-12
Step[T][S]	-0	+3	-1	-1	+2	-1	-2	+1	+1	-0	+2	-1
[T]Alt	-11	-8	-8	-10	-8	-9	-11	-11	-9	-10	-7	-10
[T][S]	+6	+8	+12	+6	+7	+10	+8	+6	+7	+8	+8	+6
[T][S][FP]	+8	+7	+10	+5	+8	+10	+9	+6	+5	+8	+9	+8
[T][S][HP]	+6	+7	+9	+5	+8	+9	+6	+5	+6	+9	+6	+7
[T][S][HP]Async	+7	+7	+8	+7	+7	+10	+7	+6	+5	+8	+7	+7
[T][S][L]	+5	+3	+3	+3	+2	+5	+2	+3	+2	+4	+2	+4
[T][S][L]Cache	+6	+8	+10	+6	+6	+9	+9	+5	+7	+7	+7	+8
[T][S]Sparse	+8	+12	+9	+9	+10	+12	+9	+8	+10	+11	+11	+9
step_sgd	-4	-1	-6	-5	-0	-6	-7	-6	-1	-3	-1	-5
step_tween	-7	-3	-8	-6	-3	-6	-7	-7	-3	-7	-2	-7
step_tween_chain	-6	-1	-7	-5	-2	-7	-5	-6	-2	-5	-2	-6
tween	-1	+1	-3	-1	+0	-4	-3	-0	+1	-3	+1	-1
tween_chain	+2	+1	-1	+2	+2	-1	-2	+1	+2	+2	+2	+0

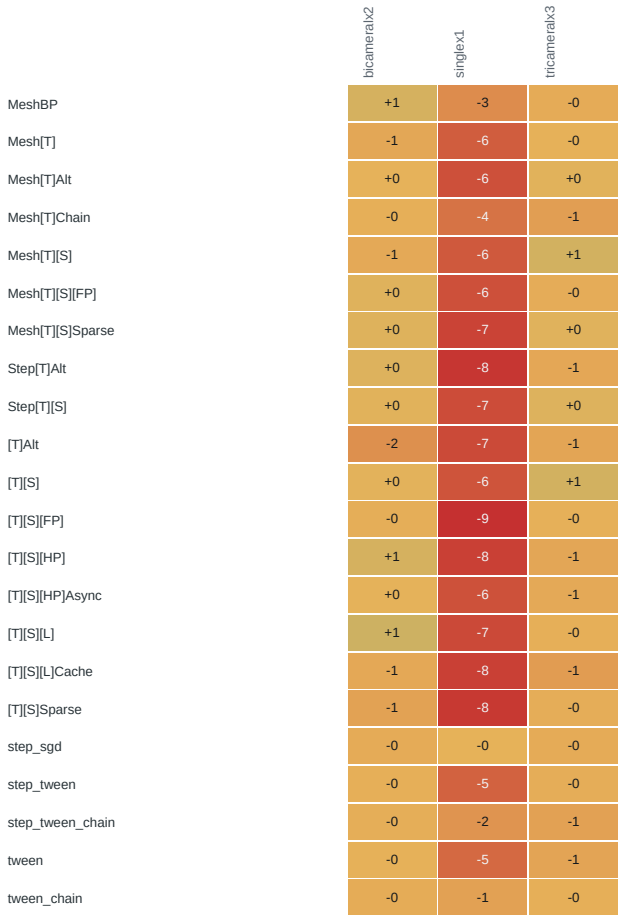
AvailD vs sgd, every mode x dtype (cols 25-34)

