tide sequential

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 13:33:02 -
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 - sequential - offline report

Lucy champions (this tide)

Axis	Cell	Score	Soft	Acc	Thru	Avail
hard acc	binary|none|Step[T]Alt|single|simd	381.75	25.0	29.3	5608.8	27.2
throughput	float32|none|sgd|single|simd	1693.54	25.0	24.6	19730.4	34.3
availability	uint16|none|[T][S][L]|single|simd	753.03	25.0	21.0	5713.4	52.7
lucy score	binary|none|[T][S]|single|simd	1975.72	25.0	23.2	17143.3	46.1
mobile score (trap)	binary|none|[T][S]|single|simd	1975.72	25.0	23.2	17143.3	46.1
t->50%	int3|none|step_sgd|single|simd	383.57	23.7	26.4	5222.0	31.0
acc/sec	float64|none|sgd|single|simd	1302.69	25.0	24.9	14245.9	36.6

Lucy axis champions (this tide)

Axis	Mode	DType	Arch	Value
hard_acc	Step[T]Alt	float32	tricameralx3	42.71
throughput	sgd	float32	singlex1	19730.43
availability	[T][S][L]	uint16	singlex1	52.73
score	[T][S]	binary	singlex1	1975.72
soft_acc	Step[T]Alt	binary	singlex1	25.03
acc_thru	[T][S]	uint8	singlex1	5067.76
realtime	[T][S]	binary	singlex1	7903.86
adapt	[T][S]	int64	singlex1	25.01
keep_learn	sgd	uint16	tricameralx3	14.45
acc_per_sec	sgd	float64	singlex1	12.49
time_to_50	step_sgd	int3	singlex1	0.23
consistency	sgd	float64	singlex1	100.00
stability	sgd	fp4	bicameralx2	100.00
mobile_score	[T][S]	binary	singlex1	10358469~
lpd	[T][S][HP]	uint2	singlex1	20.54
mspeed	[T][S]	uint8	singlex1	1.00
mavail	[T][S][L]Cache	uintptr	singlex1	1.00
mix	[T][S]	uint8	singlex1	0.87
gold_std	[T][S][HP]	int3	singlex1	0.06

Best settings per train mode

Mode	DType	Format	Score	Soft	Acc	Avail	n
[T][S]	binary	none	1975.7	25.0	23.2	46.1	102
tween	int8	none	1876.9	25.0	23.0	40.6	102
tween_chain	int8	none	1809.0	25.0	25.0	41.9	102
Step[T][S]	int8	none	1802.9	25.0	18.1	44.6	102
step_sgd	float32	none	1738.5	25.0	23.8	37.3	102
sgd	float32	none	1693.5	25.0	24.6	34.3	102
Mesh[T]	float32	none	1691.5	25.0	18.3	40.3	102
step_tween	float32	none	1598.2	25.0	26.5	36.0	102
[T][S][HP]	float32	none	1456.2	25.0	21.7	46.7	102

MeshBP	float32	none	1386.2	25.0	22.5	38.3	102
Mesh[T]Chain	float32	none	1346.4	25.0	21.5	39.9	102
step_tween_chain	float32	none	1133.9	25.0	24.8	34.3	102
[T][S][L]	float32	none	1081.2	25.0	25.1	43.9	102
[T][S][L]Cache	float32	none	1022.6	25.0	30.2	47.4	102
[T]Alt	float32	none	945.1	25.0	32.5	33.0	102
[T][S][FP]	int2	none	887.0	25.0	19.2	45.5	102
[T][S][HP]Async	float32	none	771.1	25.0	30.1	45.3	102
Step[T]Alt	float32	none	739.2	25.0	16.7	31.8	102
[T][S]Sparse	float32	none	655.3	25.0	27.3	44.2	102
Mesh[T][S]	fp4	none	555.4	25.0	25.5	45.5	102
Mesh[T][S][FP]	float32	none	484.1	25.0	33.9	43.3	102
Mesh[T][S]Sparse	float32	none	432.0	25.0	20.4	42.3	102
Mesh[T]Alt	ternary	none	230.9	25.0	20.9	33.2	102

Best dtype per mode

Mode	Winner dtype	Score	Soft	Acc
[T][S]	binary	1975.7	25.0	23.2
tween	int8	1876.9	25.0	23.0
tween_chain	int8	1809.0	25.0	25.0
Step[T][S]	int8	1802.9	25.0	18.1
step_sgd	float32	1738.5	25.0	23.8
sgd	float32	1693.5	25.0	24.6
Mesh[T]	float32	1691.5	25.0	18.3
step_tween	float32	1598.2	25.0	26.5
[T][S][HP]	float32	1456.2	25.0	21.7
MeshBP	float32	1386.2	25.0	22.5
Mesh[T]Chain	float32	1346.4	25.0	21.5
step_tween_chain	float32	1133.9	25.0	24.8
[T][S][L]	float32	1081.2	25.0	25.1
[T][S][L]Cache	float32	1022.6	25.0	30.2
[T]Alt	float32	945.1	25.0	32.5
[T][S][FP]	int2	887.0	25.0	19.2
[T][S][HP]Async	float32	771.1	25.0	30.1
Step[T]Alt	float32	739.2	25.0	16.7
[T][S]Sparse	float32	655.3	25.0	27.3
Mesh[T][S]	fp4	555.4	25.0	25.5
Mesh[T][S][FP]	float32	484.1	25.0	33.9
Mesh[T][S]Sparse	float32	432.0	25.0	20.4
Mesh[T]Alt	ternary	230.9	25.0	20.9

Best mode per dtype

DType	Winner mode	Score	Soft	Acc
binary	[T][S]	1975.7	25.0	23.2
uint8	[T][S]	1940.0	25.0	30.0
int8	tween	1876.9	25.0	23.0
float32	tween	1821.4	25.0	26.5
ternary	Step[T][S]	1682.6	25.0	24.4
int4	sgd	1542.8	25.0	27.7
int2	tween	1430.8	25.0	22.1
fp4	tween	1403.1	25.0	24.5
bfloat16	tween	1340.6	25.0	27.9

float64	sgd	1302.7	25.0	24.9
uint	[T][S]	1256.7	25.0	24.6
complex64	[T][S]	1256.4	25.0	23.3
fp8e4m3	sgd	1238.1	25.0	24.3
fp8e5m2	tween_chain	1171.1	25.0	24.1
float16	Step[T][S]	1167.4	25.0	20.1
nf4	[T][S]	1033.0	25.0	24.5
uint32	Step[T][S]	1027.9	25.0	28.0
uint64	tween_chain	984.7	25.0	24.4
int16	sgd	957.3	24.4	20.8
uint16	tween_chain	944.8	25.0	25.7
uint4	sgd	875.5	24.4	21.5
uint2	tween_chain	819.7	25.0	22.7
int64	tween	804.9	25.0	27.2
int32	tween_chain	804.4	25.0	23.2
uintptr	Step[T][S]	750.6	25.0	18.8
int3	[T][S]	748.1	25.0	27.1
int	sgd	742.0	23.7	23.1
complex128	sgd	688.7	25.0	25.8
uint3	tween_chain	571.0	25.0	24.0
uint6	[T][S]	540.0	25.0	24.5
int5	MeshBP	439.0	25.0	35.2
uint5	tween	397.0	25.0	24.1
int6	tween_chain	377.1	25.0	27.5
fp6	sgd	357.3	23.1	26.1

Leaderboard (Lucy Score)

#	Cell	Score	Soft	Acc	Thru	Avail
1	binary|none|[T][S]|single|simd	1975.7	25.0	23.2	17143.3	46.1
2	uint8|none|[T][S]|single|simd	1940.0	25.0	30.0	16865.5	46.0
3	int8|none|tween|single|simd	1876.9	25.0	23.0	18494.9	40.6
4	float32|none|tween|single|simd	1821.4	25.0	26.5	18115.0	40.2
5	int8|none|tween_chain|single|simd	1809.0	25.0	25.0	17265.2	41.9
6	int8|none|Step[T][S]|single|simd	1802.9	25.0	18.1	16179.7	44.6
7	float32|none|step_sgd|single|simd	1738.5	25.0	23.8	18659.1	37.3
8	float32|none|sgd|single|simd	1693.5	25.0	24.6	19730.4	34.3
9	float32|none|Mesh[T]|single|simd	1691.5	25.0	18.3	16776.4	40.3
10	ternary|none|Step[T][S]|single|simd	1682.6	25.0	24.4	15868.5	42.4
11	float32|none|tween_chain|single|simd	1653.5	25.0	23.9	18134.5	36.5
12	float32|none|step_tween|single|simd	1598.2	25.0	26.5	17748.8	36.0
13	ternary|none|sgd|single|simd	1569.2	25.0	25.5	17291.1	36.3
14	int4|none|sgd|single|simd	1542.8	25.0	27.7	16795.3	36.7
15	uint8|none|tween|single|simd	1542.5	25.0	23.6	16067.8	38.4
16	int4|none|tween|single|simd	1509.7	25.0	24.8	16444.4	36.7
17	binary|none|step_sgd|single|simd	1504.6	25.0	23.8	16283.7	37.0
18	float32|none|Step[T][S]|single|simd	1499.4	25.0	29.4	15798.3	38.0
19	uint8|none|sgd|single|simd	1489.1	25.0	21.7	16438.0	36.2
20	int8|none|step_sgd|single|simd	1465.5	25.0	25.7	16412.6	35.7

Leaderboard (SoftAcc)

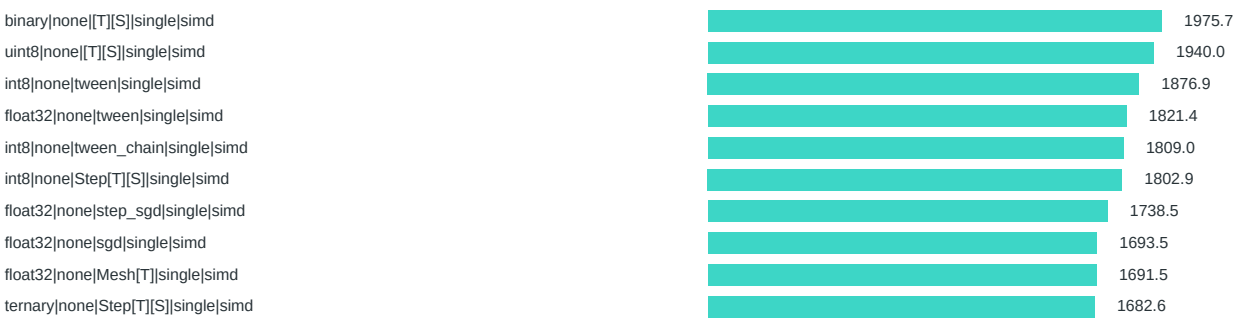
#	Cell	Score	Soft	Acc	Thru	Avail
1	int2|none|MeshBP|single|simd	1306.6	25.0	27.1	13202.2	39.6

