tide parallel

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 13:33:04 -
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 - parallel - offline report

Lucy champions (this tide)

Axis	Cell	Score	Soft	Acc	Thru	Avail
hard acc	binary|none|[T][S][HP]|single|simd	1683.44	25.1	25.3	12925.7	52.0
throughput	float32|none|tween_chain|single|simd	2698.92	25.0	25.5	23284.5	46.4
availability	float32|none|[T][S]Sparse|bicameral|simd	583.43	25.0	22.8	4151.9	56.2
lucy score	float32|none|tween_chain|single|simd	2698.92	25.0	25.5	23284.5	46.4
mobile score (trap)	binary|none|Step[T][S]|single|simd	1984.40	25.0	24.6	17667.0	44.9
acc/sec	int64|none|sgd|single|simd	772.46	25.0	24.4	8730.1	35.4

Lucy axis champions (this tide)

Axis	Mode	DType	Arch	Value
hard_acc	Step[T]Alt	int3	tricameralx3	41.07
throughput	tween_chain	float32	singlex1	23284.49
availability	[T][S]Sparse	float32	bicameralx2	56.21
score	tween_chain	float32	singlex1	2698.92
soft_acc	[T][S][HP]	binary	singlex1	25.06
acc_thru	Step[T][S]	float32	singlex1	6490.30
realtime	tween_chain	float32	singlex1	10795.65
adapt	[T][S]	int64	singlex1	25.01
keep_learn	sgd	float16	singlex1	14.90
acc_per_sec	sgd	int64	singlex1	12.49
consistency	sgd	bfloat16	singlex1	100.00
stability	sgd	fp4	singlex1	100.00
mobile_score	Step[T][S]	binary	singlex1	74314172~
lpd	tween	binary	singlex1	5.27
mspeed	tween	binary	singlex1	1.00
mavail	[T][S]Sparse	int64	singlex1	1.00
mix	Step[T][S]	int2	singlex1	0.83
gold_std	[T][S][HP]Async	binary	singlex1	0.03

Best settings per train mode

Mode	DType	Format	Score	Soft	Acc	Avail	n
tween_chain	float32	none	2698.9	25.0	25.5	46.4	102
Step[T][S]	float32	none	2678.8	25.0	28.1	46.3	102
tween	float32	none	2643.1	25.0	27.4	45.6	102
Mesh[T]	float32	none	2533.1	25.0	18.0	44.6	102
MeshBP	float32	none	2351.4	25.0	28.2	45.1	102
step_tween_chain	float32	none	2284.8	25.0	23.9	42.8	102
step_tween	float32	none	2273.2	25.0	22.1	41.7	102
step_sgd	float32	none	2080.9	25.0	27.5	38.7	102
[T][S]	float32	none	2065.1	25.0	24.3	50.2	102
[T][S][HP]	float32	none	2019.3	25.0	27.9	51.2	102
sgd	int8	none	1820.5	25.0	27.6	38.5	102

[T][S][FP]	float32	none	1500.4	25.0	28.4	51.6	102
[T][S][L]	float32	none	1450.6	25.0	22.7	47.7	102
[T][S][L]Cache	float32	none	1293.3	25.0	23.1	49.7	102
[T][S]Sparse	float32	none	1226.0	25.0	23.3	53.5	102
[T][S][HP]Async	float32	none	1216.7	25.0	30.1	50.4	102
[T]Alt	float32	none	1174.9	25.0	31.2	34.3	102
Mesh[T][S]	float32	none	966.7	25.0	30.7	50.8	102
Step[T]Alt	float32	none	773.9	25.0	19.7	30.5	102
Mesh[T]Chain	float64	none	746.3	25.0	18.5	37.3	102
Mesh[T][S][FP]	float32	none	438.4	25.0	24.1	40.8	102
Mesh[T][S]Sparse	float32	none	430.1	25.0	16.0	44.0	102
Mesh[T]Alt	float32	none	198.7	25.0	20.9	27.9	102

Best dtype per mode

Mode	Winner dtype	Score	Soft	Acc
tween_chain	float32	2698.9	25.0	25.5
Step[T][S]	float32	2678.8	25.0	28.1
tween	float32	2643.1	25.0	27.4
Mesh[T]	float32	2533.1	25.0	18.0
MeshBP	float32	2351.4	25.0	28.2
step_tween_chain	float32	2284.8	25.0	23.9
step_tween	float32	2273.2	25.0	22.1
step_sgd	float32	2080.9	25.0	27.5
[T][S]	float32	2065.1	25.0	24.3
[T][S][HP]	float32	2019.3	25.0	27.9
sgd	int8	1820.5	25.0	27.6
[T][S][FP]	float32	1500.4	25.0	28.4
[T][S][L]	float32	1450.6	25.0	22.7
[T][S][L]Cache	float32	1293.3	25.0	23.1
[T][S]Sparse	float32	1226.0	25.0	23.3
[T][S][HP]Async	float32	1216.7	25.0	30.1
[T]Alt	float32	1174.9	25.0	31.2
Mesh[T][S]	float32	966.7	25.0	30.7
Step[T]Alt	float32	773.9	25.0	19.7
Mesh[T]Chain	float64	746.3	25.0	18.5
Mesh[T][S][FP]	float32	438.4	25.0	24.1
Mesh[T][S]Sparse	float32	430.1	25.0	16.0
Mesh[T]Alt	float32	198.7	25.0	20.9

Best mode per dtype

DType	Winner mode	Score	Soft	Acc
float32	tween_chain	2698.9	25.0	25.5
int8	tween_chain	2283.0	25.0	25.0
ternary	Step[T][S]	2079.4	25.0	22.0
int2	Step[T][S]	2037.5	25.0	29.4
int4	Step[T][S]	2013.8	25.0	20.2
binary	Step[T][S]	1984.4	25.0	24.6
uint8	Step[T][S]	1881.5	25.0	21.3
bfloat16	Step[T][S]	1735.3	25.0	22.7
fp4	Step[T][S]	1714.3	25.0	23.6
float64	Step[T][S]	1592.9	25.0	32.8
fp8e5m2	Step[T][S]	1272.2	25.0	25.0

float16	Step[T][S]	1225.7	25.0	22.0
fp8e4m3	Step[T][S]	1201.2	25.0	19.6
uint32	[T][S]	982.7	25.0	23.9
uint16	[T][S]	945.1	25.0	30.0
uint64	[T][S]	945.0	25.0	25.3
int32	[T][S]	898.0	25.0	22.3
int64	[T][S]	893.8	25.0	20.3
uint4	[T][S]	870.4	25.0	24.0
int16	[T][S]	861.1	25.0	26.4
uint2	[T][S]	859.9	25.0	28.8
uint	[T][S]	817.1	25.0	23.0
uintptr	[T][S]	808.2	25.0	20.2
complex128	[T][S]	789.2	25.0	20.1
complex64	tween	779.2	25.0	24.4
int	[T][S]	738.6	25.0	27.1
nf4	tween	717.2	25.0	23.2
uint3	tween_chain	541.4	25.0	25.8
int3	tween_chain	513.6	25.0	20.0
uint5	Step[T][S]	421.9	25.0	26.9
uint6	[T][S]	382.7	25.0	23.1
int5	[T][S][HP]	382.4	25.0	29.5
fp6	[T][S]	373.9	25.0	25.1
int6	[T][S][HP]	362.9	25.0	27.4

Leaderboard (Lucy Score)

#	Cell	Score	Soft	Acc	Thru	Avail
1	float32|none|tween_chain|single|simd	2698.9	25.0	25.5	23284.5	46.4
2	float32|none|Step[T][S]|single|simd	2678.8	25.0	28.1	23125.1	46.3
3	float32|none|tween|single|simd	2643.1	25.0	27.4	23182.9	45.6
4	float32|none|Mesh[T]|single|simd	2533.1	25.0	18.0	22739.3	44.6
5	float32|none|MeshBP|single|simd	2351.4	25.0	28.2	20837.9	45.1
6	float32|none|step_tween_chain|single|simd	2284.8	25.0	23.9	21356.9	42.8
7	int8|none|tween_chain|single|simd	2283.0	25.0	25.0	20371.2	44.8
8	float32|none|step_tween|single|simd	2273.2	25.0	22.1	21817.2	41.7
9	int8|none|tween|single|simd	2156.6	25.0	23.7	19410.7	44.4
10	float32|none|step_sgd|single|simd	2080.9	25.0	27.5	21524.5	38.7
11	ternary|none|Step[T][S]|single|simd	2079.4	25.0	22.0	18383.4	45.3
12	float32|none|[T][S]|single|simd	2065.1	25.0	24.3	16460.4	50.2
13	ternary|none|tween_chain|single|simd	2041.7	25.0	25.9	18516.9	44.1
14	int2|none|Step[T][S]|single|simd	2037.5	25.0	29.4	17871.2	45.6
15	float32|none|[T][S][HP]|single|simd	2019.3	25.0	27.9	15761.9	51.2
16	int4|none|Step[T][S]|single|simd	2013.8	25.0	20.2	17800.0	45.3
17	binary|none|Step[T][S]|single|simd	1984.4	25.0	24.6	17667.0	44.9
18	int8|none|Mesh[T]|single|simd	1971.0	25.0	24.4	18379.4	42.9
19	binary|none|tween|single|simd	1967.1	25.0	29.0	18482.6	42.6
20	int4|none|tween_chain|single|simd	1946.6	25.0	18.5	18171.3	42.8

Leaderboard (SoftAcc)

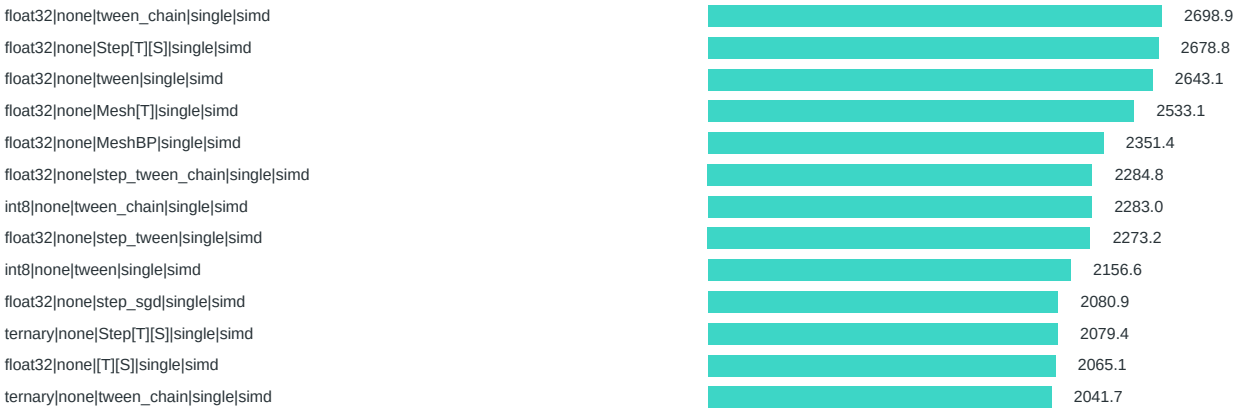
#	Cell	Score	Soft	Acc	Thru	Avail
1	binary|none|[T][S][HP]|single|simd	1683.4	25.1	25.3	12925.7	52.0
2	ternary|none|MeshBP|single|simd	1680.0	25.0	27.5	15723.0	42.7
3	uint8|none|Mesh[T]|single|simd	1688.6	25.0	26.3	15784.5	42.8

4	float32|none|MeshBP|single|simd	2351.4	25.0	28.2	20837.9	45.1
5	binary|none|Step[T][S]|single|simd	1984.4	25.0	24.6	17667.0	44.9
6	int4|none|MeshBP|single|simd	1680.8	25.0	28.6	15747.0	42.7
7	float32|none|Step[T][S]|single|simd	2678.8	25.0	28.1	23125.1	46.3
8	float32|none|[T][S][HP]|single|simd	2019.3	25.0	27.9	15761.9	51.2
9	int8|none|Mesh[T]|single|simd	1971.0	25.0	24.4	18379.4	42.9
10	int2|none|tween_chain|single|simd	1827.3	25.0	22.5	17299.2	42.2
11	binary|none|tween_chain|single|simd	1904.6	25.0	22.5	17574.4	43.3
12	int8|none|MeshBP|single|simd	1862.1	25.0	24.8	16804.1	44.3
13	float32|none|[T][S]|single|simd	2065.1	25.0	24.3	16460.4	50.2
14	int8|none|sgd|single|simd	1820.5	25.0	27.6	18892.2	38.5
15	int8|none|[T][S]|single|simd	1755.7	25.0	26.5	13766.1	51.0
16	float32|none|tween|single|simd	2643.1	25.0	27.4	23182.9	45.6
17	float32|none|step_sgd|single|simd	2080.9	25.0	27.5	21524.5	38.7
18	int8|none|tween_chain|single|simd	2283.0	25.0	25.0	20371.2	44.8
19	float32|none|Mesh[T]|single|simd	2533.1	25.0	18.0	22739.3	44.6
20	float32|none|tween_chain|single|simd	2698.9	25.0	25.5	23284.5	46.4