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

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

AccD vs sgd, every mode x arch

AccD vs sgd, every mode x arch



Family collapse - Step* vs non-Step

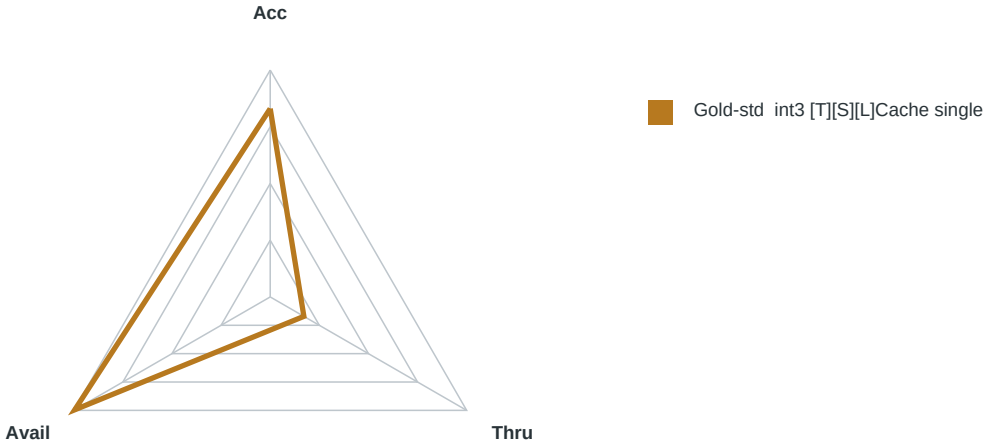
Step* is a 1D pipe (one sample enters layer 0 per tick; output is the sample that entered depth ticks ago). Non-Step of the same family is a full-chain update. AccD is a real scheduler split, not leftover warm-up forwards.

step	plain	n	mean |AccD|
Step[T]Alt	[T]Alt	102	5.46
Step[T][S]	[T][S]	102	4.87
step_sgd	sgd	102	2.12
step_tween	tween	102	2.71
step_tween_chain	tween_chain	102	2.48

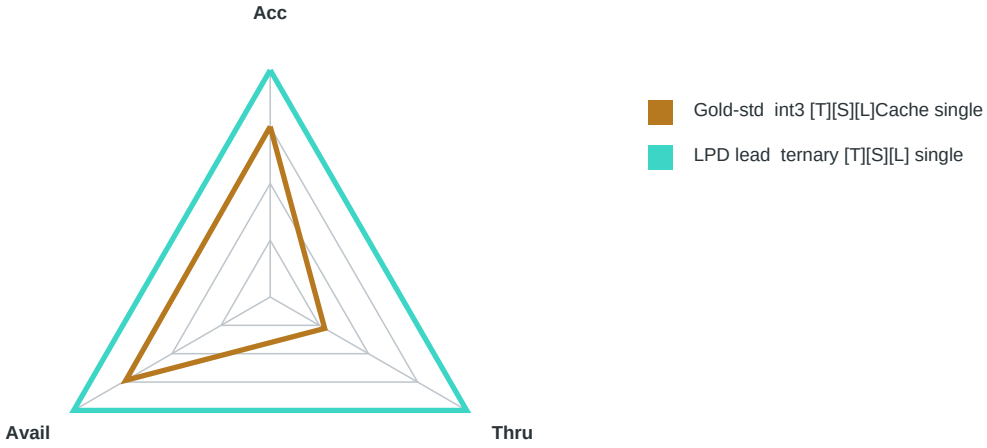
Consciousness - Acc, Throughput, Availability

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 nf4|none|Mesh[T][S][FP]|tricameral|simd Acc 46.3 Thru 854 Avail 41.3% 0.2 KiB (RAM reference)
Lucy Score champ (T x Avail x Acc) float32|none|tween_chain|single|simd Score 4073.8 Acc 34.0 Soft 26 0.4 KiB
Live-fit champ (best Q) float32|none|tween_chain|single|simd Acc 34.0 Thru 26697 Avail 44.9% 0.4 KiB
Gold-std (2+ pillars, Acc keep >= 80%, then smallest then fastest): int3|none|[T][S][L]Cache|single|simd mode [T][S][L]Cache Acc 38.5 Thru 4729 0.0 KiB
Board fastest float32|none|tween|single|simd Thru 28308 (traps may own this) Best availability uint32|none|[T][S][L]Cache|single|simd 51.5%
Learner Thru peak 27587 learner Avail peak 50.1%

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.