2	ternary|none|tween|single|simd	1305.3	25.0	24.3	15145.1	34.5
3	float32|none|MeshBP|single|simd	1386.2	25.0	22.5	14489.5	38.3
4	ternary|none|Step[T][S]|single|simd	1682.6	25.0	24.4	15868.5	42.4
5	float32|none|tween|single|simd	1821.4	25.0	26.5	18115.0	40.2
6	float32|none|[T][S]|single|simd	1345.9	25.0	27.1	12288.1	43.8
7	int4|none|sgd|single|simd	1542.8	25.0	27.7	16795.3	36.7
8	float64|none|sgd|single|simd	1302.7	25.0	24.9	14245.9	36.6
9	bfloat16|none|tween|single|simd	1340.6	25.0	27.9	12999.3	41.2
10	uint8|none|sgd|single|simd	1489.1	25.0	21.7	16438.0	36.2
11	int8|none|MeshBP|single|simd	1299.9	25.0	26.6	12998.8	40.0
12	ternary|none|sgd|single|simd	1569.2	25.0	25.5	17291.1	36.3
13	float32|none|step_tween|single|simd	1598.2	25.0	26.5	17748.8	36.0
14	float32|none|tween_chain|single|simd	1653.5	25.0	23.9	18134.5	36.5
15	fp4|none|tween|single|simd	1403.1	25.0	24.5	15622.9	35.9
16	uint8|none|tween_chain|single|simd	1367.2	25.0	20.4	13755.5	39.8
17	int8|none|tween|single|simd	1876.9	25.0	23.0	18494.9	40.6
18	float32|none|Step[T][S]|single|simd	1499.4	25.0	29.4	15798.3	38.0
19	int8|none|step_sgd|single|simd	1465.5	25.0	25.7	16412.6	35.7
20	int4|none|tween|single|simd	1509.7	25.0	24.8	16444.4	36.7

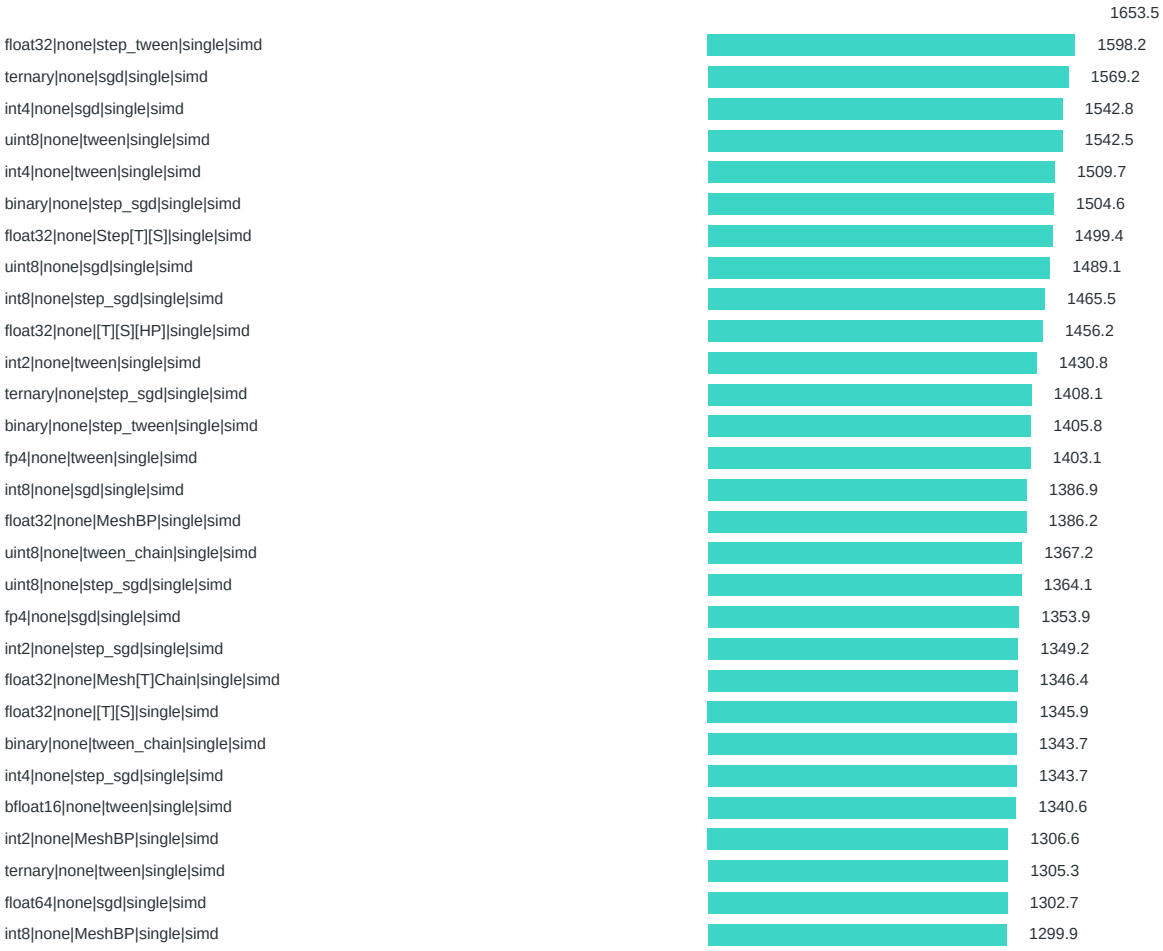
Leaderboard (hard Acc)

#	Cell	Score	Soft	Acc	Thru	Avail
1	uint8|none|[T][S]|single|simd	1940.0	25.0	30.0	16865.5	46.0
2	float32|none|Step[T][S]|single|simd	1499.4	25.0	29.4	15798.3	38.0
3	ternary|none|step_sgd|single|simd	1408.1	24.3	29.3	15141.5	38.3
4	bfloat16|none|tween|single|simd	1340.6	25.0	27.9	12999.3	41.2
5	int4|none|sgd|single|simd	1542.8	25.0	27.7	16795.3	36.7
6	int2|none|step_sgd|single|simd	1349.2	24.3	27.7	15512.1	35.8
7	int2|none|MeshBP|single|simd	1306.6	25.0	27.1	13202.2	39.6
8	float32|none|[T][S]|single|simd	1345.9	25.0	27.1	12288.1	43.8
9	binary|none|tween_chain|single|simd	1343.7	25.0	26.9	14995.8	35.9
10	int8|none|MeshBP|single|simd	1299.9	25.0	26.6	12998.8	40.0
11	float32|none|step_tween|single|simd	1598.2	25.0	26.5	17748.8	36.0
12	float32|none|tween|single|simd	1821.4	25.0	26.5	18115.0	40.2
13	int8|none|step_sgd|single|simd	1465.5	25.0	25.7	16412.6	35.7
14	ternary|none|sgd|single|simd	1569.2	25.0	25.5	17291.1	36.3
15	int8|none|tween_chain|single|simd	1809.0	25.0	25.0	17265.2	41.9
16	int4|none|step_sgd|single|simd	1343.7	24.3	25.0	15209.3	36.3
17	float64|none|sgd|single|simd	1302.7	25.0	24.9	14245.9	36.6
18	int4|none|tween|single|simd	1509.7	25.0	24.8	16444.4	36.7
19	float32|none|sgd|single|simd	1693.5	25.0	24.6	19730.4	34.3
20	fp4|none|tween|single|simd	1403.1	25.0	24.5	15622.9	35.9