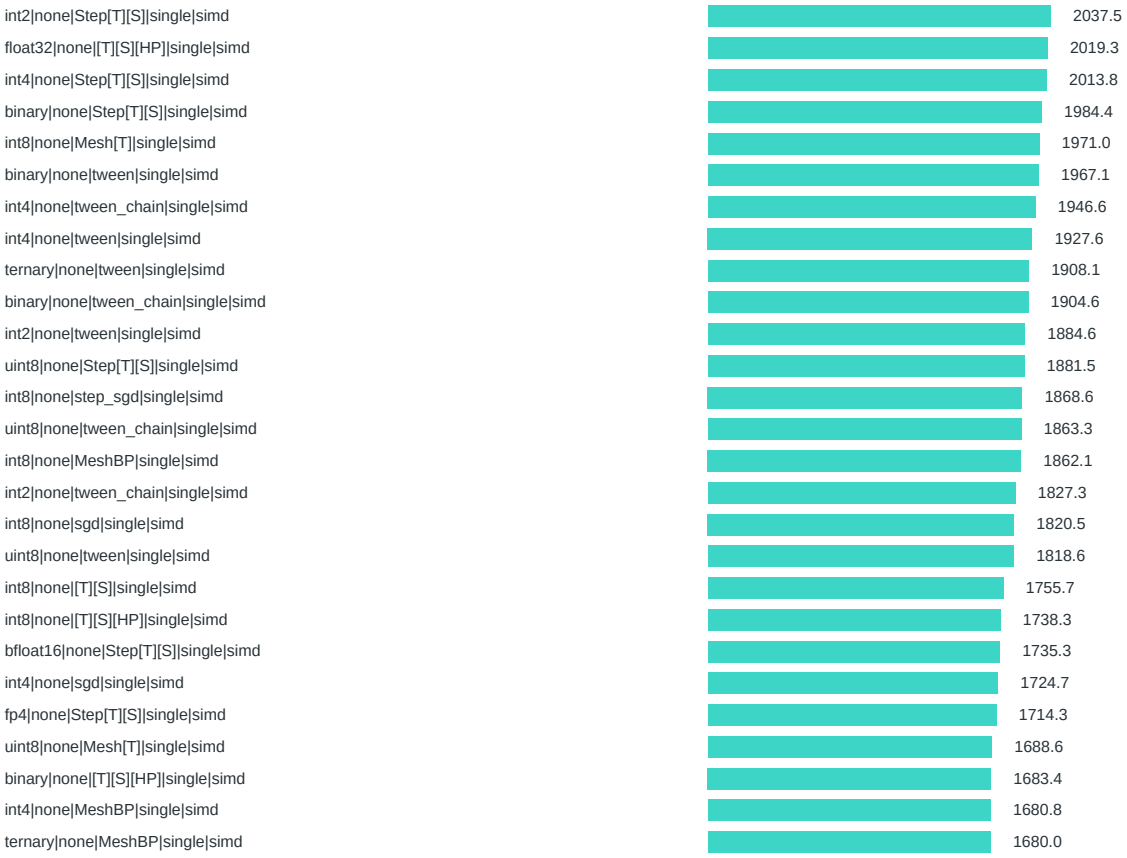
Leaderboard (hard Acc)

#	Cell	Score	Soft	Acc	Thru	Avail
1	int2|none|Step[T][S]|single|simd	2037.5	25.0	29.4	17871.2	45.6
2	binary|none|tween|single|simd	1967.1	25.0	29.0	18482.6	42.6
3	int4|none|MeshBP|single|simd	1680.8	25.0	28.6	15747.0	42.7
4	float32|none|MeshBP|single|simd	2351.4	25.0	28.2	20837.9	45.1
5	float32|none|Step[T][S]|single|simd	2678.8	25.0	28.1	23125.1	46.3
6	float32|none|[T][S][HP]|single|simd	2019.3	25.0	27.9	15761.9	51.2
7	int8|none|sgd|single|simd	1820.5	25.0	27.6	18892.2	38.5
8	ternary|none|MeshBP|single|simd	1680.0	25.0	27.5	15723.0	42.7
9	float32|none|step_sgd|single|simd	2080.9	25.0	27.5	21524.5	38.7
10	float32|none|tween|single|simd	2643.1	25.0	27.4	23182.9	45.6
11	int8|none|[T][S]|single|simd	1755.7	25.0	26.5	13766.1	51.0
12	int4|none|sgd|single|simd	1724.7	25.0	26.5	18216.2	37.9
13	uint8|none|Mesh[T]|single|simd	1688.6	25.0	26.3	15784.5	42.8
14	int2|none|tween|single|simd	1884.6	25.0	26.0	17832.5	42.3
15	ternary|none|tween_chain|single|simd	2041.7	25.0	25.9	18516.9	44.1
16	float32|none|tween_chain|single|simd	2698.9	25.0	25.5	23284.5	46.4
17	binary|none|[T][S][HP]|single|simd	1683.4	25.1	25.3	12925.7	52.0
18	int8|none|tween_chain|single|simd	2283.0	25.0	25.0	20371.2	44.8
19	int8|none|step_sgd|single|simd	1868.6	25.0	24.8	18876.4	39.6
20	int8|none|MeshBP|single|simd	1862.1	25.0	24.8	16804.1	44.3