Gold-standard train modes - 2+ pillars, Acc keep >= 80%, smallest then fastest

Mode	n	Acc	KiB	Thru	Cell
[T][S][L]Cache	1	38.5	0.0	4729	int3 [T][S][L]Cache single
[T][S][HP]Async	1	41.7	0.1	6232	uint4 [T][S][HP]Async single
[T][S]Sparse	1	42.1	0.1	890	int3 [T][S]Sparse tricameral
Mesh[T][S]Sparse	1	38.4	0.2	649	uint3 Mesh[T][S]Sparse tricameral
Mesh[T][S][FP]	2	46.3	0.2	854	nf4 Mesh[T][S][FP] tricameral
[T][S][L]	1	37.2	0.2	2181	uint4 [T][S][L] tricameral
Mesh[T][S]	1	38.8	2.2	1394	complex64 Mesh[T][S] bicameral
[T][S][HP]	1	37.1	2.8	2227	int [T][S][HP] tricameral

Near-gold - 2+ pillars, RAM <= 50% of Acc champ

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
near	int3 [T][S][L]Cache single	83	17	99	52	20	4.9	2.55	38.5	4729	0.0
near	uint4 [T][S][HP]Async single	90	23	98	58	32	3.1	1.84	41.7	6232	0.1

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
-	ternary [T][S][L] single	74	41	90	65	14	7.3	4.76	34.1	11371	0.0
-	uint2 Step[T][S] single	71	50	86	67	18	5.5	3.69	33.0	13676	0.0
-	uint2 Mesh[T] single	73	48	81	66	18	5.5	3.60	33.8	13198	0.0
near	int3 [T][S][L]Cache single	83	17	99	52	20	4.9	2.55	38.5	4729	0.0
-	binary Mesh[T][S][FP] bicameral	76	8	90	38	20	4.9	1.85	35.0	2199	0.0
near	uint4 [T][S][HP]Async single	90	23	98	58	32	3.1	1.84	41.7	6232	0.1
-	int5 sgd single	75	35	78	59	34	2.9	1.73	34.8	9674	0.1
-	binary [T][S][FP] tricameral	78	12	86	43	25	4.0	1.73	36.1	3331	0.0
-	int5 step_sgd single	74	29	70	53	34	2.9	1.56	34.5	7964	0.1
-	int8 tween_chain single	73	94	88	84	55	1.8	1.55	33.6	25899	0.1
-	int8 MeshBP single	72	82	91	81	55	1.8	1.49	33.4	22600	0.1
-	uint5 sgd single	73	34	75	57	39	2.6	1.48	33.8	9432	0.1
-	int8 step_sgd single	74	87	80	80	55	1.8	1.47	34.4	24101	0.1
-	int8 sgd single	73	87	77	79	55	1.8	1.44	33.9	24071	0.1
-	int5 [T][S][FP] single	74	17	93	49	34	2.9	1.43	34.3	4584	0.1
-	uint8 tween_chain single	78	85	90	84	59	1.7	1.42	36.2	23342	0.1
-	fp6 sgd single	74	32	77	57	41	2.4	1.38	34.3	8780	0.1
-	uint8 step_sgd single	74	82	81	79	59	1.7	1.34	34.2	22643	0.1
-	uint8 sgd single	73	83	80	79	59	1.7	1.33	33.6	23028	0.1
-	fp8e5m2 step_sgd single	71	69	79	73	55	1.8	1.33	32.8	18928	0.1