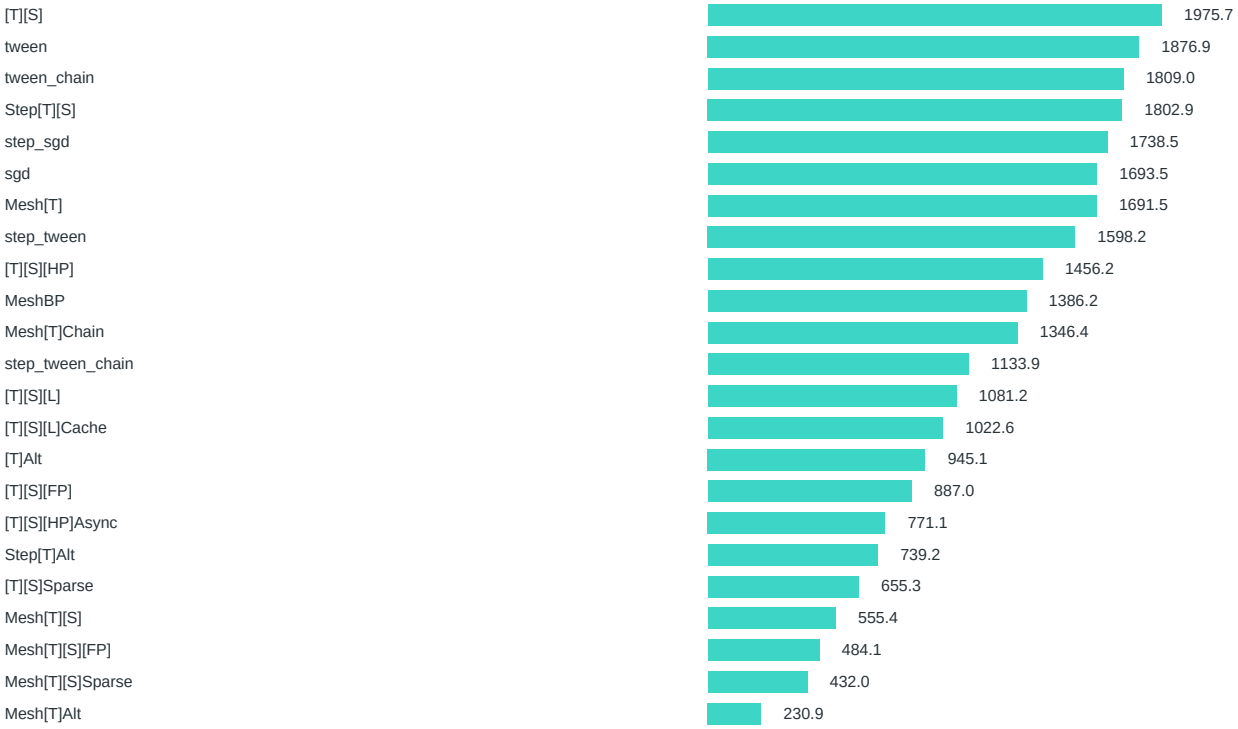
Top scores



float32|none|tween_chain|single|simd



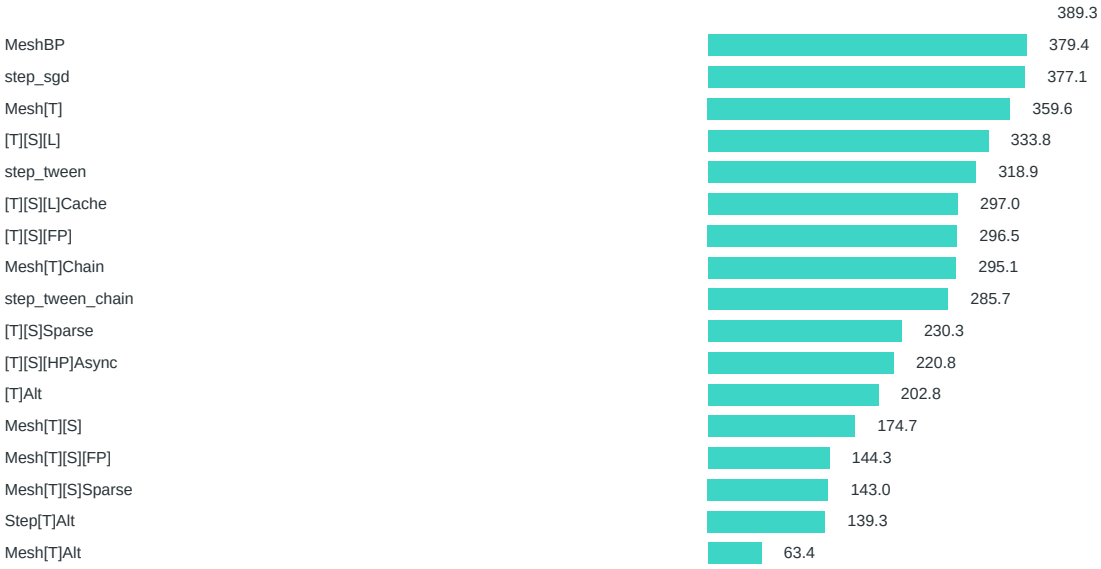
Best settings per mode



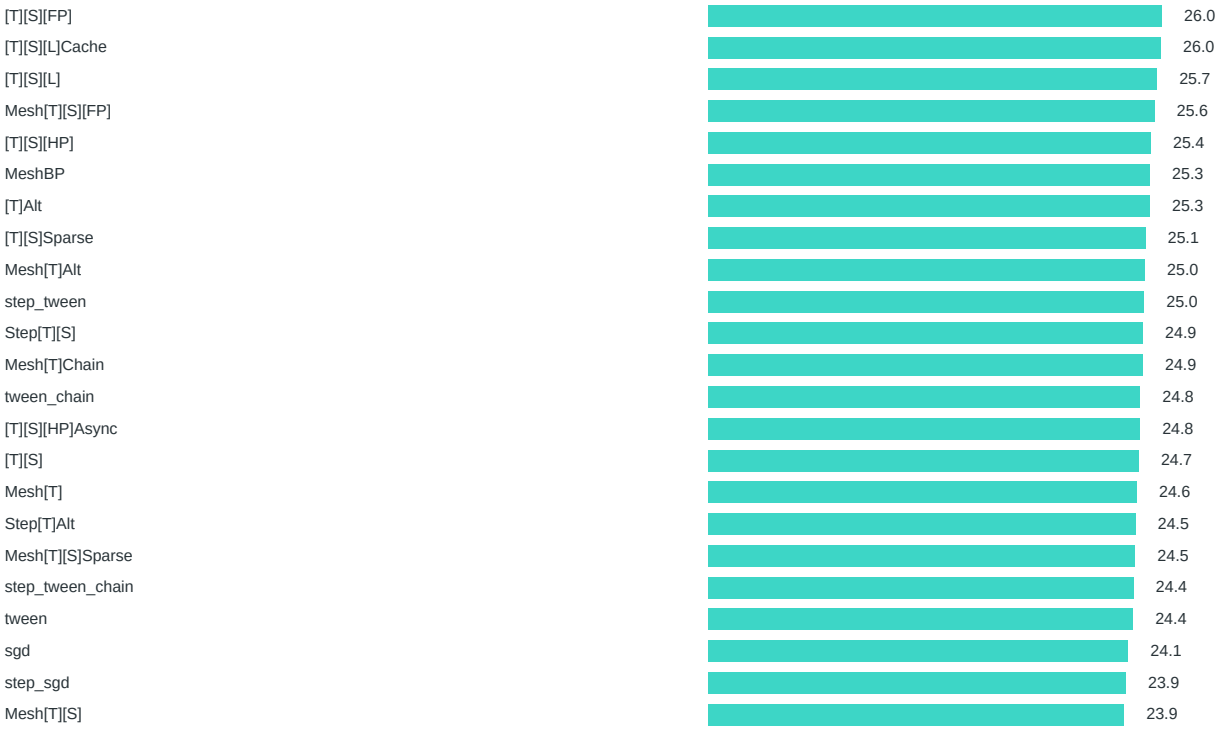
Mean Score by train mode



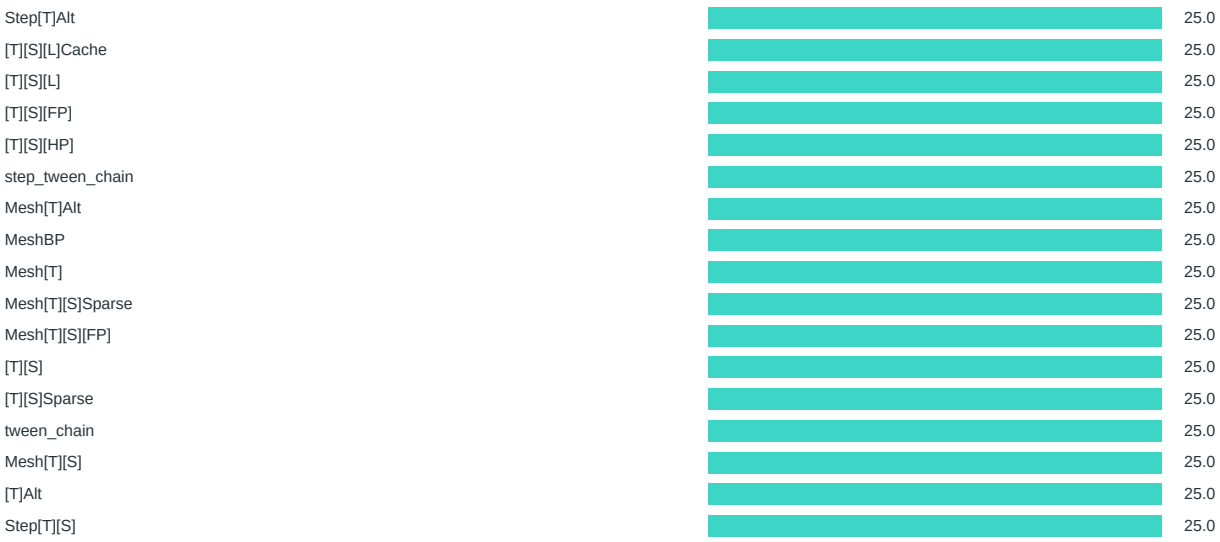




Mean hard Acc by train mode



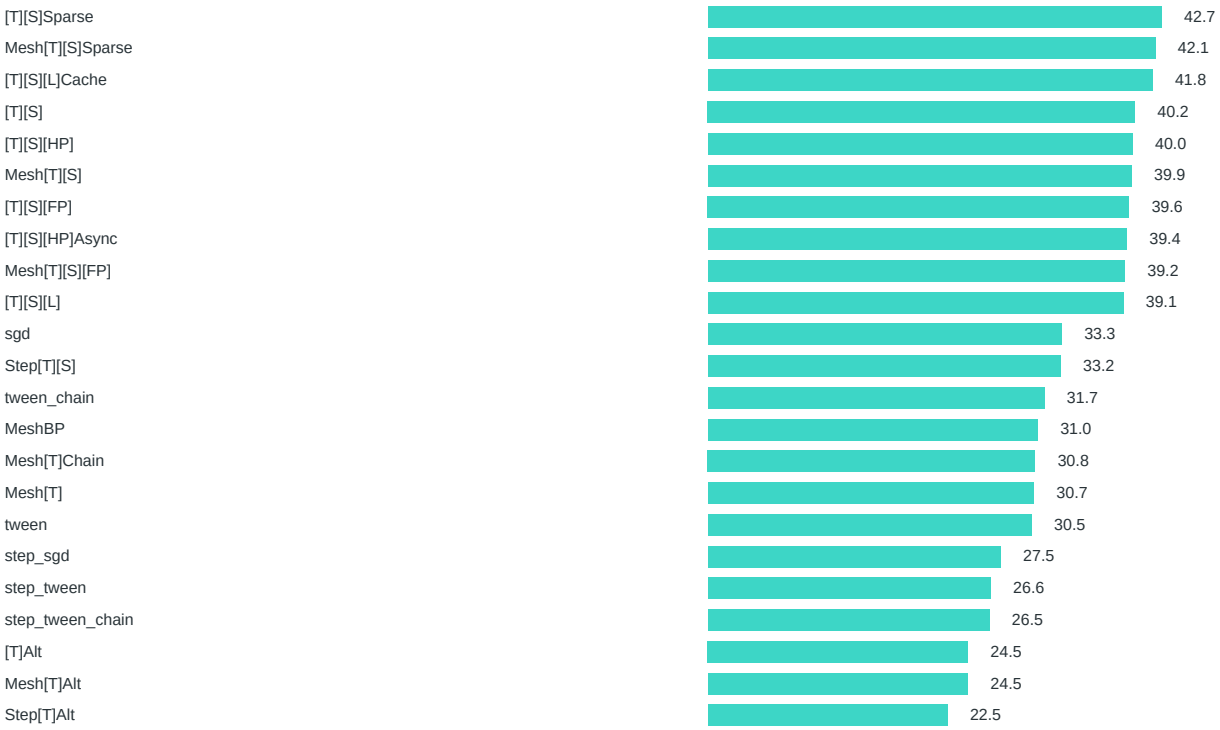
Mean SoftAcc by train mode



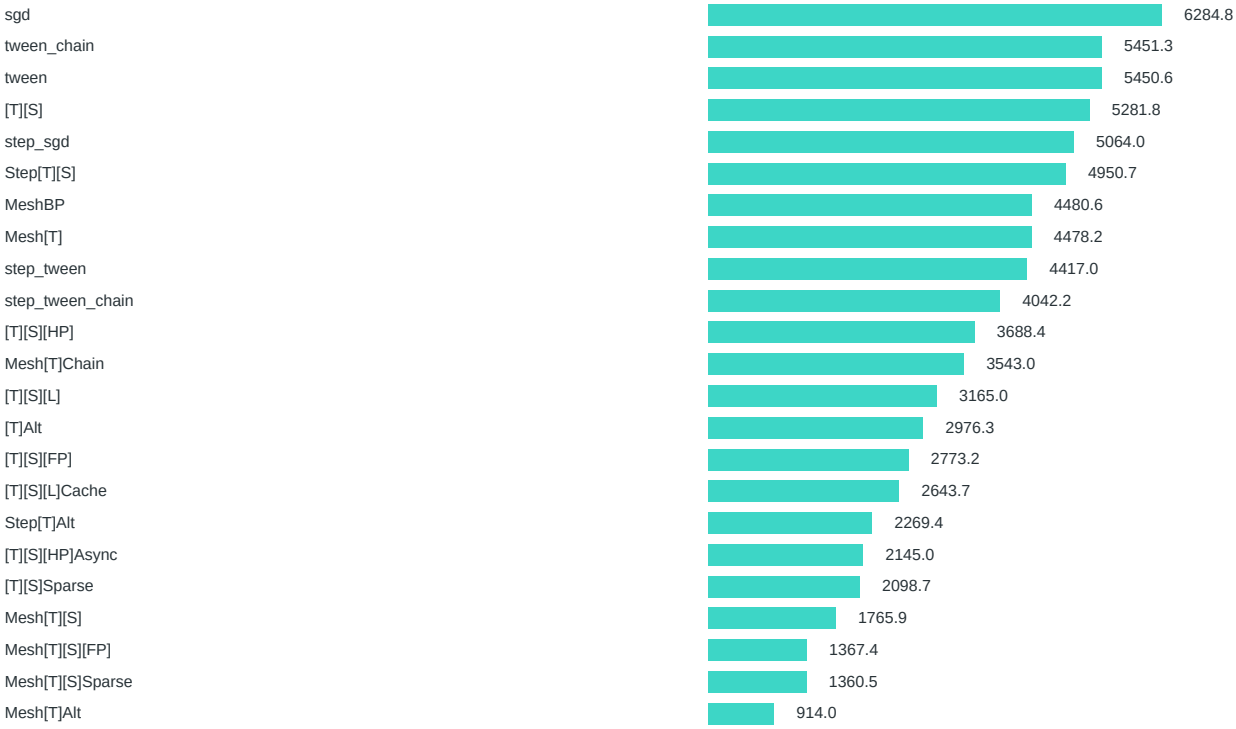




Mean Availability by train mode



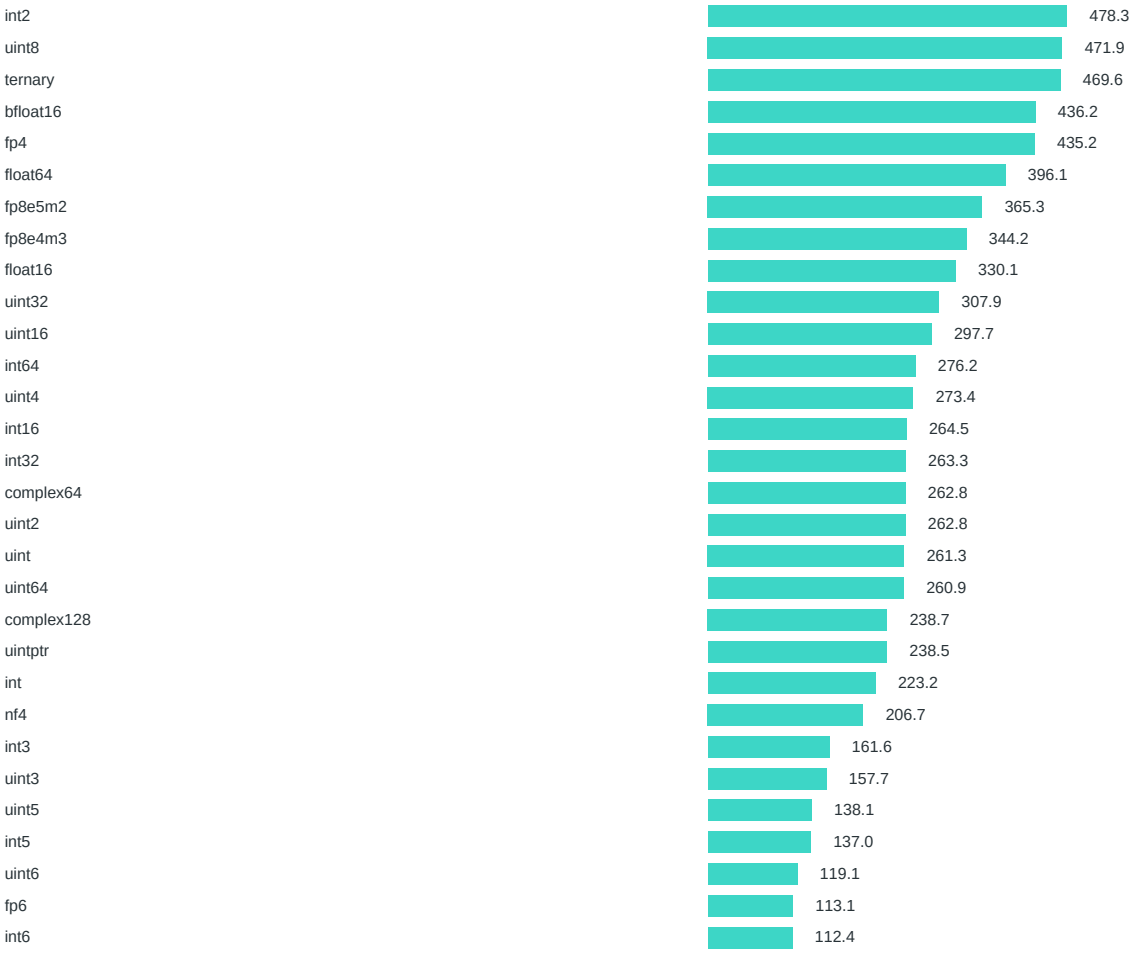
Mean Throughput by train mode



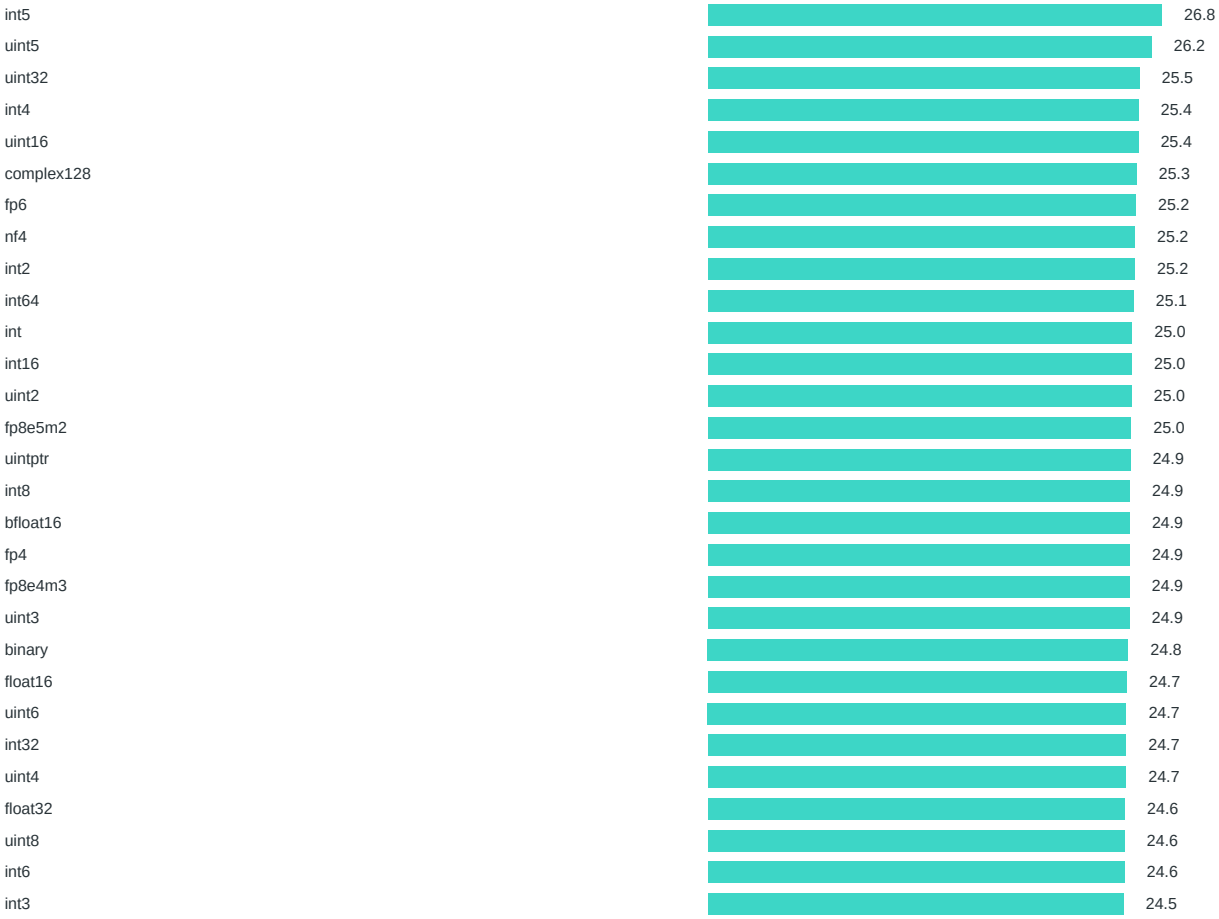
Mean Score by dtype



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	575	614	325	276	354	821	537	608	123	443	435	220
Mesh[T]	506	525	289	268	459	622	661	480	141	446	365	212
Mesh[T]Alt	97	75	48	52	70	116	84	66	24	66	49	63
Mesh[T]Chain	422	511	194	221	342	641	399	450	121	384	327	199
Mesh[T][S]	294	237	151	130	191	319	197	287	70	196	201	155
Mesh[T][S][FP]	207	149	128	139	170	287	130	202	55	165	202	136