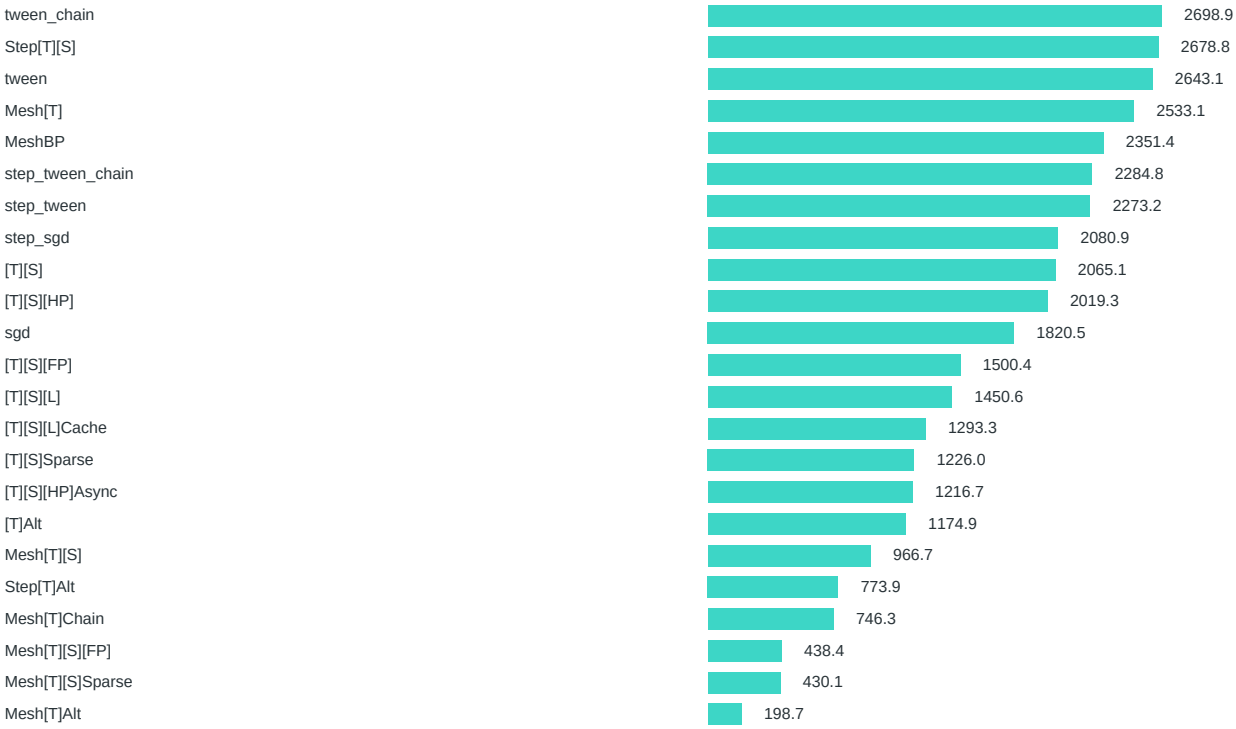
Top scores



Top scores



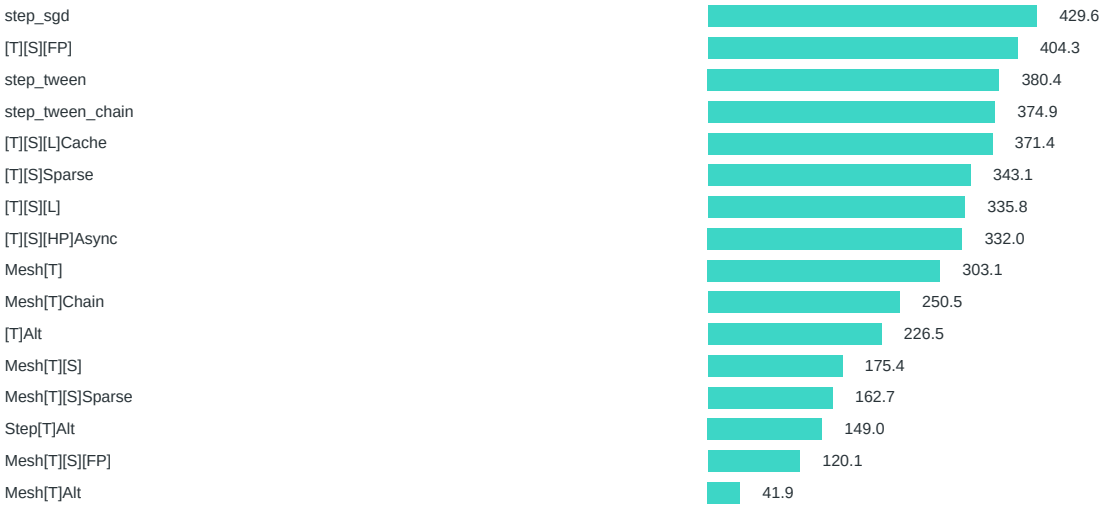
Best settings per mode



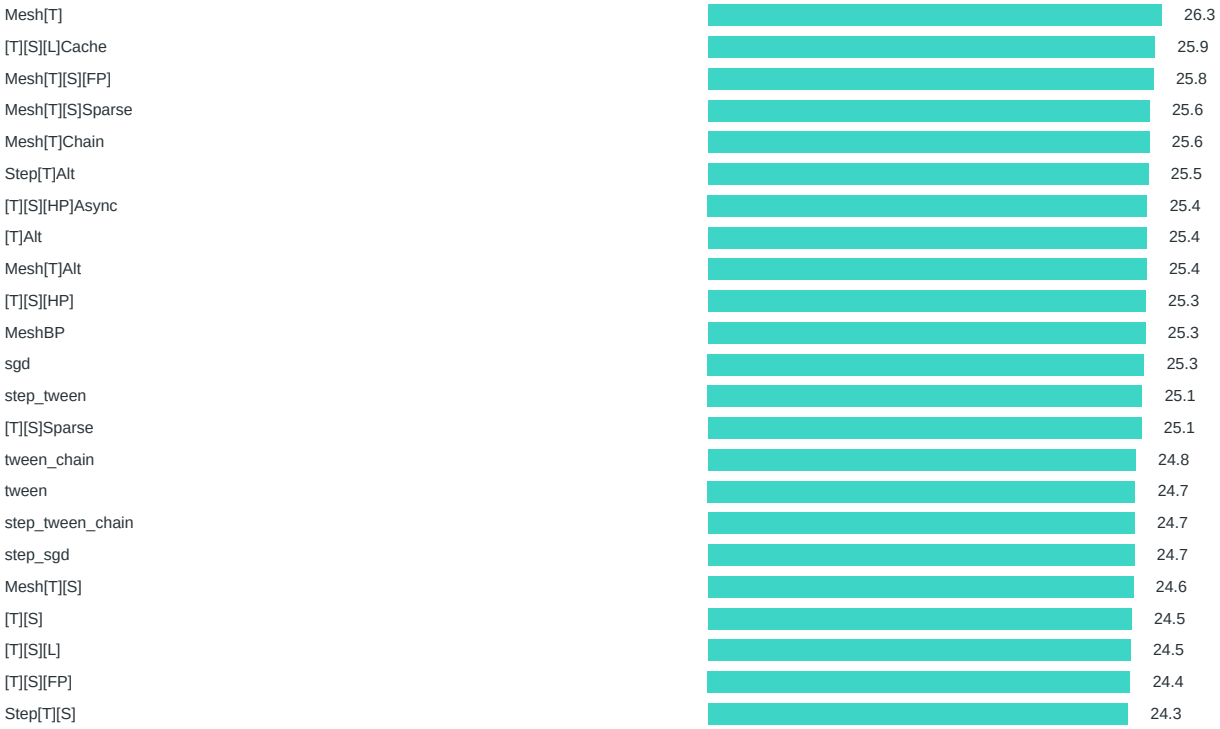
Mean Score by train mode



Mean Score by train mode



Mean hard Acc by train mode



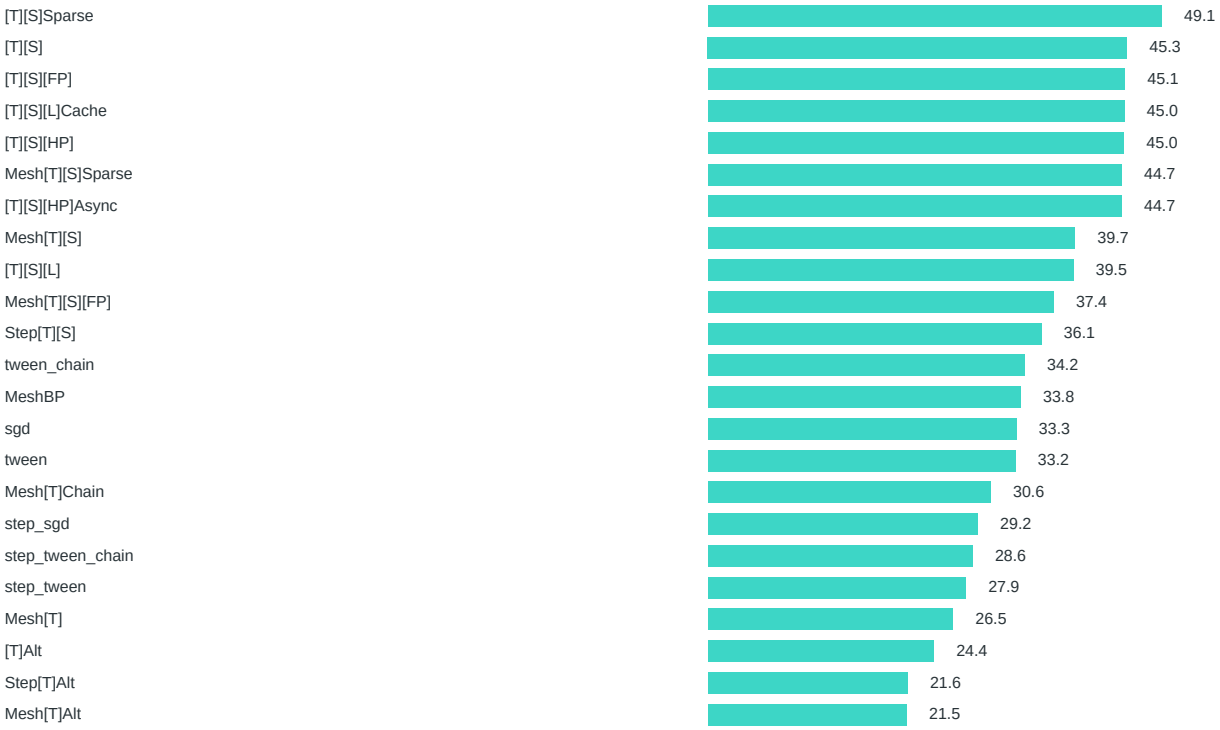
Mean SoftAcc by train mode



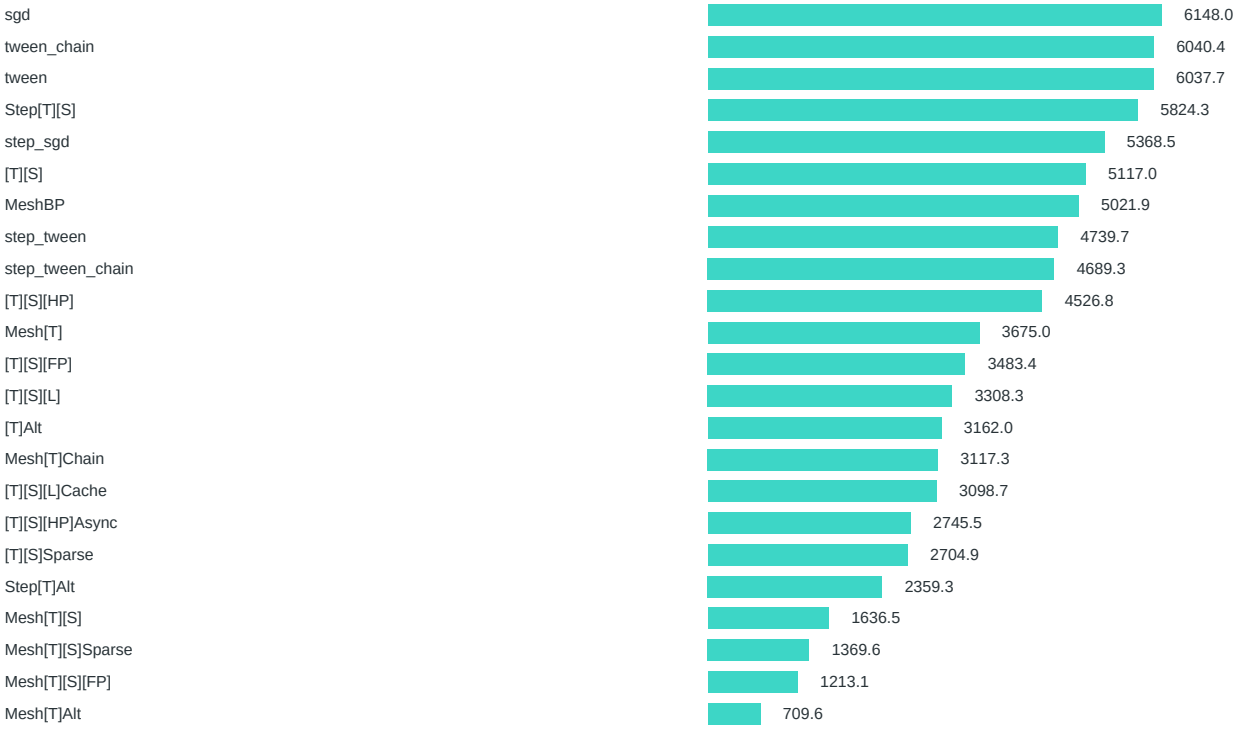
Mean SoftAcc by train mode



Mean Availability by train mode



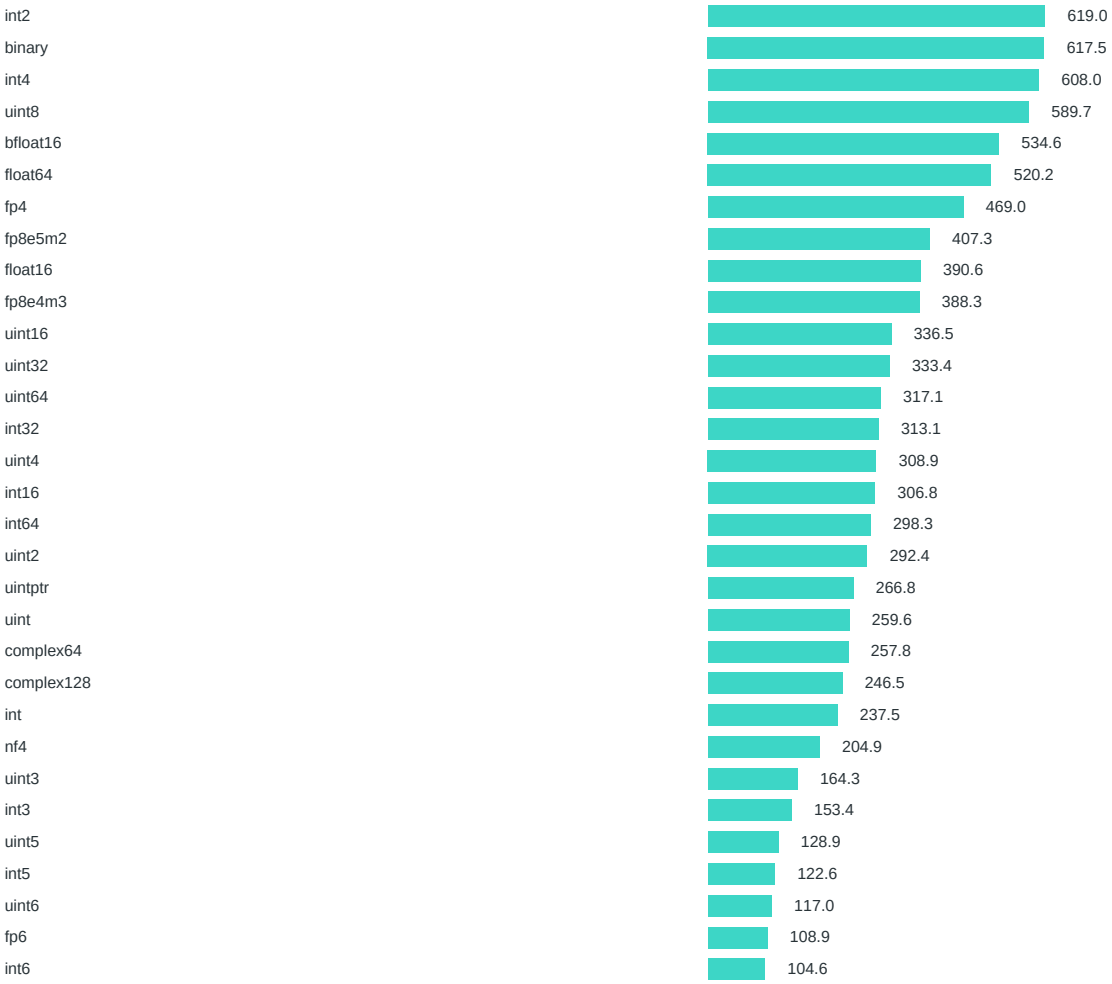
Mean Throughput by train mode



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	684	880	298	303	570	1248	825	591	122	431	654	295
Mesh[T]	556	386	118	130	424	724	609	244	57	312	425	160
Mesh[T]Alt	68	68	37	34	43	99	45	51	12	54	53	24
Mesh[T]Chain	395	486	170	160	208	521	361	312	86	260	302	172
Mesh[T][S]	301	214	104	113	227	525	209	235	36	219	199	104
Mesh[T][S][FP]	210	163	91	85	128	208	181	170	50	110	140	87
Mesh[T][S]Sparse	263	347	130	125	214	259	211	228	55	166	129	117
Step[T]Alt	161	311	71	117	151	315	273	192	30	168	154	107
Step[T][S]	870	901	329	298	668	1391	970	825	194	528	702	356
[T]Alt	341	414	144	220	316	647	312	306	77	249	259	128
[T][S]	883	933	457	581	612	1082	622	719	217	676	710	458
[T][S][FP]	585	525	229	313	414	898	610	581	154	572	463	307
[T][S][HP]	870	972	423	394	583	1227	739	733	162	739	673	381
[T][S][HP]Async	525	658	174	285	414	733	476	412	112	382	363	264
[T][S][L]	444	607	274	280	484	724	635	546	129	407	273	220
[T][S][L]Cache	625	597	295	239	406	641	458	455	149	354	460	225
[T][S]Sparse	472	628	270	209	402	615	472	479	96	418	409	240
sgd	800	881	456	421	508	885	616	732	174	579	624	356
step_sgd	596	726	294	333	368	1268	543	549	105	431	486	299
step_tween	489	702	249	194	334	989	582	484	86	387	370	217
step_tween_chain	554	636	249	281	346	1202	603	459	78	359	312	193
tween	773	1176	414	389	565	1497	835	734	157	513	563	388
tween_chain	830	990	392	423	599	1474	777	754	169	618	646	364

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	406	858	183	374	907	159	129	381	942	284	892	308
Mesh[T]	285	360	122	314	711	59	59	323	770	112	408	142
Mesh[T]Alt	37	55	14	48	66	14	16	42	60	19	87	42
Mesh[T]Chain	184	503	110	206	461	83	66	197	471	142	449	169
Mesh[T][S]	199	295	89	192	190	52	50	210	357	83	296	118
Mesh[T][S][FP]	101	212	63	121	174	47	36	85	143	52	218	135
Mesh[T][S]Sparse	142	342	79	120	244	56	52	145	307	124	296	113
Step[T]Alt	113	305	40	108	285	39	35	133	386	82	314	112
Step[T][S]	421	1261	263	432	842	151	167	449	968	252	1029	417
[T]Alt	235	417	73	233	429	64	71	161	423	115	291	133
[T][S]	511	1058	284	473	904	247	174	459	960	431	1044	483
[T][S][FP]	322	732	177	334	688	189	128	278	642	321	676	308
[T][S][HP]	452	790	307	620	1033	231	203	428	874	352	854	395
[T][S][HP]Async	218	577	154	293	573	124	131	280	434	191	539	240
[T][S][L]	349	446	183	255	511	123	133	284	468	161	468	257
[T][S][L]Cache	366	605	156	383	595	162	100	332	672	240	580	269
[T][S]Sparse	280	551	149	277	521	146	134	358	607	239	589	257
sgd	483	946	263	491	1043	170	174	474	1098	298	895	474
step_sgd	444	754	126	395	759	124	104	285	961	228	767	331
step_tween	309	605	132	364	695	92	89	344	863	164	835	243
step_tween_chain	303	611	121	301	525	94	93	345	852	202	719	235
tween	447	1009	231	436	952	177	152	401	1130	321	944	404
tween_chain	449	945	211	428	877	218	112	469	1164	299	1086	386

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	442	344	234	443	402	141	152	329	970	272
Mesh[T]	278	136	119	296	302	72	58	335	741	162
Mesh[T]Alt	57	32	16	40	43	17	16	22	70	27
Mesh[T]Chain	207	208	132	283	203	104	63	252	417	173
Mesh[T][S]	175	104	65	192	112	74	81	169	253	121
Mesh[T][S][FP]	133	113	58	134	103	49	60	127	190	111
Mesh[T][S]Sparse	149	104	89	162	129	63	66	153	217	135
Step[T]Alt	114	105	50	121	102	39	44	128	249	112
Step[T][S]	553	427	238	515	505	193	203	398	1038	365
[T]Alt	187	184	92	248	185	74	78	162	268	167
[T][S]	696	574	302	552	502	308	275	500	955	514
[T][S][FP]	324	336	182	418	353	161	129	405	633	358
[T][S][HP]	478	453	311	593	441	244	148	378	654	468
[T][S][HP]Async	407	318	160	264	259	133	115	356	429	294
[T][S][L]	401	358	150	236	267	130	70	397	494	250
[T][S][L]Cache	320	351	185	448	400	134	156	330	607	334
[T][S]Sparse	287	313	176	325	346	154	156	312	519	263
sgd	556	448	262	476	488	191	221	532	824	415
step_sgd	369	371	185	354	378	120	99	403	681	373
step_tween	391	290	128	429	369	93	88	326	735	268
step_tween_chain	319	333	124	361	383	113	103	351	711	276
tween	416	405	264	418	380	157	145	432	917	296
tween_chain	481	417	257	362	455	202	165	495	992	382

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

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

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	24	24	24	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	24	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	25	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	38	38	33	33	33	39	39	32	29	35	35	33
Mesh[T]	30	28	24	23	29	30	33	27	21	29	29	27
Mesh[T]Alt	23	23	22	19	23	25	23	19	18	20	23	21
Mesh[T]Chain	33	33	30	29	29	33	34	30	26	31	33	30
Mesh[T][S]	43	36	38	42	42	41	38	41	35	40	41	37
Mesh[T][S][FP]	41	36	39	36	38	38	41	37	37	37	36	40
Mesh[T][S]Sparse	46	46	46	45	46	47	46	46	42	44	45	44
Step[T]Alt	22	23	21	21	23	25	25	21	18	23	22	21
Step[T][S]	41	37	34	34	39	40	41	38	31	39	39	34
[T]Alt	25	25	24	25	26	29	28	24	21	26	26	24
[T][S]	47	46	48	46	46	47	46	43	42	45	46	47
[T][S][FP]	45	43	47	47	46	48	46	44	42	46	45	46
[T][S][HP]	46	47	45	43	46	48	46	43	41	45	46	46
[T][S][HP]Async	45	46	46	46	46	47	45	44	41	46	45	47
[T][S][L]	41	41	39	40	42	42	43	42	36	43	41	39
[T][S][L]Cache	45	46	47	46	46	47	46	44	42	46	46	46
[T][S]Sparse	48	51	49	47	48	50	52	51	45	50	47	50
sgd	36	35	33	34	34	33	35	34	30	34	34	32
step_sgd	31	33	28	29	29	37	32	29	23	29	29	29
step_tween	30	31	27	25	27	36	32	28	22	27	28	26
step_tween_chain	31	32	28	29	28	37	33	27	23	28	28	28
tween	36	37	32	33	34	40	39	33	28	33	34	32
tween_chain	38	38	33	34	36	40	39	35	29	36	36	33

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	34	37	31	34	37	30	28	34	39	31	37	32
Mesh[T]	29	27	27	28	29	19	19	27	32	24	30	24
Mesh[T]Alt	23	19	19	25	22	19	19	22	22	19	23	23
Mesh[T]Chain	30	33	25	31	34	26	26	30	36	28	36	29
Mesh[T][S]	44	42	38	43	38	38	36	41	41	38	40	38
Mesh[T][S][FP]	38	36	34	39	38	34	34	40	35	32	40	42
Mesh[T][S]Sparse	45	46	45	41	47	43	42	43	45	46	46	43
Step[T]Alt	22	24	19	23	23	18	18	23	24	19	23	19
Step[T][S]	35	41	32	35	40	31	31	35	38	33	40	35
[T]Alt	26	25	21	27	24	21	21	26	26	22	25	23
[T][S]	47	46	43	47	46	42	41	47	46	44	47	45
[T][S][FP]	47	46	43	46	46	42	41	47	46	42	46	47
[T][S][HP]	47	46	43	47	46	42	42	47	47	41	46	45
[T][S][HP]Async	45	45	42	47	45	40	41	47	45	43	45	46
[T][S][L]	41	39	37	40	40	36	35	41	40	36	41	39
[T][S][L]Cache	46	46	41	46	46	42	41	45	46	43	46	46
[T][S]Sparse	49	53	47	50	52	46	44	50	51	49	53	50
sgd	34	35	31	35	36	30	30	35	36	31	35	33
step_sgd	30	33	25	31	31	24	24	29	35	27	33	29
step_tween	29	31	23	29	32	23	23	29	33	25	32	28
step_tween_chain	29	32	24	29	30	24	23	30	35	26	32	27
tween	33	38	29	33	37	28	28	33	39	31	37	33
tween_chain	34	38	30	34	38	29	27	35	39	32	38	33