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

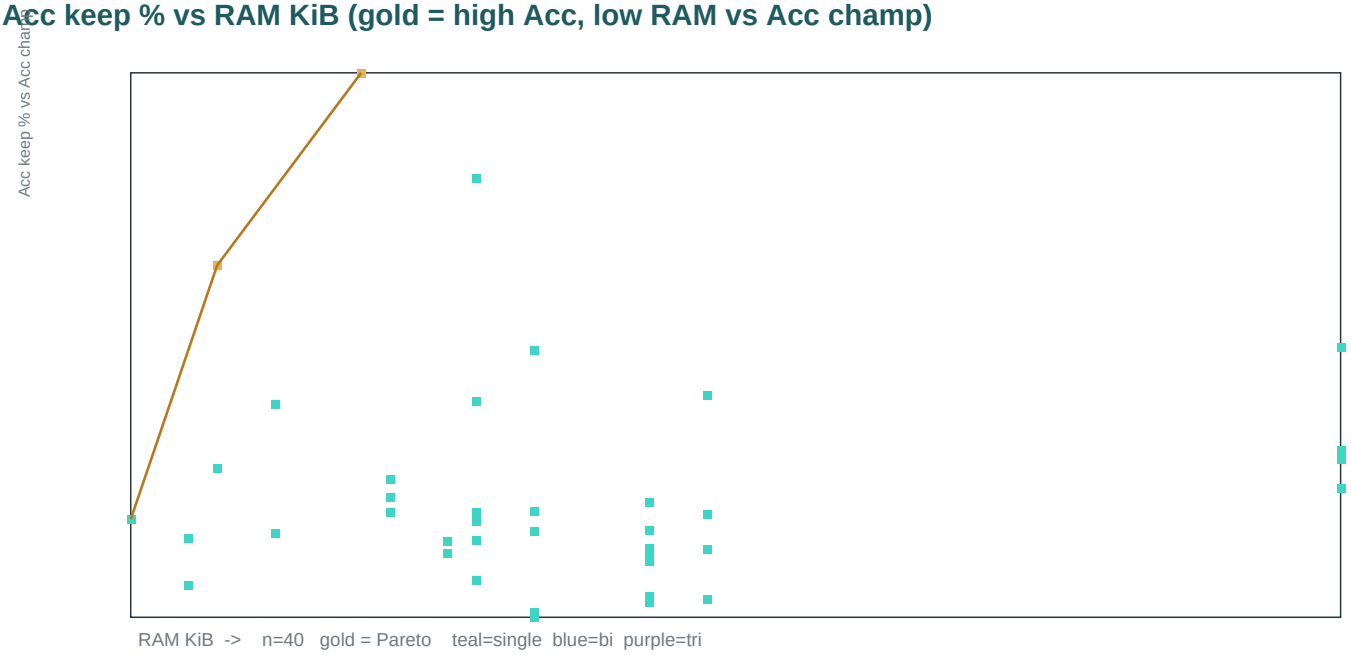
Band	Cell	Acc%	Thru%	Avail%	Q%	LPD	Thru	Avail
-	float32 tween_chain single	73	97	90	86	0.39	26697	44.9
-	float32 step_sgd single	74	100	83	85	0.39	27498	41.4
-	int8 tween_chain single	73	94	88	84	1.55	25899	44.2
-	float32 step_tween_chain single	75	91	87	84	0.39	25108	43.8
-	uint8 tween_chain single	78	85	90	84	1.42	23342	45.0
-	float32 sgd single	76	100	76	83	0.38	27587	38.1
-	float64 sgd single	79	83	84	82	0.19	23003	42.2
-	bfloat16 tween_chain single	75	80	91	82	0.75	22159	45.6
-	int8 MeshBP single	72	82	91	81	1.49	22600	45.7
-	float64 tween_chain single	74	78	93	81	0.19	21413	46.6