Mesh[T][S]Sparse	208	233	162	136	144	260	147	202	54	175	164	112
Step[T]Alt	190	229	124	88	143	279	221	182	50	137	147	127
Step[T][S]	656	595	316	344	465	941	556	606	159	379	466	421
[T]Alt	271	362	161	174	228	551	194	280	65	218	230	139
[T][S]	743	971	340	647	496	802	652	648	233	506	560	358
[T][S][FP]	399	365	232	266	304	555	412	399	154	449	382	254
[T][S][HP]	418	560	285	392	461	637	662	579	163	374	549	358
[T][S][HP]Async	371	298	168	229	232	460	251	312	89	239	254	163
[T][S][L]	439	579	341	308	217	508	336	511	152	360	389	255
[T][S][L]Cache	445	420	284	173	372	638	327	373	101	332	351	217
[T][S]Sparse	385	357	164	184	211	433	298	290	97	290	330	137
sgd	702	806	383	508	589	945	685	769	203	679	675	417
step_sgd	546	733	293	213	444	803	381	456	89	414	466	228
step_tween	419	620	265	281	352	807	357	499	71	348	355	180
step_tween_chain	486	515	198	231	307	604	462	418	68	332	339	209
tween	703	637	282	338	520	1011	622	696	151	484	576	281
tween_chain	552	694	358	446	519	864	539	695	170	498	590	292