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	35	33	31	34	34	29	29	33	39	30
Mesh[T]	26	24	25	25	27	22	19	30	34	24
Mesh[T]Alt	24	21	18	24	24	19	19	21	24	20
Mesh[T]Chain	30	30	28	33	32	29	27	30	35	32
Mesh[T][S]	42	39	36	42	39	38	38	42	41	40
Mesh[T][S][FP]	38	38	34	39	37	36	35	40	38	39
Mesh[T][S]Sparse	45	42	44	45	45	43	44	47	48	44
Step[T]Alt	22	22	19	23	22	18	18	22	25	22
Step[T][S]	37	36	32	37	35	32	31	37	42	34
[T]Alt	26	25	22	26	26	21	21	26	24	24
[T][S]	47	47	42	47	47	42	40	47	46	47
[T][S][FP]	46	47	43	47	47	42	41	46	45	46
[T][S][HP]	47	47	43	46	47	41	42	44	46	45
[T][S][HP]Async	46	46	39	47	47	41	41	47	42	46
[T][S][L]	42	41	36	40	41	35	33	42	41	38
[T][S][L]Cache	47	47	43	47	47	41	42	47	45	46
[T][S]Sparse	49	49	47	49	49	46	45	50	51	50
sgd	34	33	31	34	34	30	30	34	35	33
step_sgd	30	30	25	30	30	25	23	30	33	29
step_tween	29	29	24	30	29	22	22	29	31	28
step_tween_chain	30	30	24	29	30	24	23	30	32	29
tween	33	32	29	33	32	28	28	34	39	30
tween_chain	35	34	30	31	33	29	28	34	40	33

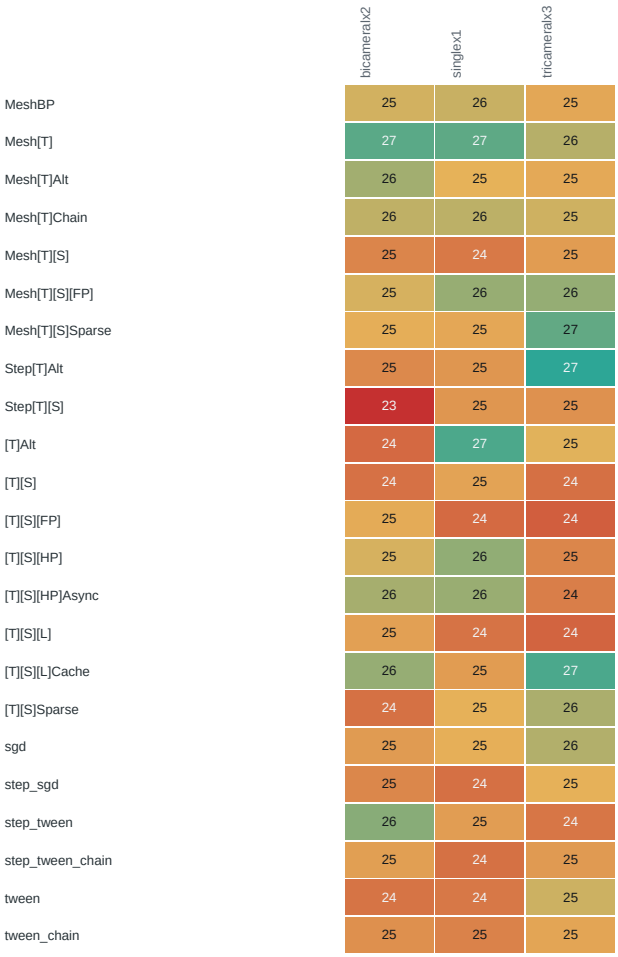
Mean Score, every mode x arch

Mean Score, every mode x arch

	bicameralx2	singlex1	tricameralx3
MeshBP	295	952	205
Mesh[T]	127	692	90
Mesh[T]Alt	26	81	19
Mesh[T]Chain	243	334	175
Mesh[T][S]	98	348	79
Mesh[T][S][FP]	86	207	67
Mesh[T][S]Sparse	98	231	159
Step[T]Alt	78	310	59
Step[T][S]	352	1056	279
[T]Alt	115	481	83
[T][S]	374	1009	395
[T][S][FP]	286	715	212
[T][S][HP]	383	991	267
[T][S][HP]Async	229	598	169
[T][S][L]	234	594	179
[T][S][L]Cache	251	649	214
[T][S]Sparse	242	584	203
sgd	390	898	323
step_sgd	274	818	196
step_tween	231	759	151
step_tween_chain	209	730	186
tween	362	989	276
tween_chain	375	1012	279

Mean hard Acc, every mode x arch

Mean hard Acc, every mode x arch



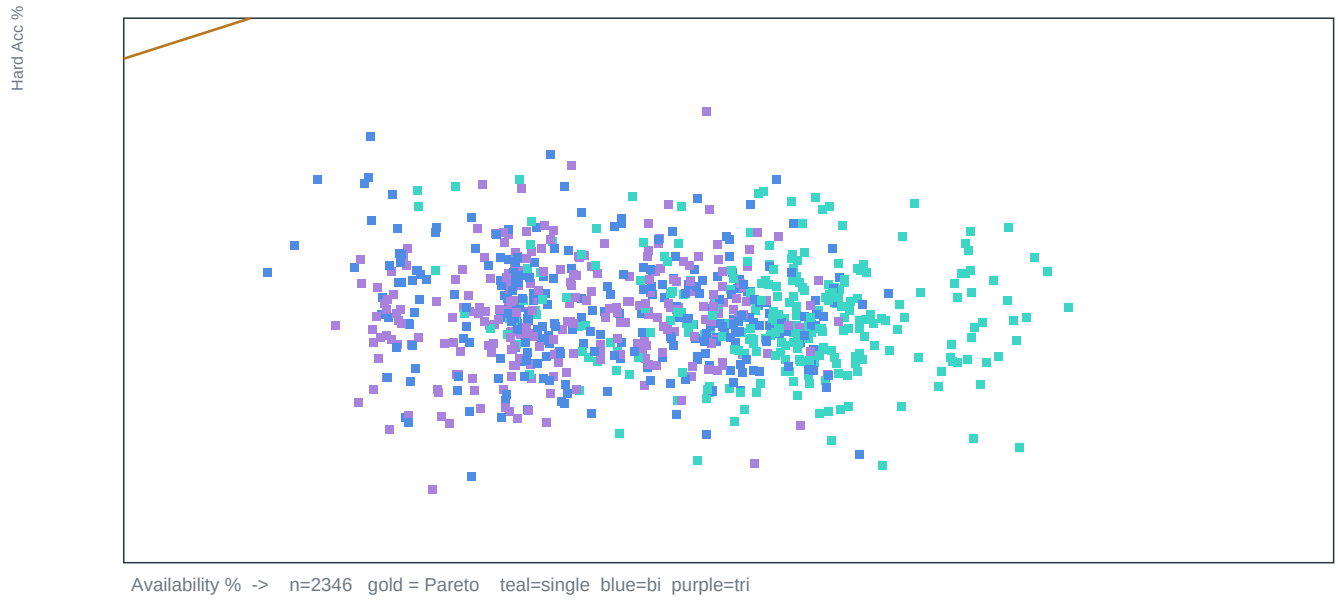
	bicameralx2	singlex1	tricameralx3
MeshBP	25	26	25
Mesh[T]	27	27	26
Mesh[T]Alt	26	25	25
Mesh[T]Chain	26	26	25
Mesh[T][S]	25	24	25
Mesh[T][S][FP]	25	26	26
Mesh[T][S]Sparse	25	25	27
Step[T]Alt	25	25	27
Step[T][S]	23	25	25
[T]Alt	24	27	25
[T][S]	24	25	24
[T][S][FP]	25	24	24
[T][S][HP]	25	26	25
[T][S][HP]Async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

Mean Avail, every mode x arch

Mean Avail, every mode x arch

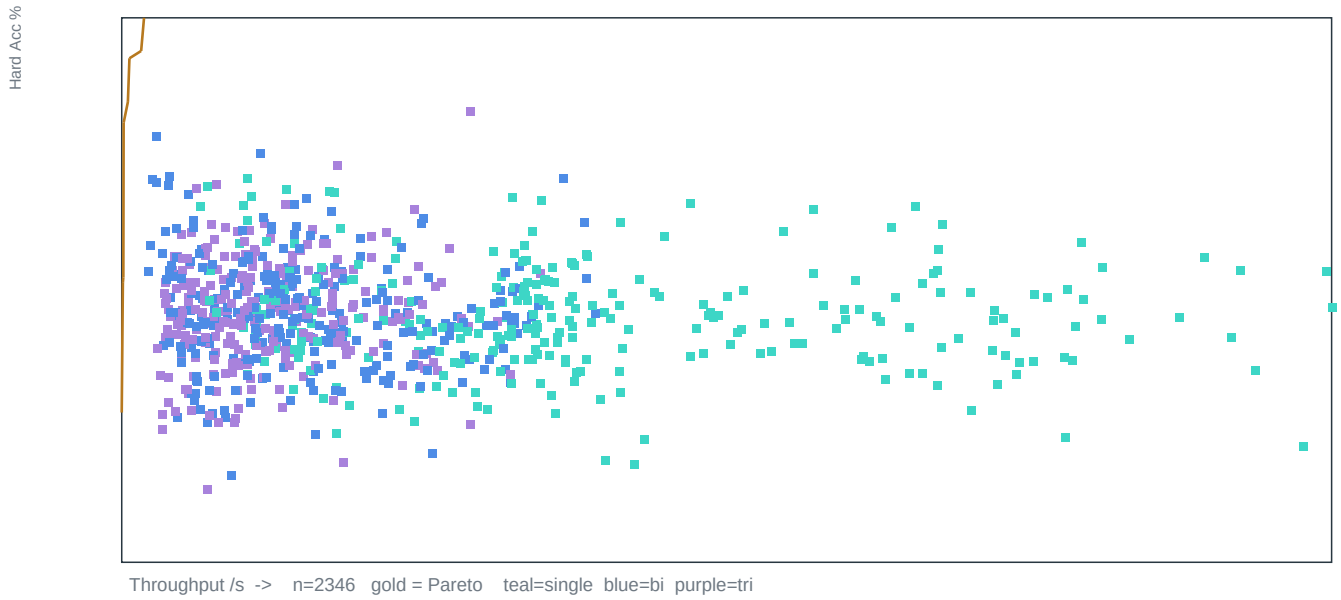
	bicamerax2	singlex1	tricamerax3
MeshBP	33	39	30
Mesh[T]	24	33	23
Mesh[T]Alt	20	25	19
Mesh[T]Chain	32	30	30
Mesh[T][S]	37	45	37
Mesh[T][S][FP]	37	40	35
Mesh[T][S]Sparse	42	44	48
Step[T]Alt	20	26	19
Step[T][S]	35	41	33
[T]Alt	23	30	21
[T][S]	44	49	42
[T][S][FP]	44	49	42
[T][S][HP]	44	49	42
[T][S][HP]Async	43	49	42
[T][S][L]	38	43	37
[T][S][L]Cache	44	49	42
[T][S]Sparse	48	52	47
sgd	33	35	32
step_sgd	28	34	26
step_tween	26	33	24
step_tween_chain	27	34	25
tween	32	38	30
tween_chain	33	39	31