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

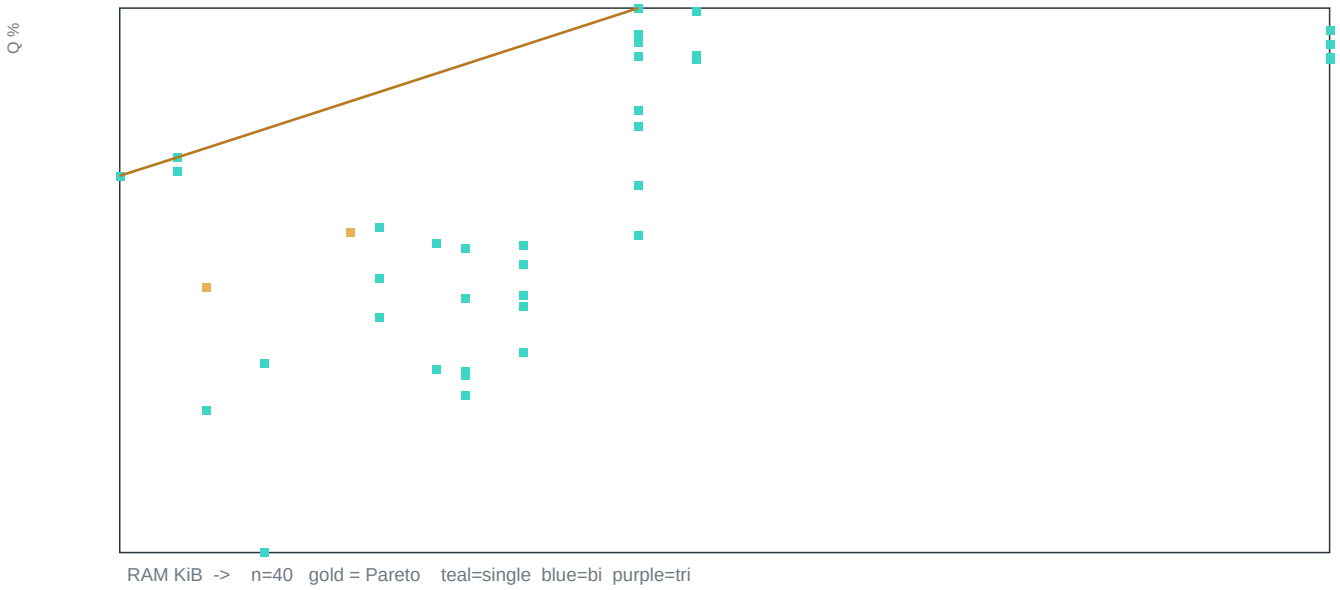
Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
trap	binary sgd single	47	87	77	68	7	14.7	0.00	21.9	24081	0.0
trap	binary step_sgd single	56	85	80	73	7	14.7	0.00	26.1	23444	0.0
trap	binary tween single	47	90	90	73	7	14.7	0.00	21.9	24935	0.0
trap	binary tween_chain single	57	84	88	75	7	14.7	0.00	26.5	23161	0.0
trap	binary step_tween single	52	71	80	67	7	14.7	0.00	24.3	19518	0.0
trap	binary step_tween_chain single	51	71	83	67	7	14.7	0.00	23.7	19528	0.0
trap	binary MeshBP single	45	74	89	67	7	14.7	0.00	20.8	20512	0.0
trap	binary Mesh[T] single	47	77	87	68	7	14.7	0.00	21.6	21152	0.0
trap	binary Mesh[T]Chain single	49	64	90	66	7	14.7	0.00	22.7	17776	0.0
trap	binary [T][S] single	46	52	90	60	7	14.7	0.00	21.4	14332	0.0

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

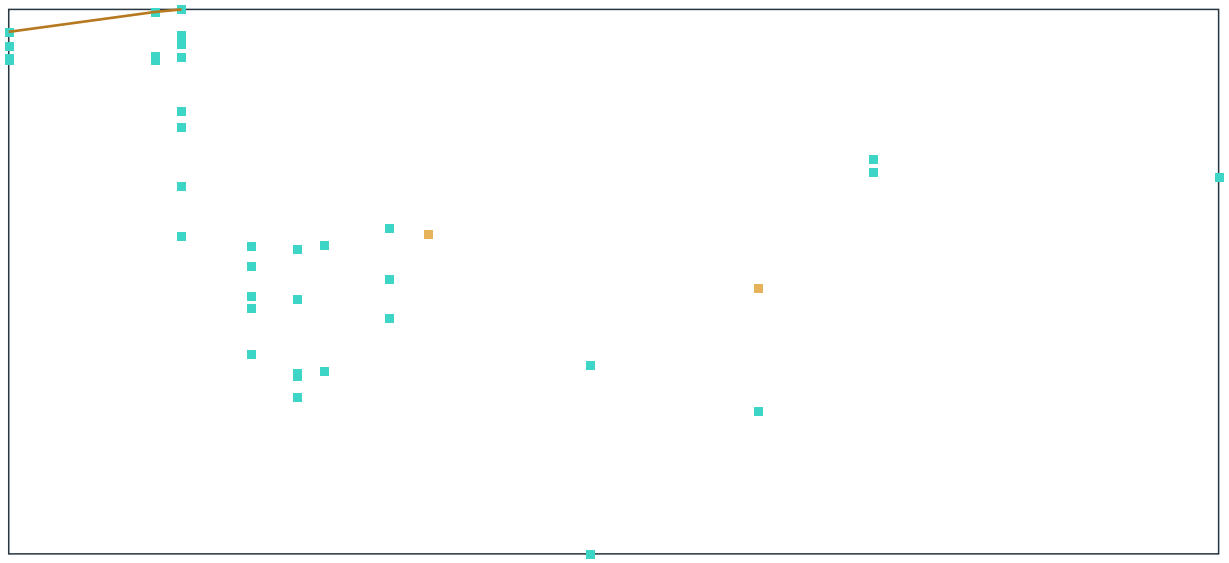
Acc keep % vs RAM KiB (gold = high Acc, low RAM vs Acc champ)