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	331	686	162	290	635	250	109	379	832	175	516	216
Mesh[T]	282	571	222	331	631	148	108	261	588	185	617	254
Mesh[T]Alt	61	96	27	67	94	26	15	64	134	42	96	71
Mesh[T]Chain	278	471	100	269	476	98	80	299	621	168	487	206
Mesh[T][S]	161	321	112	155	268	87	69	192	234	120	236	159
Mesh[T][S][FP]	109	201	67	115	222	63	55	139	272	107	191	119
Mesh[T][S]Sparse	137	214	65	103	234	67	60	140	199	80	244	126
Step[T]Alt	149	266	48	136	248	37	39	143	282	96	145	85
Step[T][S]	337	614	191	381	587	203	230	416	668	277	785	380
[T]Alt	143	344	107	179	338	80	63	202	403	85	336	182
[T][S]	454	800	386	475	852	250	209	415	680	563	648	641
[T][S][FP]	214	412	179	263	492	133	114	306	523	202	386	234
[T][S][HP]	308	587	258	410	463	195	179	279	630	307	581	368
[T][S][HP]Async	232	280	117	225	317	113	86	181	345	143	325	197
[T][S][L]	293	535	216	339	370	184	127	414	601	238	370	334
[T][S][L]Cache	284	413	142	229	376	142	131	336	542	201	478	222
[T][S]Sparse	192	369	113	276	346	104	66	223	320	163	337	185
sgd	464	696	232	427	898	241	180	398	846	371	891	485
step_sgd	297	756	194	254	691	134	132	342	790	226	747	219
step_tween	287	555	179	202	567	118	83	203	558	259	547	353
step_tween_chain	263	509	153	204	554	112	82	227	355	196	387	209
tween	388	701	231	363	812	141	171	401	813	263	767	368
tween_chain	421	606	215	364	669	224	196	392	967	287	682	394

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	384	301	184	436	305	176	142	348	500	210
Mesh[T]	297	306	191	419	324	144	122	390	667	195
Mesh[T]Alt	82	78	37	60	57	17	18	49	105	54
Mesh[T]Chain	276	230	135	278	241	113	127	225	456	187
Mesh[T][S]	185	151	74	162	171	104	71	148	205	127
Mesh[T][S][FP]	171	121	58	155	127	51	63	118	256	159
Mesh[T][S]Sparse	122	121	92	130	144	64	72	136	209	105
Step[T]Alt	157	140	69	124	125	42	33	178	164	116
Step[T][S]	486	299	178	565	359	224	143	333	721	321
[T]Alt	163	212	95	150	209	62	91	137	243	197
[T][S]	631	442	263	483	591	276	300	402	1202	444
[T][S][FP]	269	294	195	303	258	148	92	262	399	229
[T][S][HP]	363	458	185	373	308	170	134	434	442	369
[T][S][HP]Async	201	214	118	218	143	116	94	180	368	228
[T][S][L]	320	363	192	342	361	194	146	246	497	273
[T][S][L]Cache	314	254	207	327	221	151	152	283	352	305
[T][S]Sparse	203	209	93	292	182	126	99	208	331	215
sgd	507	390	276	544	422	256	178	421	765	436
step_sgd	358	252	171	303	352	153	136	303	646	299
step_tween	277	278	200	414	210	100	111	187	432	168
step_tween_chain	189	199	168	248	310	118	83	251	507	220
tween	404	372	186	367	465	179	163	285	703	336
tween_chain	490	360	259	387	402	192	167	478	685	295

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

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	24	25	24	25	24	25	24	25	23	25	25	24
step_sgd	24	24	24	23	23	23	23	23	24	23	23	24
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	24	25	25	25	25	24	25	25	24	25	25
tween_chain	25	25	25	25	25	25	25	25	25	25	25	25

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

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

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T]Chain	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S]Sparse	25	25	25	25	25	25	25	25	25	25	25	25
Step[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
Step[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
[T]Alt	25	25	25	25	25	25	25	25	25	25	25	25
[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]Async	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][L]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][L]Cache	25	25	25	25	25	25	25	25	25	25	25	25
[T][S]Sparse	25	25	25	25	25	25	25	25	25	25	25	25
sgd	24	24	24	24	23	24	24	24	24	24	24	24
step_sgd	24	24	24	23	23	24	23	25	25	23	24	23
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	24	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	24	23	24	24	24	25	23	23	24	24
step_sgd	24	24	24	24	24	23	23	23	24	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	24	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	33	32	32	31	30	35	34	34	26	32	33	28
Mesh[T]	32	32	32	31	32	33	36	31	27	35	32	28
Mesh[T]Alt	23	23	23	26	24	28	29	22	22	23	24	27
Mesh[T]Chain	34	33	31	32	32	35	34	33	29	33	30	29
Mesh[T][S]	43	37	40	41	40	42	40	40	36	42	39	41
Mesh[T][S][FP]	41	37	42	42	40	41	39	40	34	39	39	40
Mesh[T][S]Sparse	44	43	44	44	42	44	41	44	39	42	43	44
Step[T]Alt	23	24	22	22	24	24	26	21	19	24	23	23
Step[T][S]	35	35	33	32	35	37	34	34	29	34	35	33
[T]Alt	26	27	23	27	23	28	26	25	22	24	24	23
[T][S]	43	42	39	43	40	41	39	37	39	40	39	41
[T][S][FP]	40	41	41	41	37	42	39	39	37	40	41	41
[T][S][HP]	40	40	41	42	41	42	42	42	36	41	40	44
[T][S][HP]Async	40	42	41	42	40	42	41	38	38	39	39	41
[T][S][L]	37	40	41	39	39	37	38	39	35	38	40	40
[T][S][L]Cache	43	44	42	41	40	45	42	41	40	42	42	42
[T][S]Sparse	45	45	42	41	42	47	43	44	38	44	44	42
sgd	34	35	32	36	35	34	35	33	31	35	35	33
step_sgd	29	32	26	25	29	31	28	27	25	28	29	26
step_tween	28	33	27	28	27	31	28	28	22	25	26	27
step_tween_chain	28	29	26	27	28	32	32	28	20	26	27	26
tween	34	31	29	31	32	35	33	32	25	32	33	29
tween_chain	33	31	32	33	34	34	34	33	26	34	35	31

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

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	32	31	28	34	30	30	26	33	33	30
Mesh[T]	33	30	28	33	30	27	26	32	33	26
Mesh[T]Alt	26	24	24	24	25	20	21	24	26	24
Mesh[T]Chain	32	31	28	33	31	28	27	30	33	30
Mesh[T][S]	41	40	40	41	42	38	37	40	39	41
Mesh[T][S][FP]	41	41	37	40	42	38	36	39	38	41
Mesh[T][S]Sparse	40	43	41	42	43	39	40	44	46	40
Step[T]Alt	24	23	22	26	23	18	17	25	25	22
Step[T][S]	35	34	29	35	33	31	28	32	34	34
[T]Alt	27	25	23	24	26	21	23	25	25	24
[T][S]	41	41	39	42	42	39	37	39	42	41
[T][S][FP]	39	41	38	41	41	39	38	38	40	41
[T][S][HP]	39	43	37	39	41	38	38	40	40	41
[T][S][HP]Async	38	39	39	41	39	37	37	39	42	41
[T][S][L]	44	42	38	40	41	37	38	41	38	39
[T][S][L]Cache	41	42	42	42	42	40	40	43	43	43
[T][S]Sparse	43	42	41	43	41	41	42	42	44	42
sgd	33	33	31	35	34	32	29	32	35	33
step_sgd	28	27	25	26	28	25	25	25	32	29
step_tween	25	27	25	30	24	21	23	25	29	23
step_tween_chain	24	26	25	26	26	25	23	24	29	26
tween	31	29	26	32	32	27	25	30	33	30
tween_chain	33	31	29	32	32	28	28	33	37	30