Pillars - Availability vs hard Acc

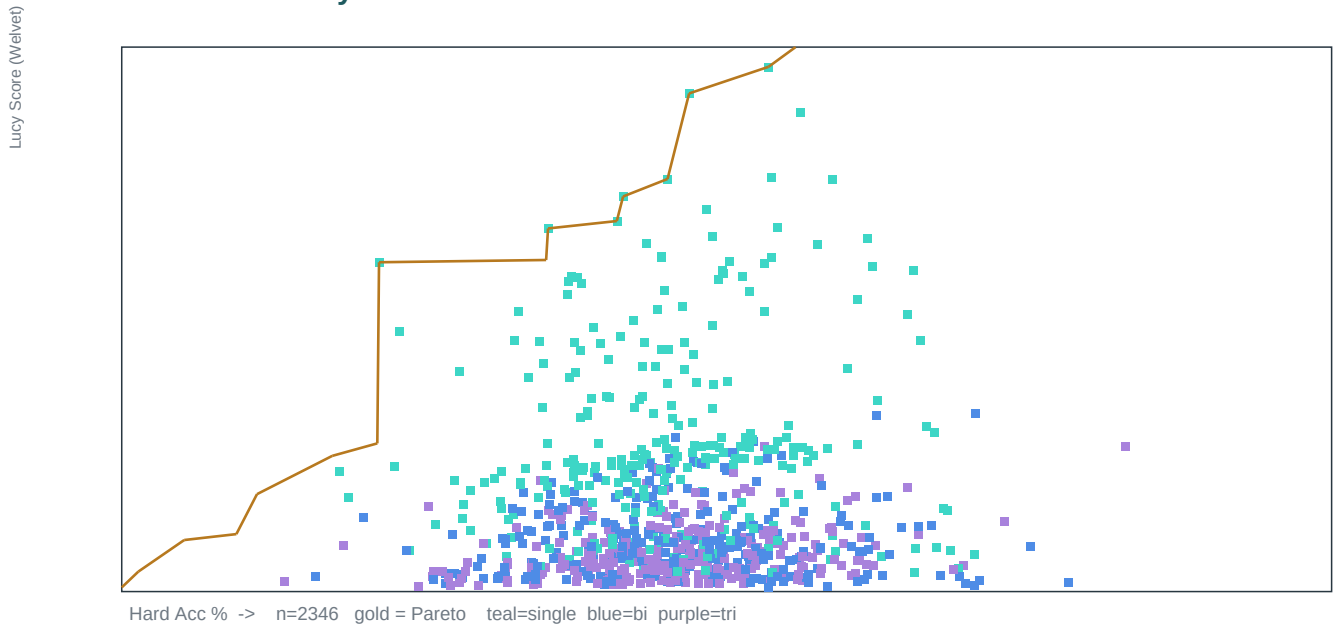


Pillars - Throughput vs hard Acc

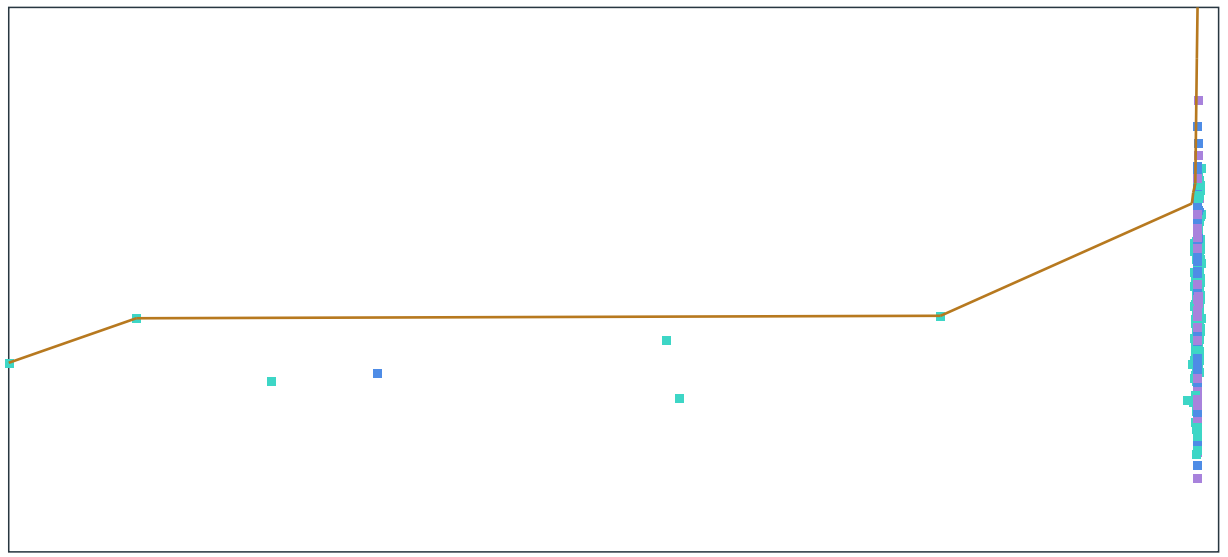
Pillars - Throughput vs hard Acc



Pareto - hard Acc vs Lucy Score

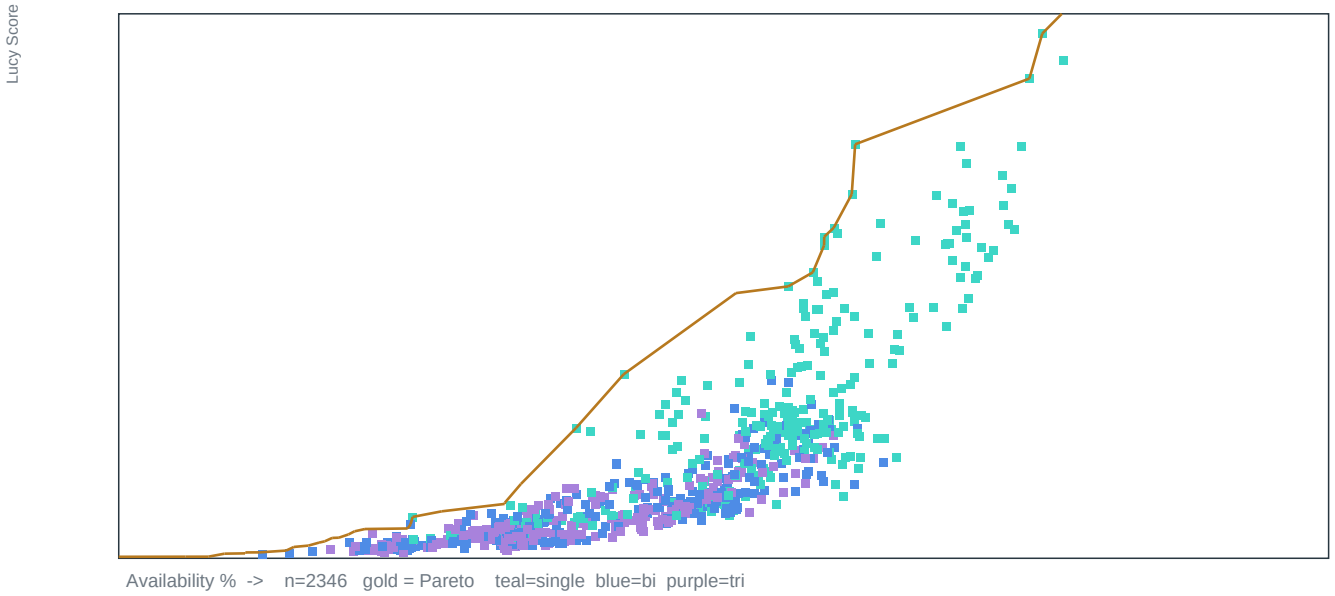


SoftAcc (serve-confidence) vs hard Acc

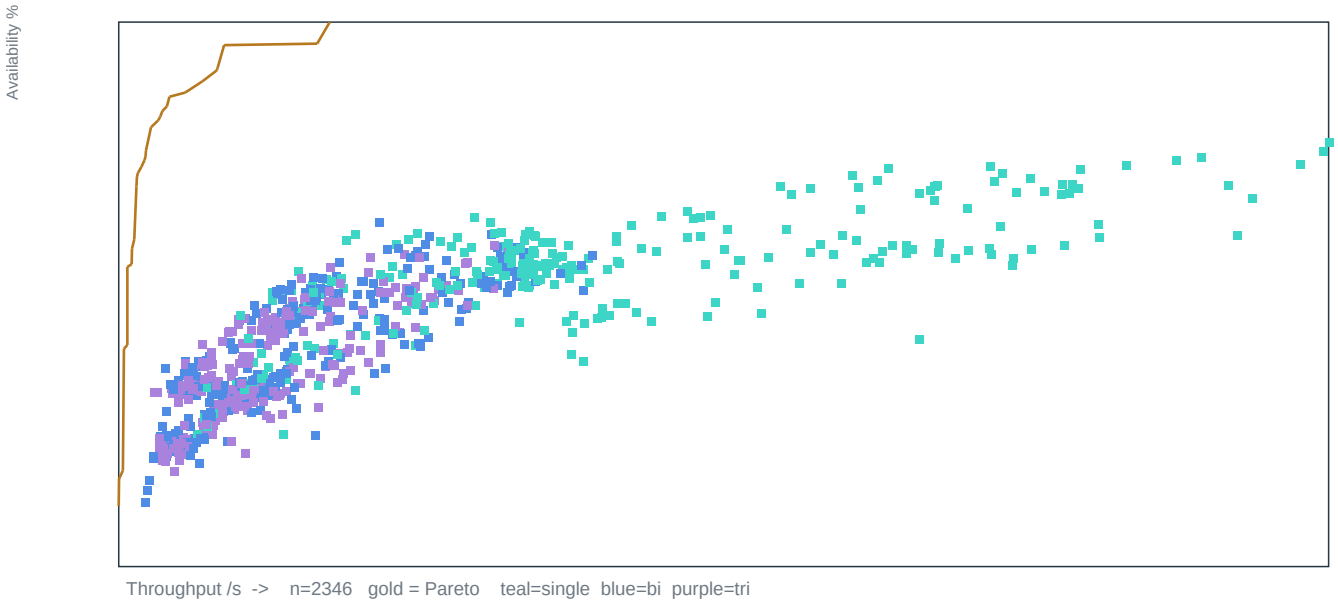



SoftAcc % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

Avail vs Lucy Score (duty clock)



Pillars - Throughput vs Availability



AdaptPct vs hard Acc



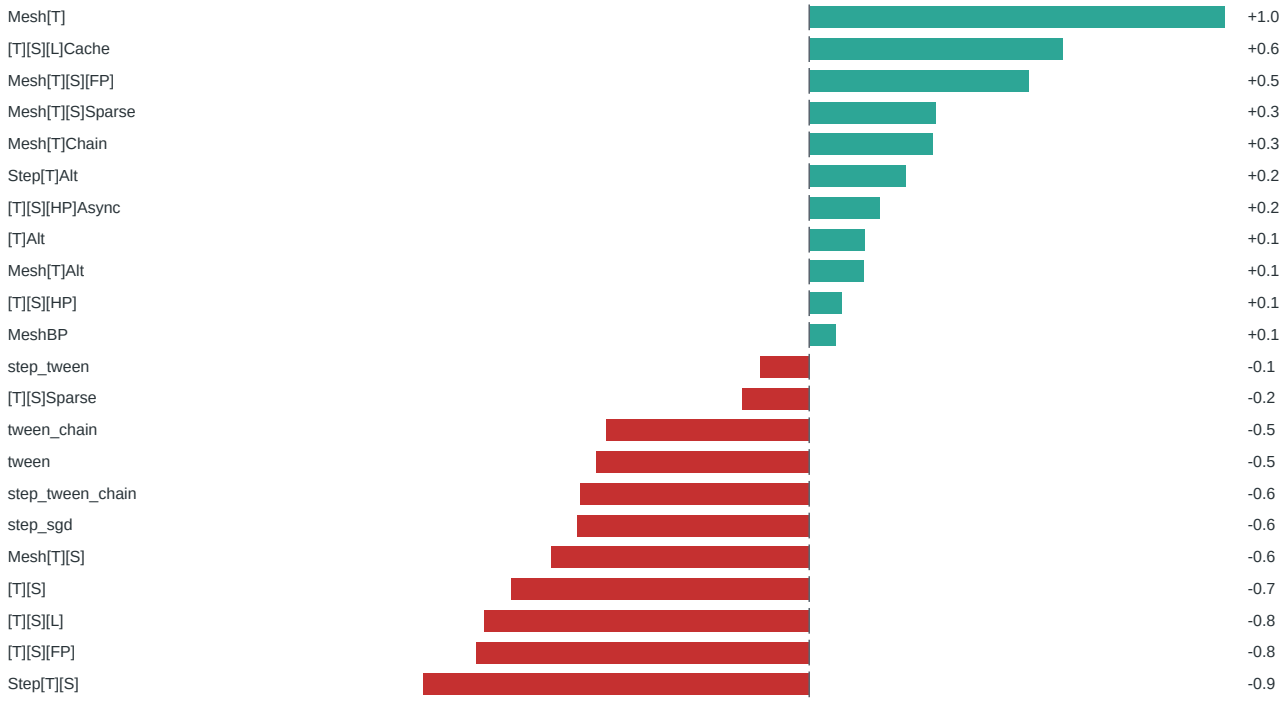

AdaptPct % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

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%
Mesh[T]	102	+1.0	52	+0.1	-6.9	-2473	-233.8	5
[T][S][L]Cache	102	+0.6	54	+0.1	+11.7	-3049	-165.5	11
Mesh[T][S][FP]	102	+0.5	51	+0.1	+4.0	-4935	-416.8	0
Mesh[T][S]Sparse	102	+0.3	49	+0.1	+11.4	-4778	-374.2	0
Mesh[T]Chain	102	+0.3	53	+0.1	-2.8	-3031	-286.4	0
Step[T]Alt	102	+0.2	47	+0.1	-11.8	-3789	-387.9	0
[T][S][HP]Async	102	+0.2	50	+0.1	+11.4	-3403	-204.9	4
[T]Alt	102	+0.1	51	+0.1	-8.9	-2986	-310.4	2
Mesh[T]Alt	102	+0.1	42	+0.1	-11.9	-5438	-495.1	0
[T][S][HP]	102	+0.1	45	+0.1	+11.6	-1621	+10.2	50
MeshBP	102	+0.1	43	+0.1	+0.5	-1126	-53.0	17
step_tween	102	-0.1	43	+0.1	-5.5	-1408	-156.5	6
[T][S]Sparse	102	-0.2	45	+0.1	+15.7	-3443	-193.9	7
tween_chain	102	-0.5	40	+0.1	+0.9	-108	+18.6	36
tween	102	-0.5	36	+0.1	-0.1	-110	+5.4	30
step_tween_chain	102	-0.6	39	+0.1	-4.7	-1459	-162.0	4
step_sgd	102	-0.6	35	+0.0	-4.2	-780	-107.3	7
Mesh[T][S]	102	-0.6	37	+0.1	+6.4	-4512	-361.6	1
[T][S]	102	-0.7	38	+0.1	+12.0	-1031	+55.9	59
[T][S][L]	102	-0.8	39	+0.1	+6.2	-2840	-201.1	4
[T][S][FP]	102	-0.8	40	+0.1	+11.8	-2665	-132.6	12
Step[T][S]	102	-0.9	38	+0.1	+2.7	-324	+25.4	40