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



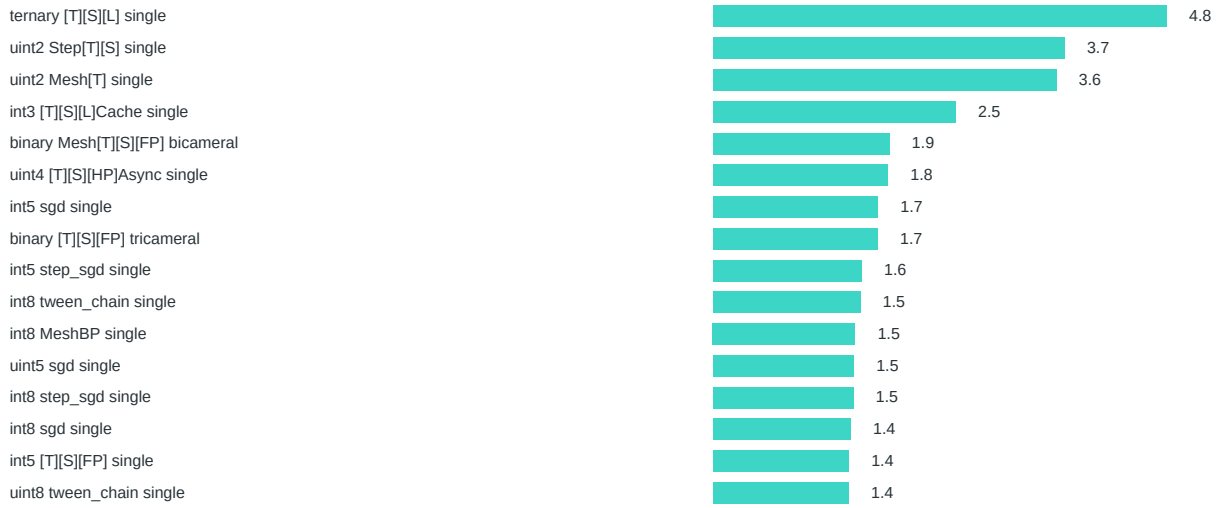
Q% vs shrink vs Acc champ (gold = upper right)



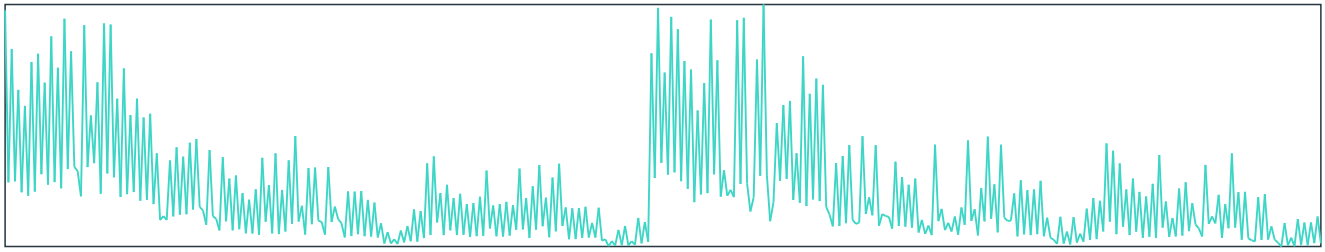
times smaller than Acc champ -> n=40 gold = Pareto teal=single blue=bi purple=tri