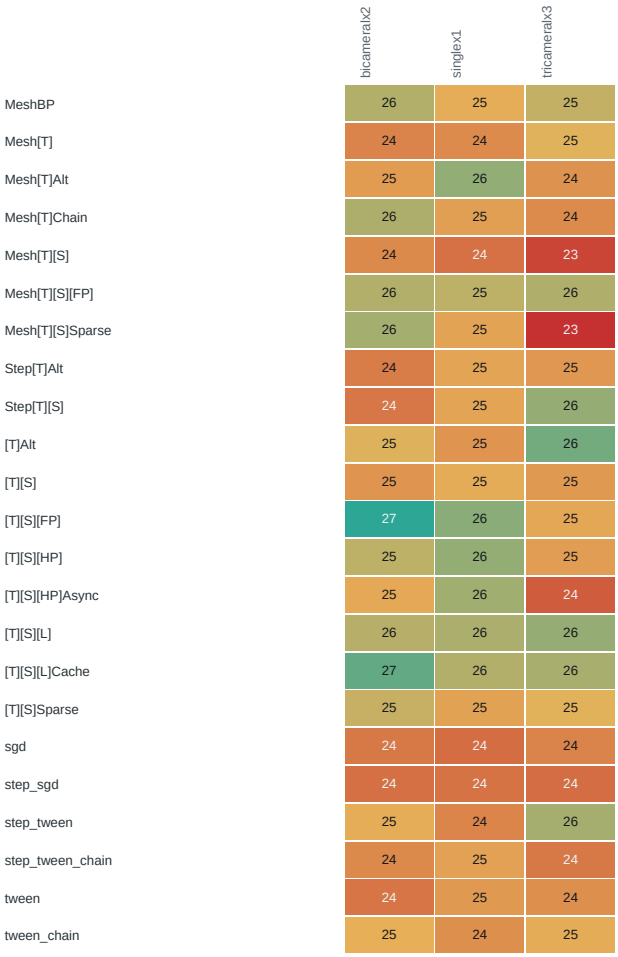
Mean Score, every mode x arch

Mean Score, every mode x arch

	bicameralx2	singlex1	tricameralx3
MeshBP	224	688	227
Mesh[T]	222	696	161
Mesh[T]Alt	36	130	25
Mesh[T]Chain	187	573	126
Mesh[T][S]	119	317	89
Mesh[T][S][FP]	88	270	76
Mesh[T][S]Sparse	111	239	79
Step[T]Alt	69	292	57
Step[T][S]	259	822	207
[T]Alt	102	426	80
[T][S]	411	825	385
[T][S][FP]	210	528	151
[T][S][HP]	254	720	194
[T][S][HP]Async	150	402	110
[T][S][L]	201	647	154
[T][S][L]Cache	201	540	150
[T][S]Sparse	169	386	135
sgd	354	918	288
step_sgd	212	760	159
step_tween	187	618	152
step_tween_chain	173	546	139
tween	258	876	206
tween_chain	279	847	229

Mean hard Acc, every mode x arch

Mean hard Acc, every mode x arch



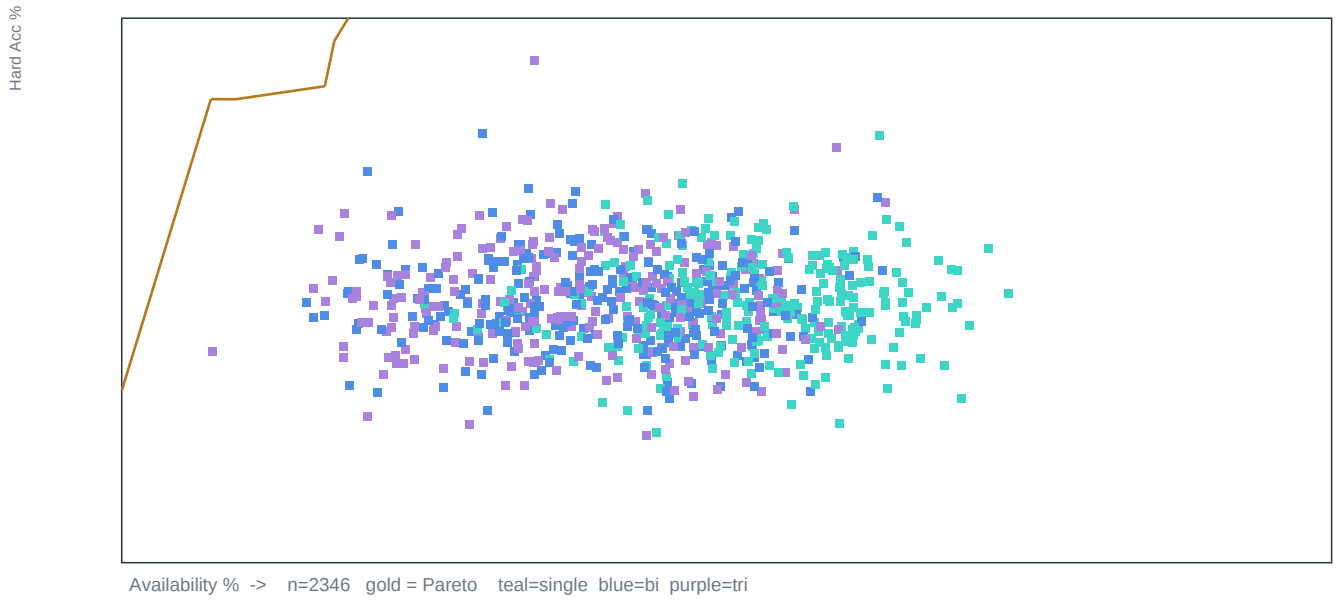
	bicameralx2	singlex1	tricameralx3
MeshBP	26	25	25
Mesh[T]	24	24	25
Mesh[T]Alt	25	26	24
Mesh[T]Chain	26	25	24
Mesh[T][S]	24	24	23
Mesh[T][S][FP]	26	25	26
Mesh[T][S]Sparse	26	25	23
Step[T]Alt	24	25	25
Step[T][S]	24	25	26
[T]Alt	25	25	26
[T][S]	25	25	25
[T][S][FP]	27	26	25
[T][S][HP]	25	26	25
[T][S][HP]Async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

Mean Avail, every mode x arch

Mean Avail, every mode x arch

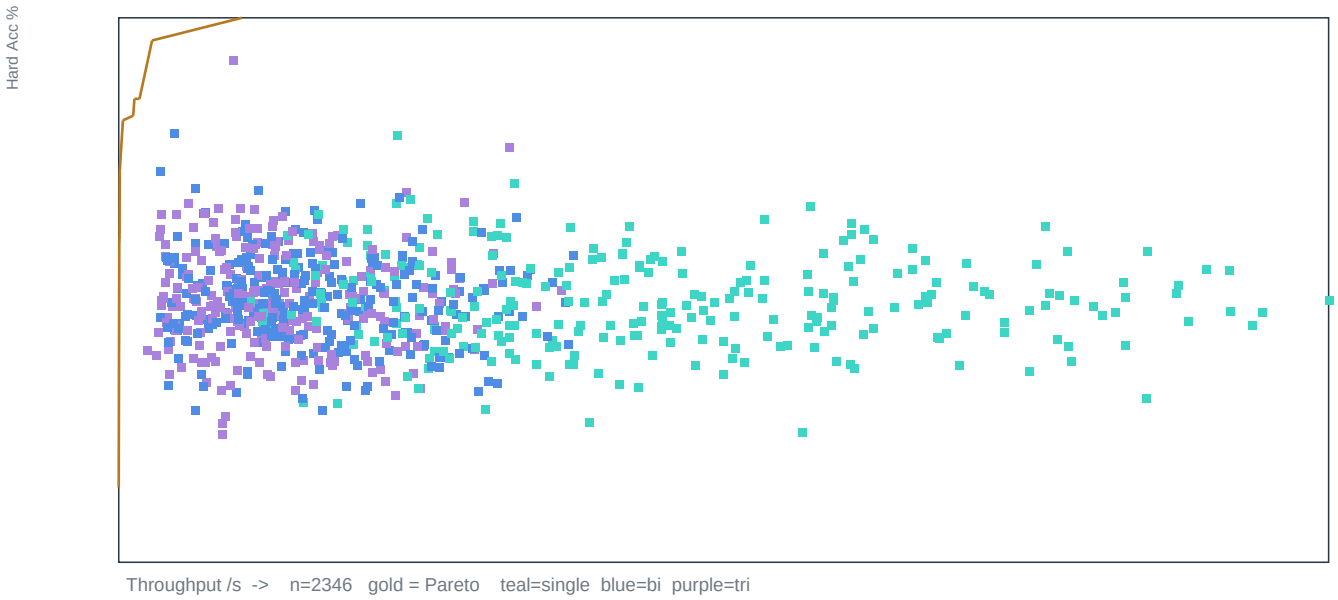
	bicameralx2	singlex1	tricameralx3
MeshBP	30	35	29
Mesh[T]	30	34	28
Mesh[T]Alt	23	29	22
Mesh[T]Chain	30	35	28
Mesh[T][S]	39	43	38
Mesh[T][S][FP]	38	42	38
Mesh[T][S]Sparse	42	43	41
Step[T]Alt	21	27	20
Step[T][S]	32	37	30
[T]Alt	22	30	22
[T][S]	40	43	38
[T][S][FP]	38	43	38
[T][S][HP]	38	44	38
[T][S][HP]Async	39	42	37
[T][S][L]	37	45	36
[T][S][L]Cache	40	46	40
[T][S]Sparse	42	44	42
sgd	33	35	32
step_sgd	26	32	24
step_tween	25	31	24
step_tween_chain	25	30	24
tween	29	35	28
tween_chain	30	36	30