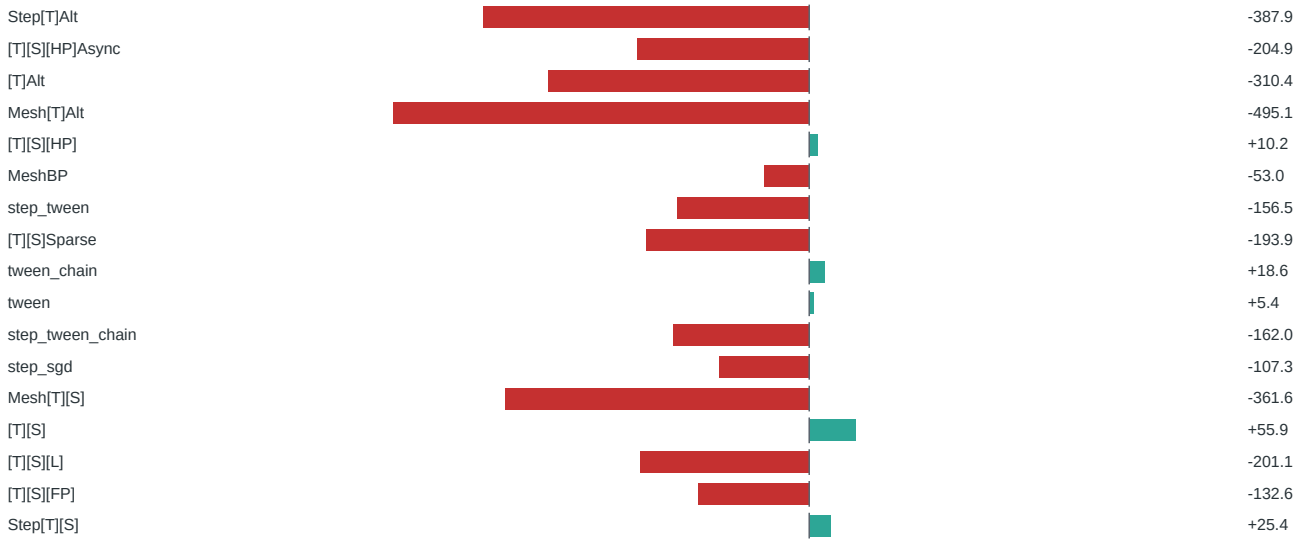
mean AccD vs sgd



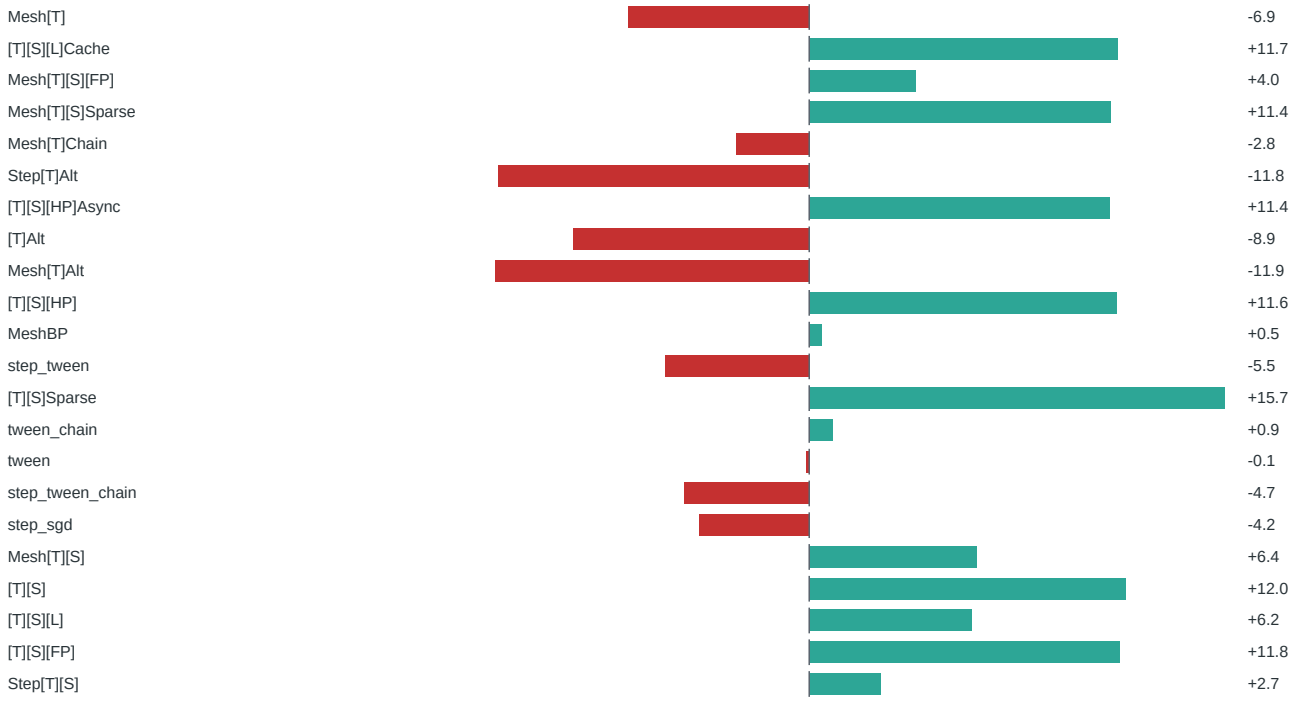
mean ScoreD vs sgd (duty clock)



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

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	-0	-1	+0	+4	+1	-1	-1	-1	+3	+0
Mesh[T]	-2	-3	+5	+2	-1	+7	+5	-1	+2	-2
Mesh[T]Alt	+7	-5	+2	+1	-1	+7	-1	-6	+0	-4
Mesh[T]Chain	+1	+1	+4	+6	-2	+4	-6	+2	-0	-4
Mesh[T][S]	-0	-2	-4	+0	-2	+2	+2	-6	+3	-1
Mesh[T][S][FP]	+4	-1	+2	+5	+0	-0	+3	-1	+3	+2
Mesh[T][S]Sparse	+1	-4	+0	+3	+0	+3	-3	-4	-0	+2
Step[T]Alt	-1	-5	+2	-2	-6	+4	+3	+1	+1	+3
Step[T][S]	-0	-0	-4	+3	-1	-3	+3	-3	+4	-4
[T]Alt	-3	+1	-1	+2	-3	+4	+4	-7	-3	-5
[T][S]	+2	-2	-1	+2	-4	+6	+1	-5	-1	-1
[T][S][FP]	-4	-3	-1	+2	-2	+3	-2	-1	+2	+1
[T][S][HP]	-3	-2	+7	+6	-3	+4	-9	-5	-3	+3
[T][S][HP]Async	+5	+3	+4	-2	-5	+2	-2	-1	-2	+3
[T][S][L]	+3	+4	-4	-1	-3	+1	-7	-0	-1	-1
[T][S][L]Cache	-4	+0	+3	+6	+3	+2	+0	-4	+4	+5
[T][S]Sparse	-3	+0	+1	+2	+3	+6	+4	-3	+1	-3
step_sgd	-3	+0	+2	-1	-1	+2	-3	-2	-1	+1
step_tween	+2	-2	+0	+4	+1	+2	+0	-4	+3	-1
step_tween_chain	-2	-1	-1	+3	-0	+4	+1	-2	+5	-1
tween	-3	-0	+3	-1	-1	+2	-4	-3	-0	+0
tween_chain	-1	-2	-0	+2	+0	+3	-1	-2	+1	-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	-1	-158	-118	+61	+363	+209	-141	-52	-148	+30	-61
Mesh[T]	-244	-496	-338	-290	-84	-160	-7	-487	-117	-268	-198	-196
Mesh[T]Alt	-732	-814	-419	-387	-466	-786	-571	-681	-162	-525	-570	-332
Mesh[T]Chain	-405	-396	-286	-260	-300	-363	-255	-420	-89	-319	-321	-184
Mesh[T][S]	-499	-667	-352	-307	-281	-360	-408	-496	-138	-360	-425	-252
Mesh[T][S][FP]	-590	-719	-366	-335	-381	-677	-436	-562	-125	-469	-484	-269
Mesh[T][S]Sparse	-537	-535	-326	-296	-294	-625	-405	-504	-119	-414	-495	-239
Step[T]Alt	-639	-570	-385	-304	-357	-570	-344	-539	-145	-412	-470	-249
Step[T][S]	+70	+20	-127	-123	+160	+506	+353	+93	+19	-51	+78	+0
[T]Alt	-459	-467	-312	-200	-193	-238	-304	-426	-98	-330	-365	-228
[T][S]	+83	+51	+1	+161	+104	+198	+6	-13	+43	+97	+86	+102
[T][S][FP]	-215	-356	-227	-108	-94	+13	-7	-150	-20	-7	-161	-49
[T][S][HP]	+69	+91	-33	-27	+74	+343	+123	+1	-13	+160	+49	+25
[T][S][HP]Async	-275	-223	-283	-135	-94	-152	-140	-320	-62	-198	-261	-92
[T][S][L]	-356	-275	-182	-141	-24	-160	+19	-185	-45	-172	-350	-136
[T][S][L]Cache	-175	-284	-162	-181	-103	-244	-158	-277	-26	-225	-164	-131
[T][S]Sparse	-329	-253	-187	-212	-106	-270	-145	-253	-78	-161	-215	-116
step_sgd	-204	-155	-163	-88	-141	+384	-73	-183	-69	-148	-138	-57
step_tween	-311	-179	-208	-227	-174	+105	-34	-248	-89	-192	-253	-139
step_tween_chain	-246	-245	-207	-139	-162	+318	-13	-273	-96	-220	-312	-163
tween	-27	+295	-42	-32	+57	+613	+219	+3	-17	-66	-60	+32
tween_chain	+30	+109	-64	+3	+91	+589	+161	+22	-6	+39	+22	+8

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	-76	-88	-80	-117	-135	-11	-46	-93	-156	-14	-3	-167
Mesh[T]	-198	-587	-141	-177	-332	-111	-115	-151	-328	-187	-487	-332
Mesh[T]Alt	-445	-891	-249	-443	-977	-156	-159	-433	-1038	-279	-808	-432
Mesh[T]Chain	-298	-444	-153	-285	-582	-87	-109	-277	-628	-156	-446	-305
Mesh[T][S]	-283	-652	-174	-299	-852	-118	-124	-264	-741	-215	-599	-357
Mesh[T][S][FP]	-382	-735	-200	-370	-869	-123	-139	-389	-955	-247	-677	-339
Mesh[T][S]Sparse	-340	-604	-184	-371	-799	-114	-123	-329	-791	-174	-598	-361
Step[T]Alt	-370	-641	-223	-383	-758	-130	-140	-341	-712	-216	-581	-362
Step[T][S]	-62	+315	-0	-59	-200	-19	-7	-25	-130	-46	+134	-58
[T]Alt	-248	-530	-190	-258	-613	-106	-103	-313	-675	-183	-604	-342
[T][S]	+29	+111	+21	-18	-138	+77	-0	-15	-138	+133	+149	+8
[T][S][FP]	-160	-214	-86	-157	-355	+19	-46	-196	-456	+23	-219	-167
[T][S][HP]	-31	-156	+44	+129	-10	+61	+29	-46	-225	+54	-40	-79
[T][S][HP]Async	-264	-369	-109	-198	-470	-46	-43	-194	-665	-107	-356	-234
[T][S][L]	-134	-500	-80	-236	-531	-46	-41	-190	-630	-137	-427	-218
[T][S][L]Cache	-117	-341	-107	-108	-447	-8	-75	-143	-426	-58	-315	-206
[T][S]Sparse	-202	-396	-114	-214	-522	-24	-41	-116	-491	-59	-306	-218
step_sgd	-38	-192	-137	-96	-283	-46	-70	-189	-138	-70	-128	-143
step_tween	-174	-342	-131	-127	-347	-78	-86	-130	-236	-134	-60	-231
step_tween_chain	-179	-335	-142	-190	-518	-76	-82	-130	-246	-96	-176	-240
tween	-35	+63	-32	-55	-91	+7	-23	-73	+31	+22	+49	-70
tween_chain	-34	-1	-52	-63	-166	+48	-63	-5	+65	+1	+191	-88

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	-115	-104	-28	-33	-86	-50	-69	-204	+146	-143
Mesh[T]	-279	-312	-144	-180	-186	-119	-163	-198	-83	-253
Mesh[T]Alt	-500	-416	-247	-436	-444	-174	-205	-511	-754	-389
Mesh[T]Chain	-350	-239	-131	-192	-284	-86	-158	-280	-407	-243
Mesh[T][S]	-382	-344	-198	-284	-376	-117	-140	-363	-571	-295
Mesh[T][S][FP]	-424	-334	-204	-342	-385	-142	-161	-405	-635	-304
Mesh[T][S]Sparse	-407	-343	-174	-314	-358	-127	-155	-379	-608	-280
Step[T]Alt	-442	-343	-213	-355	-386	-152	-177	-404	-575	-303
Step[T][S]	-3	-20	-25	+39	+17	+2	-18	-135	+214	-51
[T]Alt	-369	-264	-170	-228	-303	-117	-143	-370	-556	-249
[T][S]	+139	+126	+40	+76	+14	+117	+54	-32	+131	+99
[T][S][FP]	-232	-112	-81	-58	-135	-30	-92	-127	-191	-58
[T][S][HP]	-78	+5	+49	+117	-47	+53	-72	-154	-170	+53
[T][S][HP]Async	-149	-130	-102	-212	-228	-57	-106	-176	-396	-121
[T][S][L]	-155	-90	-113	-240	-221	-60	-151	-135	-330	-165
[T][S][L]Cache	-236	-97	-78	-27	-88	-57	-65	-203	-217	-82
[T][S]Sparse	-269	-135	-87	-151	-142	-37	-64	-221	-305	-153
step_sgd	-188	-77	-78	-122	-110	-71	-121	-130	-143	-43
step_tween	-165	-158	-135	-47	-118	-98	-133	-206	-89	-148
step_tween_chain	-237	-115	-139	-115	-104	-78	-118	-181	-113	-140
tween	-140	-43	+2	-57	-108	-34	-75	-100	+93	-119
tween_chain	-75	-30	-5	-114	-32	+11	-56	-38	+168	-33

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	+3	-1	-0	-1	+5	+5	-2	-1	+1	+1	+1
Mesh[T]	-5	-7	-10	-11	-4	-3	-2	-7	-9	-5	-5	-5
Mesh[T]Alt	-12	-12	-11	-15	-11	-8	-12	-14	-12	-14	-11	-11
Mesh[T]Chain	-3	-2	-3	-5	-4	-1	-1	-4	-4	-4	-2	-2
Mesh[T][S]	+7	+0	+5	+9	+9	+8	+4	+7	+5	+6	+7	+5
Mesh[T][S][FP]	+5	+1	+5	+3	+4	+4	+6	+3	+7	+2	+2	+8
Mesh[T][S]Sparse	+11	+11	+13	+11	+12	+13	+11	+13	+12	+9	+10	+12
Step[T]Alt	-14	-12	-12	-12	-11	-8	-10	-13	-12	-11	-12	-11
Step[T][S]	+5	+2	+1	+0	+5	+7	+6	+5	+1	+5	+4	+2
[T]Alt	-10	-11	-9	-8	-8	-5	-7	-10	-9	-8	-9	-8
[T][S]	+11	+10	+14	+13	+12	+14	+11	+9	+12	+11	+12	+15
[T][S][FP]	+10	+8	+13	+13	+12	+14	+11	+10	+12	+12	+11	+14
[T][S][HP]	+11	+12	+11	+10	+13	+14	+11	+10	+11	+11	+11	+14
[T][S][HP]Async	+10	+10	+13	+13	+13	+13	+11	+10	+11	+11	+11	+15
[T][S][L]	+6	+6	+6	+6	+9	+8	+8	+8	+6	+9	+7	+7
[T][S][L]Cache	+9	+11	+14	+13	+13	+13	+11	+10	+12	+12	+11	+14
[T][S]Sparse	+12	+16	+16	+13	+14	+17	+17	+17	+15	+16	+13	+18
step_sgd	-4	-2	-5	-5	-5	+3	-2	-5	-7	-5	-6	-3
step_tween	-6	-4	-6	-9	-7	+2	-3	-6	-7	-7	-6	-6
step_tween_chain	-5	-3	-5	-5	-5	+3	-2	-6	-7	-6	-6	-4
tween	+1	+2	-1	-1	+1	+6	+4	-0	-2	-1	+0	+0
tween_chain	+2	+3	+0	-0	+2	+6	+4	+1	-1	+2	+1	+1