Q %

Top Lucy density (LPD)

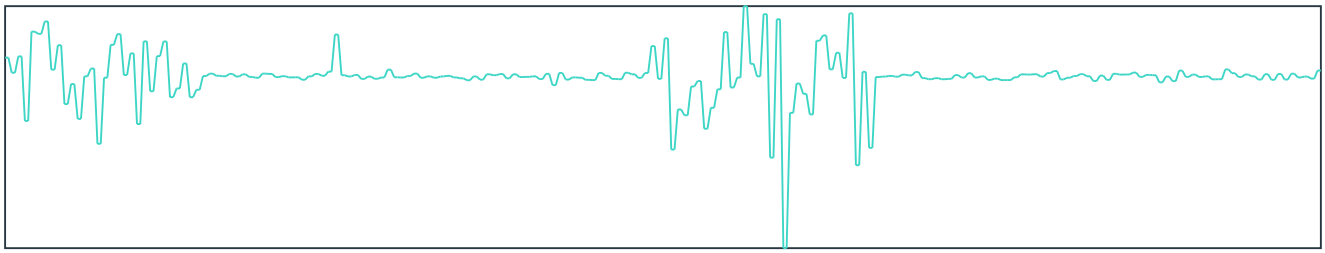


Live pulse (Score)



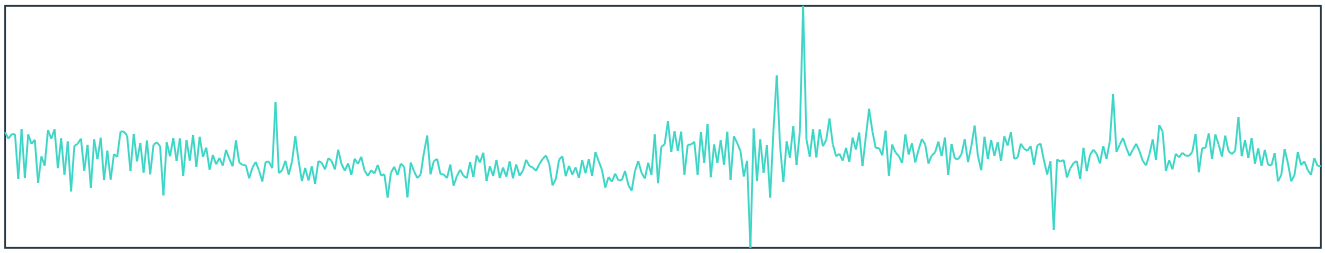
n=400 min=44.37 max=1877.11

Live pulse (SoftAcc)



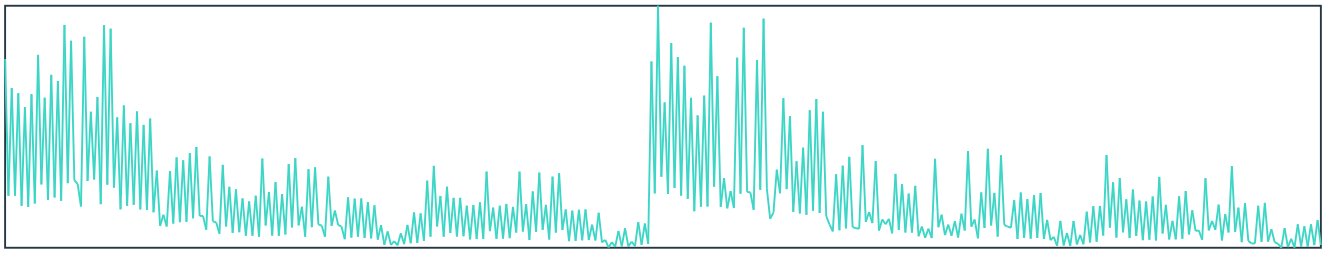
n=400 min=23.89 max=25.46

Live pulse (Availability)



n=400 min=26.23 max=73.09

Live pulse (Throughput)



n=400 min=439.72 max=19119.49

Queue by train mode (this epoch)

Mode	Done	Run	Left	Total