Pillars - Availability vs hard Acc

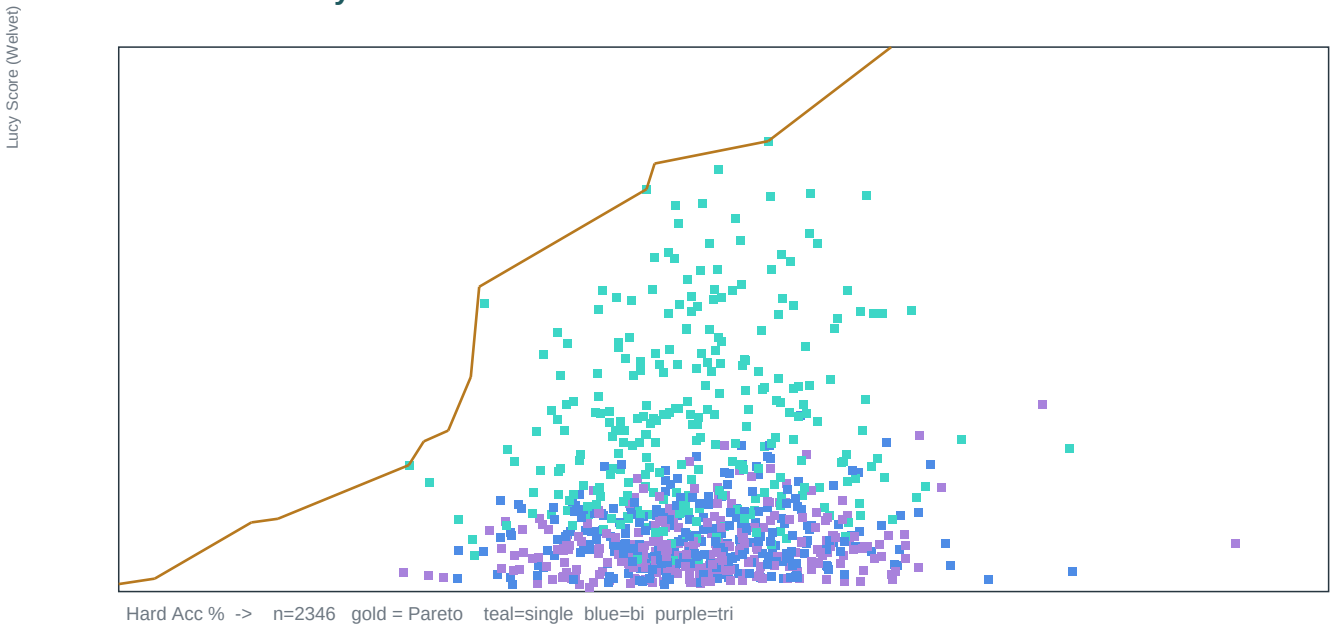


Pillars - Throughput vs hard Acc

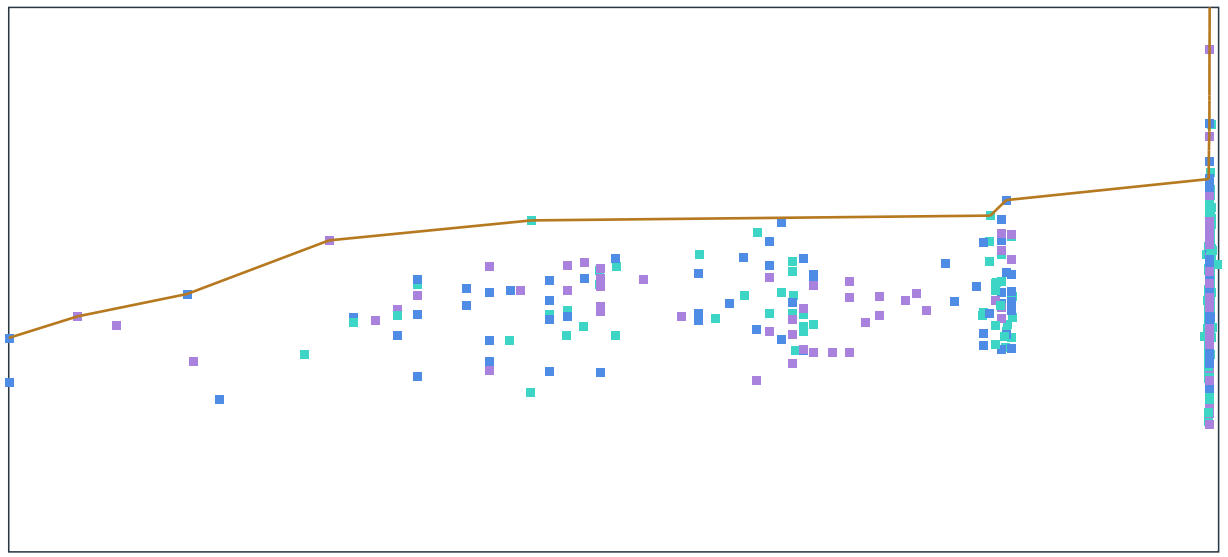
Pillars - Throughput vs hard Acc



Pareto - hard Acc vs Lucy Score

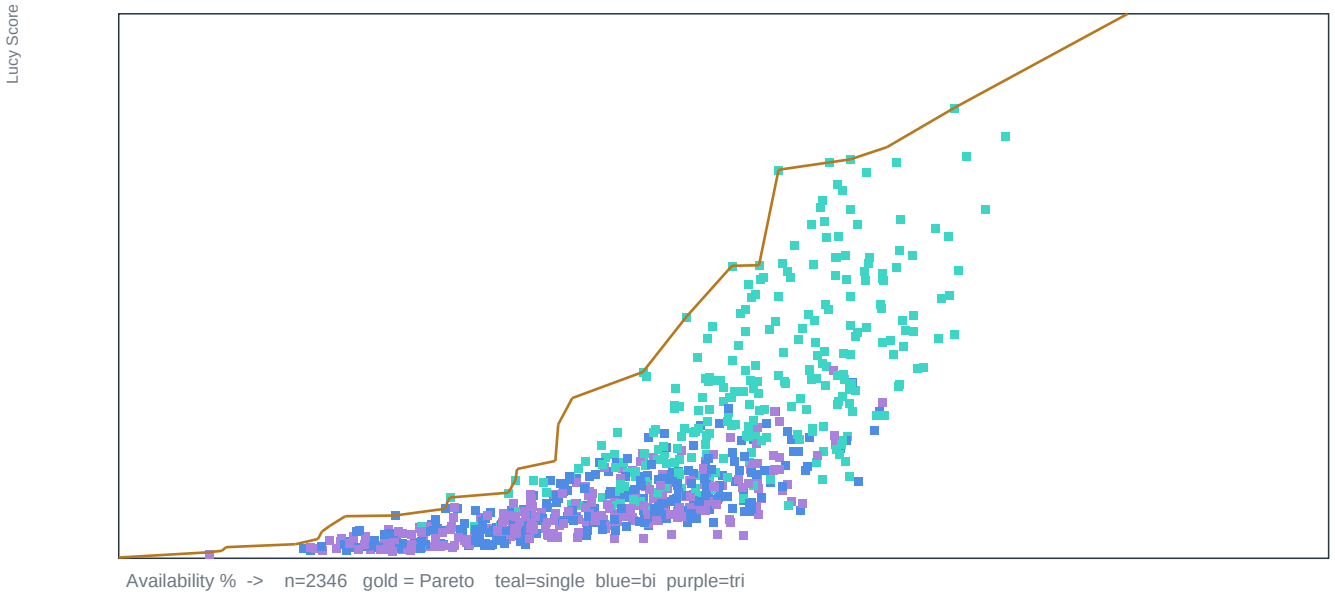


SoftAcc (serve-confidence) vs hard Acc

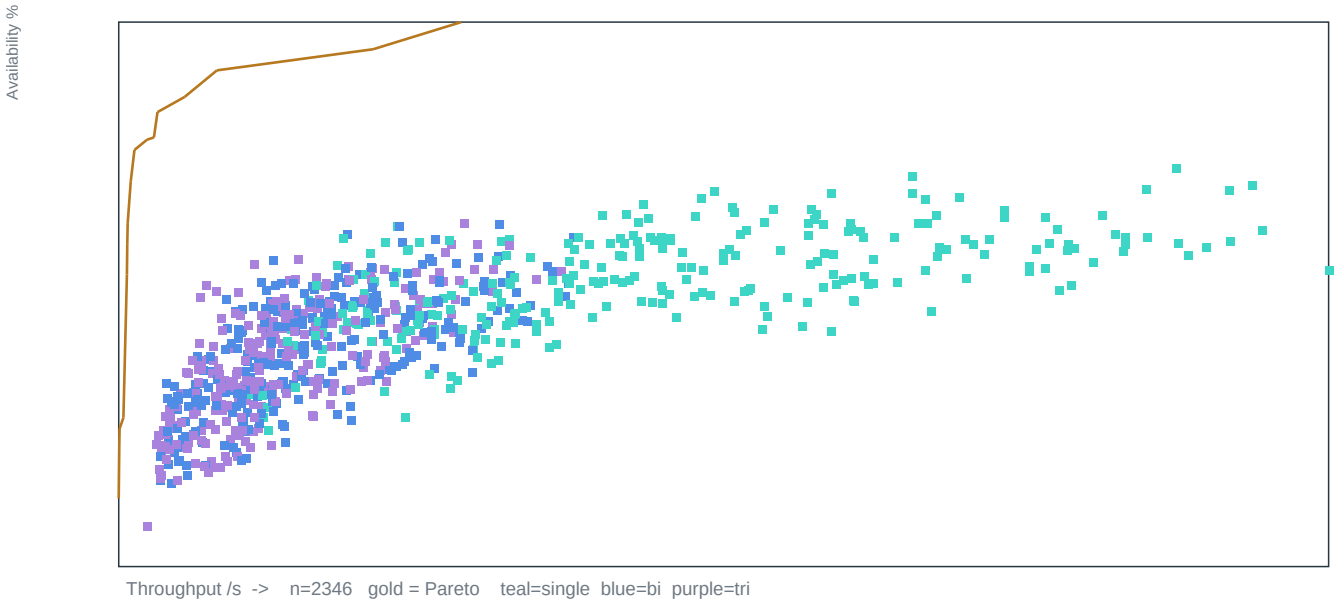



SoftAcc % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

Avail vs Lucy Score (duty clock)