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	+0	+2	-1	-2	+2	-0	-1	-0	+3	+0	+2	-0
Mesh[T]	-5	-8	-4	-7	-6	-11	-11	-8	-4	-7	-5	-9
Mesh[T]Alt	-11	-16	-12	-10	-13	-11	-11	-12	-14	-12	-12	-9
Mesh[T]Chain	-4	-2	-6	-5	-1	-4	-4	-5	-0	-3	+1	-4
Mesh[T][S]	+10	+7	+7	+8	+2	+8	+6	+7	+5	+7	+5	+6
Mesh[T][S][FP]	+4	+1	+2	+3	+3	+5	+4	+5	-1	+1	+5	+9
Mesh[T][S]Sparse	+11	+11	+14	+6	+11	+13	+12	+8	+9	+15	+11	+10
Step[T]Alt	-12	-12	-13	-13	-12	-11	-12	-12	-11	-12	-12	-14
Step[T][S]	+1	+6	+1	+0	+4	+1	+1	+1	+2	+1	+5	+2
[T]Alt	-8	-11	-10	-8	-12	-9	-9	-8	-9	-9	-10	-10
[T][S]	+13	+10	+12	+12	+10	+12	+11	+13	+10	+12	+12	+13
[T][S][FP]	+13	+10	+12	+11	+11	+12	+11	+12	+10	+11	+11	+14
[T][S][HP]	+13	+11	+12	+12	+11	+12	+12	+13	+11	+10	+11	+12
[T][S][HP]Async	+11	+10	+11	+12	+10	+10	+11	+13	+9	+11	+10	+13
[T][S][L]	+7	+4	+6	+5	+4	+6	+5	+6	+4	+5	+6	+7
[T][S][L]Cache	+12	+10	+10	+11	+10	+12	+11	+10	+10	+12	+11	+13
[T][S]Sparse	+15	+17	+15	+15	+17	+16	+14	+16	+16	+18	+18	+17
step_sgd	-4	-2	-7	-5	-5	-6	-6	-5	-1	-4	-2	-4
step_tween	-5	-4	-8	-6	-4	-7	-7	-5	-3	-6	-3	-5
step_tween_chain	-5	-3	-7	-6	-6	-6	-7	-4	-1	-5	-3	-5
tween	-1	+2	-2	-2	+2	-1	-2	-1	+4	-0	+2	-0
tween_chain	+0	+3	-1	-1	+3	-1	-3	+1	+3	+1	+4	+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	-0	+0	-0	-1	-1	-1	+4	-3
Mesh[T]	-8	-9	-6	-9	-7	-8	-11	-5	-2	-9
Mesh[T]Alt	-10	-12	-13	-10	-10	-11	-11	-14	-11	-13
Mesh[T]Chain	-5	-4	-3	-2	-2	-1	-3	-4	-0	-1
Mesh[T][S]	+8	+6	+5	+8	+5	+8	+8	+8	+6	+7
Mesh[T][S][FP]	+4	+5	+3	+5	+3	+6	+5	+5	+3	+6
Mesh[T][S]Sparse	+10	+9	+13	+11	+11	+13	+14	+12	+12	+11
Step[T]Alt	-12	-11	-12	-11	-12	-12	-12	-12	-11	-11
Step[T][S]	+3	+2	+1	+3	+1	+2	+1	+2	+6	+1
[T]Alt	-8	-8	-9	-8	-8	-9	-9	-8	-11	-9
[T][S]	+13	+13	+11	+13	+13	+12	+10	+13	+11	+14
[T][S][FP]	+12	+13	+12	+13	+13	+12	+11	+12	+10	+13
[T][S][HP]	+13	+13	+12	+12	+13	+11	+12	+9	+10	+12
[T][S][HP]Async	+12	+12	+8	+13	+13	+11	+11	+13	+7	+13
[T][S][L]	+8	+8	+5	+5	+7	+5	+3	+8	+5	+5
[T][S][L]Cache	+13	+13	+12	+12	+13	+11	+12	+13	+9	+13
[T][S]Sparse	+15	+16	+16	+15	+15	+15	+15	+16	+16	+17
step_sgd	-4	-4	-6	-5	-4	-6	-7	-5	-2	-4
step_tween	-5	-5	-7	-5	-5	-8	-8	-5	-4	-5
step_tween_chain	-4	-4	-7	-5	-4	-7	-7	-5	-3	-4
tween	-1	-2	-2	-1	-2	-2	-2	-1	+3	-3
tween_chain	+1	+0	-1	-3	-1	-1	-2	-1	+4	-0

AccD vs sgd, every mode x arch

AccD vs sgd, every mode x arch



Family collapse - Step* vs non-Step

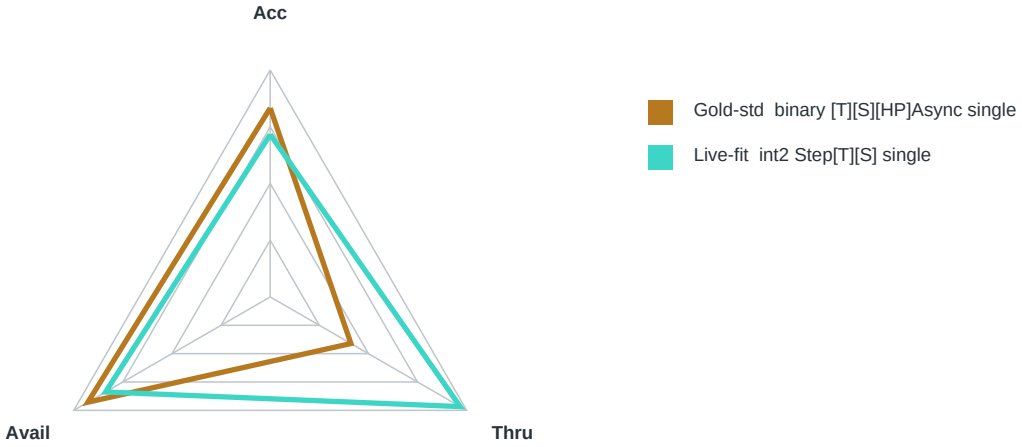
Step* is a 1D pipe (one sample enters layer 0 per tick; output is the sample that entered depth ticks ago). Non-Step of the same family is a full-chain update. AccD is a real scheduler split, not leftover warm-up forwards.

step	plain	n	mean |AccD|
Step[T]Alt	[T]Alt	102	6.76
Step[T][S]	[T][S]	102	5.28
step_sgd	sgd	102	2.44
step_tween	tween	102	3.41
step_tween_chain	tween_chain	102	3.15

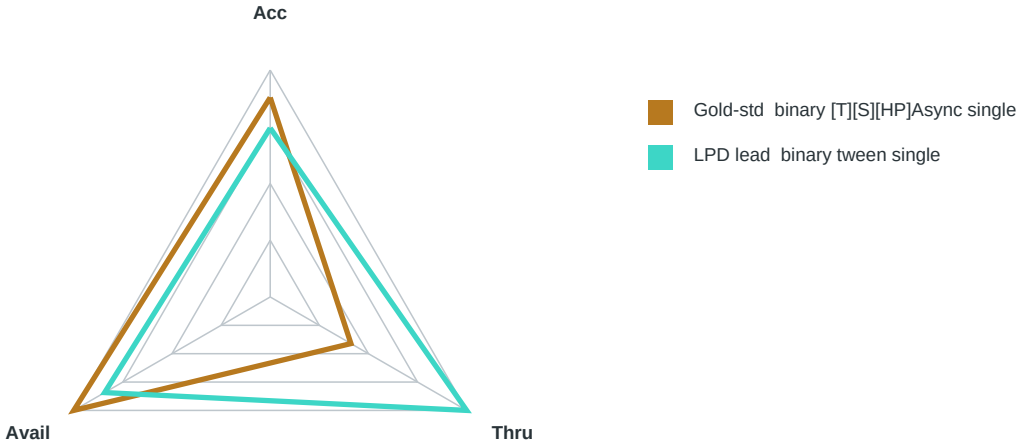
Consciousness - Acc, Throughput, Availability

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 int3|none|Step[T]Alt|tricameral|simd Acc 41.1 Thru 537 Avail 16.1% 0.2 KiB (RAM reference)
Lucy Score champ (T x Avail x Acc) float32|none|Step[T][S]|single|simd Score 3006.6 Acc 28.1 Soft 25 0.9 KiB
Live-fit champ (best Q) int2|none|Step[T][S]|single|simd Acc 29.4 Thru 17871 Avail 45.6% 0.1 KiB
Gold-std (2+ pillars, Acc keep >= 80%, then smallest then fastest): binary|none|[T][S][HP]Async|single|simd mode [T][S][HP]Async Acc 34.2 Thru 7594 0.0 KiB
Board fastest float32|none|tween_chain|single|simd Thru 23284 (traps may own this) Best availability float32|none|[T][S]Sparse|bicameral|simd 56.2%
Learner Thru peak 18483 learner Avail peak 54.4%

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][HP]Async	5	35.6	0.0	7594	binary [T][S][HP]Async single
Mesh[T][S]Sparse	4	38.9	0.0	3395	binary Mesh[T][S]Sparse single
[T][S][HP]	5	37.5	0.1	8422	ternary [T][S][HP] bicameral / fp8e4m3 [T][S][HP] single
[T][S][L]Cache	3	34.8	0.2	5006	fp6 [T][S][L]Cache single / uint32 [T][S][L]Cache single
[T][S]Sparse	4	38.2	0.2	1936	nf4 [T][S]Sparse tricameral / uint16 [T][S]Sparse bicameral
[T][S][L]	1	34.2	1.8	7840	float64 [T][S][L] single
Mesh[T][S][FP]	1	33.9	1.8	1727	uint Mesh[T][S][FP] single

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

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
near	binary [T][S][HP]Async single	83	41	93	68	16	6.4	4.39	34.2	7594	0.0
near	binary Mesh[T][S]Sparse single	95	18	80	52	16	6.4	3.34	38.9	3395	0.0
near	binary Mesh[T][S]Sparse tricameral	91	10	93	44	33	3.0	1.33	37.3	1917	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
-	binary tween single	71	100	78	82	16	6.4	5.27	29.0	18483	0.0
near	binary [T][S][HP]Async single	83	41	93	68	16	6.4	4.39	34.2	7594	0.0
-	binary [T]Alt single	80	52	56	61	16	6.4	3.95	32.7	9606	0.0
-	binary Step[T]Alt single	76	42	55	56	16	6.4	3.58	31.1	7723	0.0
near	binary Mesh[T][S]Sparse single	95	18	80	52	16	6.4	3.34	38.9	3395	0.0
-	int2 Step[T][S] single	72	97	84	83	31	3.2	2.68	29.4	17871	0.1
-	ternary step_tween single	75	83	69	75	31	3.2	2.43	30.9	15312	0.1
-	int2 [T][S][FP] single	75	51	91	70	31	3.2	2.26	30.7	9344	0.1
-	binary [T][S][HP] bicameral	75	30	84	57	29	3.5	1.98	30.7	5478	0.1
-	int2 [T]Alt single	75	52	56	61	31	3.2	1.95	30.9	9674	0.1
-	binary Mesh[T]Chain bicameral	79	28	68	53	29	3.5	1.83	32.5	5115	0.1
-	ternary Step[T]Alt single	72	44	56	56	31	3.2	1.79	29.5	8047	0.1
-	binary step_tween bicameral	73	32	55	50	29	3.5	1.74	30.0	5853	0.1
-	binary [T][S][L]Cache bicameral	73	20	83	49	29	3.5	1.70	29.8	3613	0.1
acc	int2 Mesh[T][S]Sparse single	93	18	78	51	31	3.2	1.64	38.3	3404	0.1
-	binary [T][S][HP]Async bicameral	72	18	82	47	29	3.5	1.64	29.6	3329	0.1
-	int2 Mesh[T][S] single	76	21	76	50	31	3.2	1.59	31.3	3906	0.1
acc	binary [T][S][FP] bicameral	83	17	70	46	29	3.5	1.59	34.0	3095	0.1
-	binary tween tricameral	75	31	61	52	33	3.0	1.56	30.8	5718	0.1
-	uint2 [T][S] single	70	37	92	62	40	2.5	1.55	28.8	6845	0.1

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

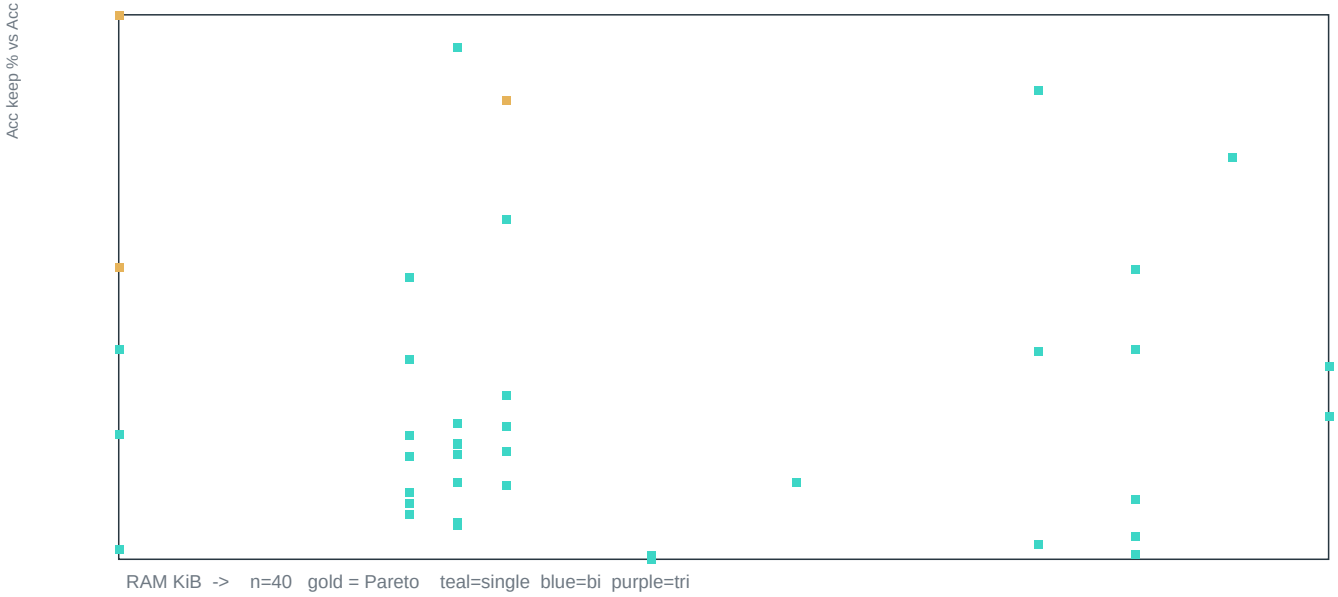
Band	Cell	Acc%	Thru%	Avail%	Q%	LPD	Thru	Avail
-	int2 Step[T][S] single	72	97	84	83	2.68	17871	45.6
-	binary tween single	71	100	78	82	5.27	18483	42.6
-	float64 Step[T][S] single	80	77	83	80	0.08	14171	45.0
-	uint8 MeshBP single	73	80	81	78	0.58	14843	44.2
-	int4 [T][S][HP] single	73	69	94	78	1.25	12719	51.4
-	int8 step_tween single	73	86	70	76	0.61	15826	38.0
-	ternary step_tween single	75	83	69	75	2.43	15312	37.5
-	bfloat16 [T][S][HP] single	71	61	96	75	0.30	11317	52.0
-	float64 MeshBP single	72	69	78	73	0.07	12784	42.7
-	uint8 step_tween single	75	72	68	72	0.54	13362	37.3

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

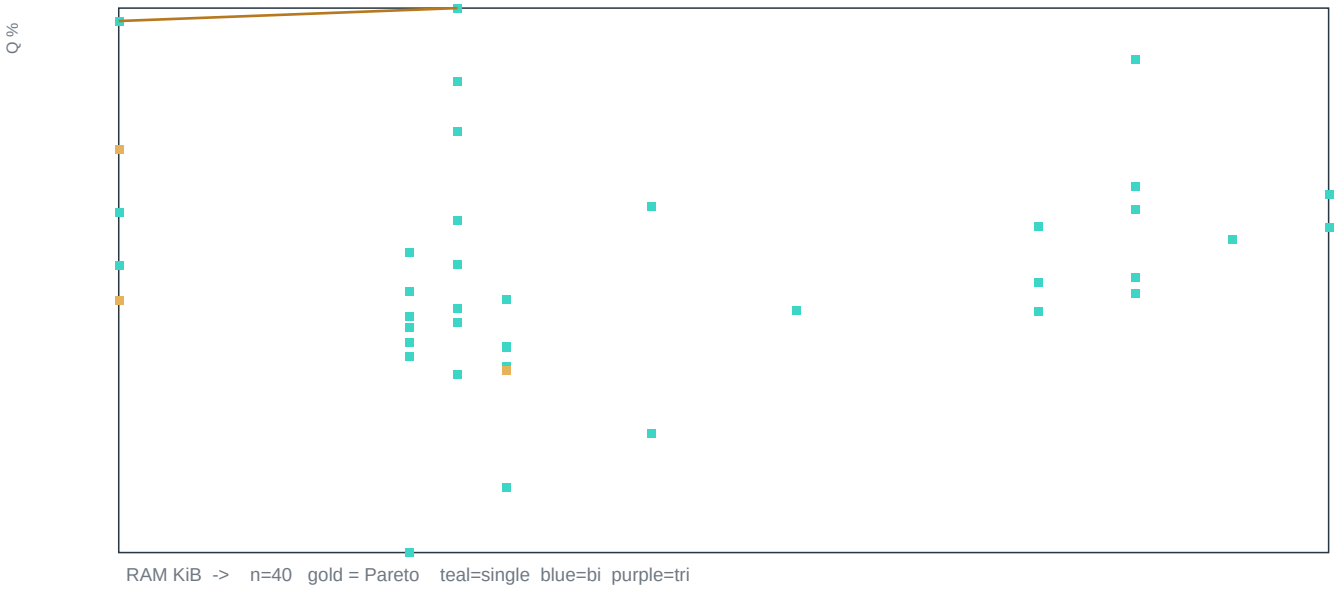
Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
trap	binary sgd single	53	93	68	69	16	6.4	0.00	21.8	17236	0.0
trap	binary step_sgd single	48	89	69	67	16	6.4	0.00	19.9	16373	0.0
trap	binary tween_chain single	55	95	80	75	16	6.4	0.00	22.5	17574	0.0
trap	binary step_tween single	61	79	68	69	16	6.4	0.00	25.0	14561	0.0
trap	binary step_tween_chain single	59	75	68	67	16	6.4	0.00	24.3	13792	0.0
trap	binary MeshBP single	66	85	78	76	16	6.4	0.00	27.3	15651	0.0
trap	binary Mesh[T] single	69	49	52	56	16	6.4	0.00	28.4	8998	0.0
trap	binary Mesh[T]Chain single	60	37	55	49	16	6.4	0.00	24.5	6814	0.0
trap	binary [T][S] single	56	69	93	71	16	6.4	0.00	22.9	12840	0.0
trap	binary Step[T][S] single	60	96	83	78	16	6.4	0.00	24.6	17667	0.0

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

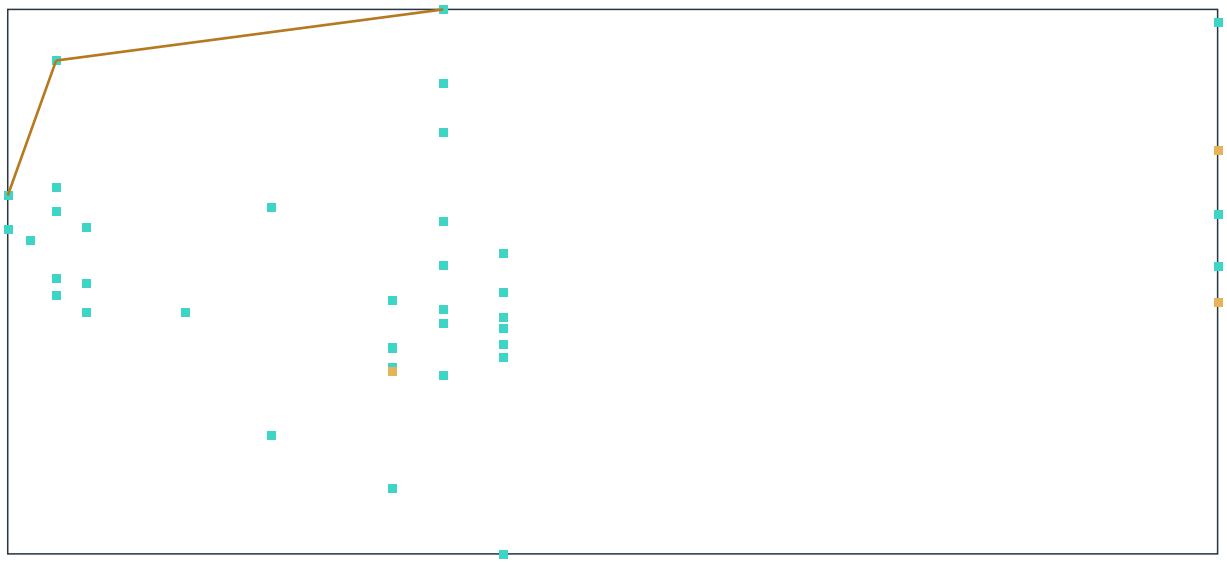
Acc keep % vs RAM KiB (gold = high Acc, low RAM vs Acc champ)



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

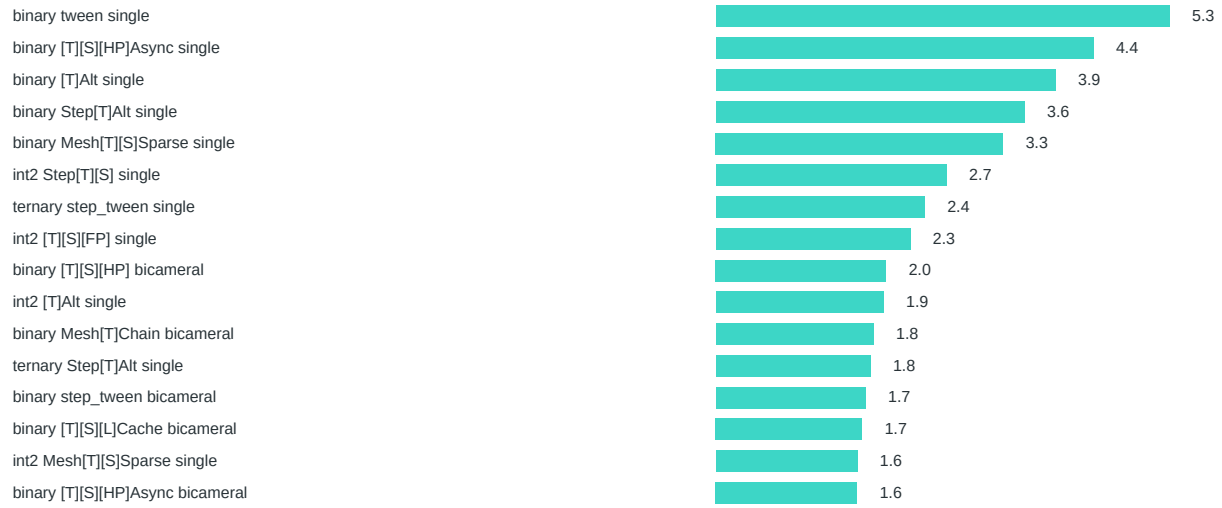


Q% vs shrink vs Acc champ (gold = upper right)

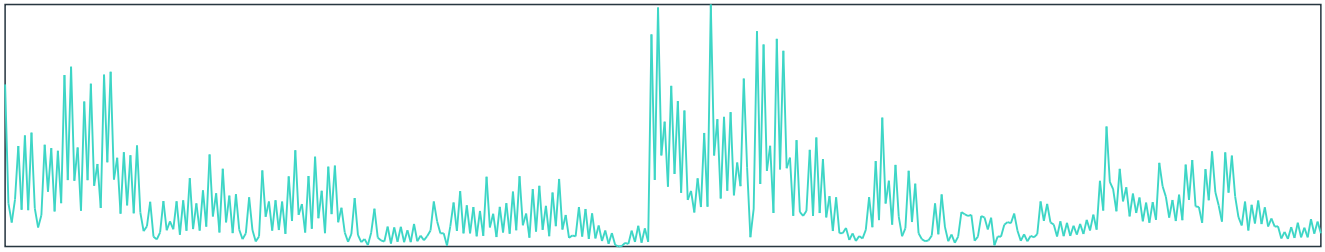



times smaller than Acc champ -> n=40 gold = Pareto teal=single blue=bi purple=tri
Q %

Top Lucy density (LPD)

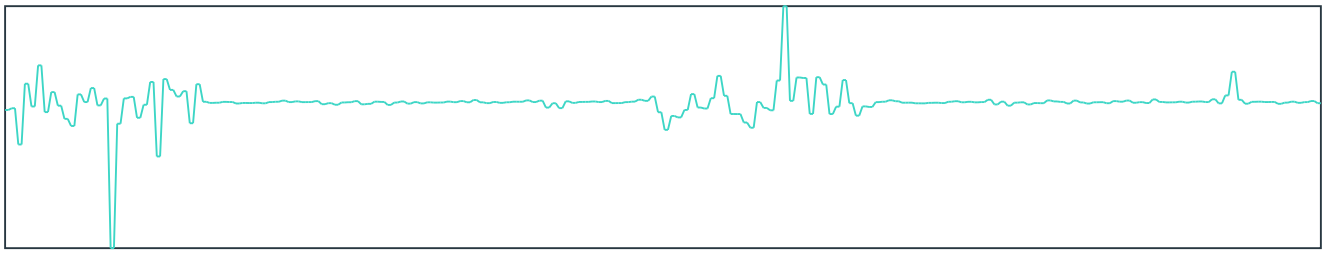


Live pulse (Score)



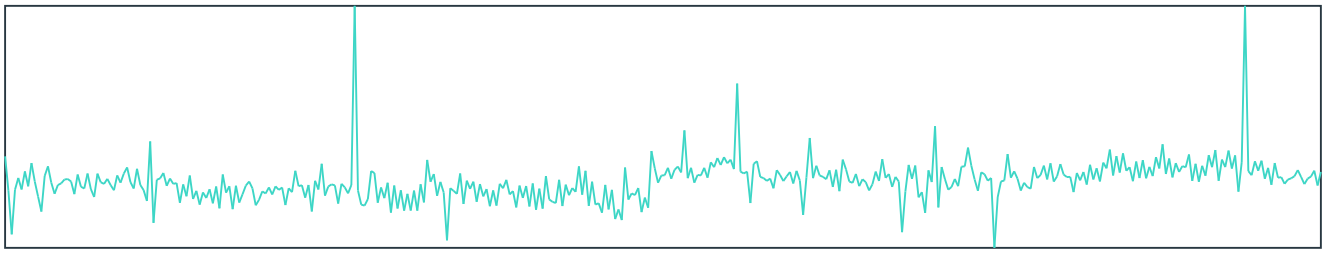
n=400 min=13.27 max=1120.86

Live pulse (SoftAcc)



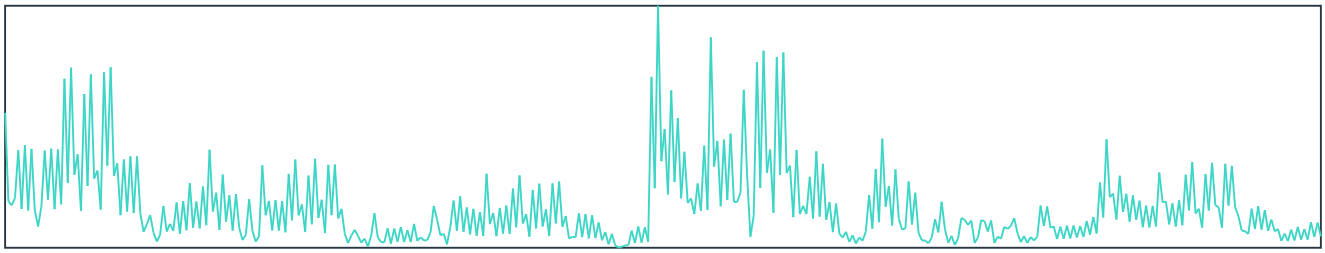
n=400 min=24.96 max=25.03

Live pulse (Availability)



n=400 min=20.14 max=100.00

Live pulse (Throughput)



n=400 min=161.77 max=10638.71

Queue by train mode (this epoch)

Mode	Done	Run	Left	Total