Pillars - Throughput vs Availability



AdaptPct vs hard Acc



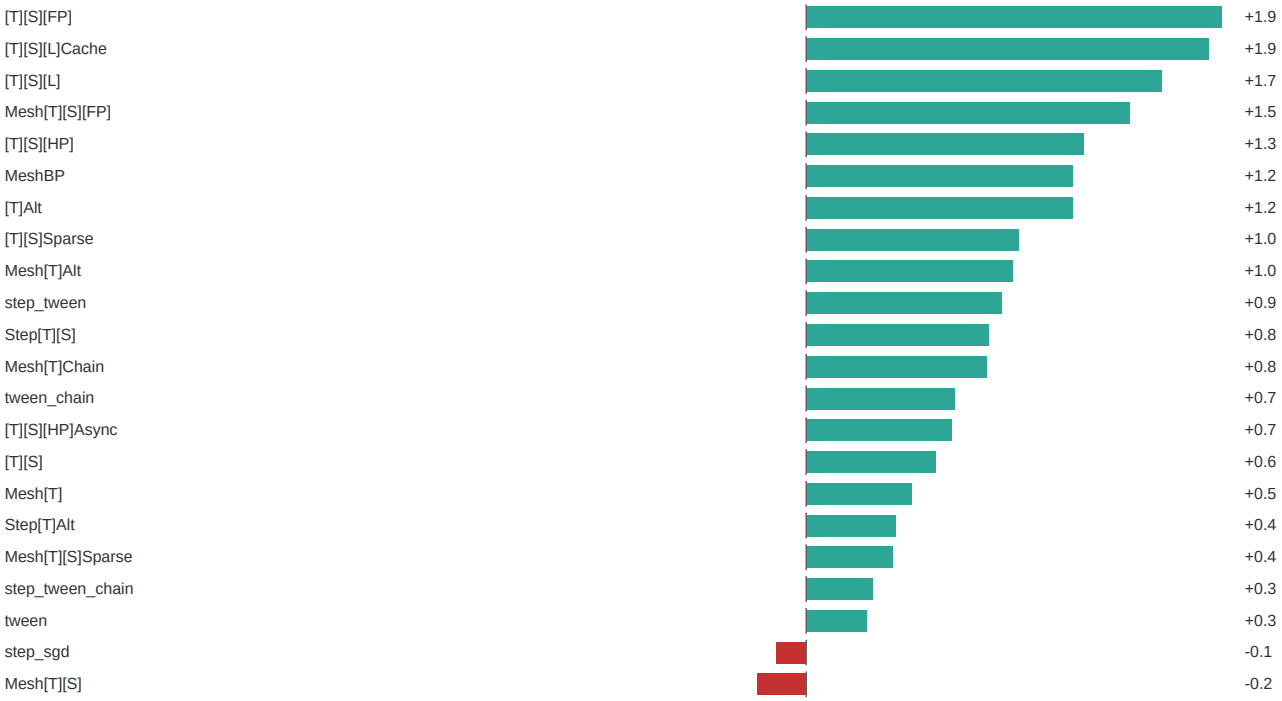

AdaptPct % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

vs sgd - matched dtype x format x arch

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

mode	n	AccD	Acc win%	SoftD	AvailD	ThruD	ScoreD	Score win%
[T][S][FP]	102	+1.9	60	+1.0	+6.3	-3512	-223.7	3
[T][S][L]Cache	102	+1.9	54	+1.0	+8.5	-3641	-223.1	1
[T][S][L]	102	+1.7	58	+1.0	+5.8	-3120	-186.3	4
Mesh[T][S][FP]	102	+1.5	58	+1.0	+5.9	-4917	-375.8	0
[T][S][HP]	102	+1.3	55	+1.0	+6.7	-2596	-130.8	12
MeshBP	102	+1.2	57	+1.0	-2.3	-1804	-140.7	11
[T]Alt	102	+1.2	59	+1.0	-8.8	-3308	-317.4	0
[T][S]Sparse	102	+1.0	60	+1.0	+9.4	-4186	-289.9	0
Mesh[T]Alt	102	+1.0	54	+1.0	-8.8	-5371	-456.7	0
step_tween	102	+0.9	52	+1.0	-6.7	-1868	-201.3	3
Step[T][S]	102	+0.8	52	+1.0	-0.1	-1334	-90.7	15
Mesh[T]Chain	102	+0.8	50	+1.0	-2.5	-2742	-225.0	0
tween_chain	102	+0.7	54	+1.0	-1.6	-833	-68.6	20
[T][S][HP]Async	102	+0.7	53	+1.0	+6.1	-4140	-299.3	0
[T][S]	102	+0.6	49	+1.0	+6.9	-1003	+20.0	59
Mesh[T]	102	+0.5	46	+1.0	-2.6	-1807	-160.5	5
Step[T]Alt	102	+0.4	47	+1.0	-10.8	-4015	-380.8	0
Mesh[T][S]Sparse	102	+0.4	42	+1.0	+8.8	-4924	-377.1	0
step_tween_chain	102	+0.3	46	+1.0	-6.8	-2243	-234.4	1
tween	102	+0.3	43	+0.8	-2.8	-834	-73.7	22
step_sgd	102	-0.1	37	-0.3	-5.8	-1221	-143.0	9
Mesh[T][S]	102	-0.2	44	+1.0	+6.6	-4519	-345.4	0

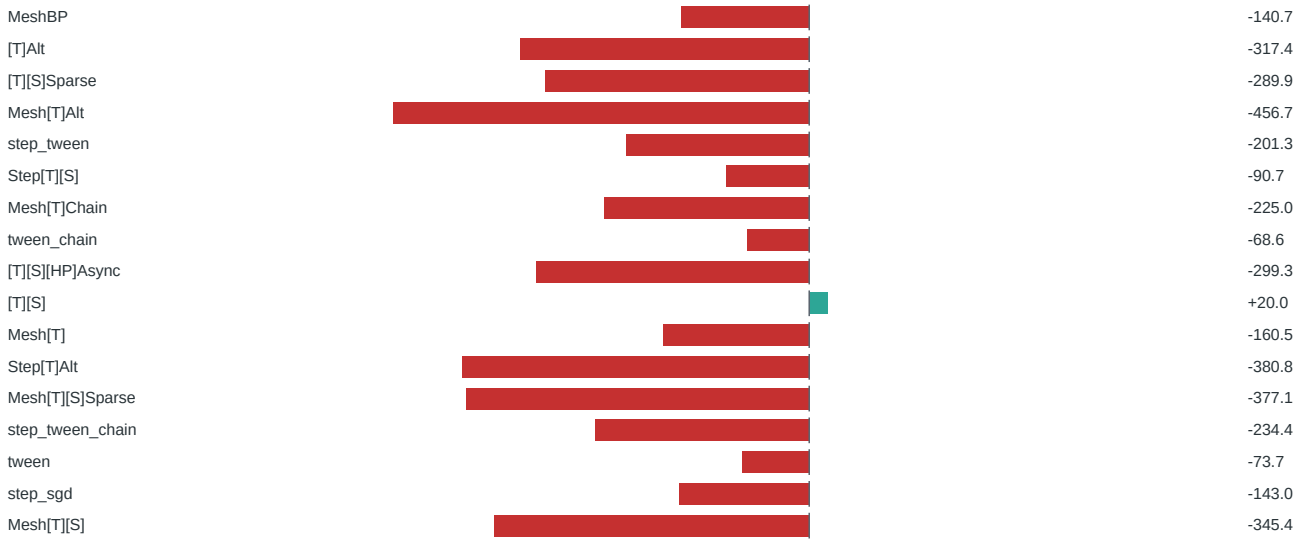
mean AccD vs sgd



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

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

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

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

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	+4	+3	+1	+4	-1	+4	+1	+2	+0
Mesh[T]	-4	+5	-1	+1	+4	-1	+4	+4	+4	-1
Mesh[T]Alt	+1	+7	+2	+2	+3	-5	+5	+1	+3	+1
Mesh[T]Chain	-3	+3	-0	+2	+4	-0	+3	+3	+2	-1
Mesh[T][S]	+2	+4	-4	-1	+1	+3	+1	+3	-0	-3
Mesh[T][S][FP]	+2	+4	+2	+4	+1	-7	+2	+1	+8	+5
Mesh[T][S]Sparse	-0	-1	+1	-0	+2	+1	+5	+2	+0	-2
Step[T]Alt	+0	+5	+1	-2	-1	+3	+0	-2	-6	+5
Step[T][S]	-1	-0	+1	+6	+3	+1	+3	-2	+6	+1
[T]Alt	-7	+8	+1	-0	+7	+0	+1	-2	-0	+4
[T][S]	+4	+4	+1	+1	+6	+0	+3	+4	+5	-1
[T][S][FP]	+1	+8	+6	+2	+2	-1	-2	+3	+1	+0
[T][S][HP]	-2	+8	+1	-0	-0	-4	-1	+5	-0	+4
[T][S][HP]Async	-1	+7	-2	+1	-2	-0	+2	-1	+2	+7
[T][S][L]	-5	+7	-0	+5	+7	+4	+2	-3	+3	-1
[T][S][L]Cache	+3	+3	+8	+6	+2	-1	+3	+3	+0	+2
[T][S]Sparse	-2	+7	-3	+5	+2	+0	+1	+3	+2	+4
step_sgd	-2	+3	-2	-1	+5	-2	+1	+2	-0	-0
step_tween	+1	+5	+0	+4	+2	-0	+5	+1	-2	+3
step_tween_chain	-3	+1	+3	+1	+6	-3	-1	+1	+3	+1
tween	-2	+4	-0	-1	+4	-2	+2	+1	+0	-1
tween_chain	-1	+3	+1	-1	+2	-0	+2	+4	-1	-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	-127	-192	-58	-232	-235	-124	-148	-161	-79	-236	-240	-197
Mesh[T]	-196	-281	-95	-240	-130	-323	-25	-289	-61	-233	-310	-205
Mesh[T]Alt	-605	-731	-336	-456	-519	-829	-601	-703	-179	-613	-627	-354
Mesh[T]Chain	-280	-295	-189	-287	-247	-304	-286	-319	-82	-296	-348	-218
Mesh[T][S]	-408	-569	-232	-378	-399	-626	-488	-482	-133	-483	-474	-262
Mesh[T][S][FP]	-495	-657	-255	-369	-419	-658	-556	-567	-148	-514	-474	-281
Mesh[T][S]Sparse	-494	-572	-221	-372	-446	-685	-538	-567	-148	-504	-511	-305
Step[T]Alt	-512	-577	-259	-420	-446	-666	-464	-587	-153	-543	-528	-290
Step[T][S]	-46	-211	-68	-164	-124	-5	-129	-163	-44	-300	-209	+4
[T]Alt	-431	-444	-222	-334	-361	-394	-492	-489	-137	-461	-445	-278
[T][S]	+41	+165	-43	+139	-93	-143	-33	-120	+31	-174	-116	-59
[T][S][FP]	-302	-440	-151	-242	-285	-390	-273	-370	-48	-231	-293	-163
[T][S][HP]	-284	-245	-98	-116	-128	-309	-23	-190	-40	-305	-126	-59
[T][S][HP]Async	-331	-507	-215	-279	-357	-485	-435	-457	-113	-440	-422	-254
[T][S][L]	-263	-227	-42	-200	-372	-437	-349	-258	-51	-319	-287	-162
[T][S][L]Cache	-257	-386	-100	-335	-217	-307	-358	-395	-102	-347	-325	-200
[T][S]Sparse	-317	-449	-219	-324	-378	-512	-387	-479	-106	-390	-346	-280
step_sgd	-156	-73	-90	-295	-145	-142	-304	-313	-113	-266	-210	-189
step_tween	-283	-186	-118	-227	-237	-139	-328	-270	-132	-331	-320	-237
step_tween_chain	-216	-291	-185	-277	-282	-342	-223	-351	-135	-347	-336	-208
tween	+1	-169	-101	-170	-69	+66	-63	-73	-52	-196	-100	-136
tween_chain	-150	-112	-26	-62	-70	-81	-146	-74	-32	-181	-85	-125

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	-133	-10	-70	-137	-263	+9	-71	-19	-14	-196	-375	-269
Mesh[T]	-182	-124	-10	-96	-267	-94	-72	-137	-257	-186	-274	-232
Mesh[T]Alt	-403	-600	-205	-360	-804	-216	-165	-334	-712	-329	-794	-414
Mesh[T]Chain	-186	-224	-132	-159	-422	-143	-100	-100	-225	-203	-404	-279
Mesh[T][S]	-303	-375	-119	-272	-630	-154	-111	-206	-612	-251	-655	-326
Mesh[T][S][FP]	-355	-495	-165	-313	-676	-178	-125	-259	-574	-264	-700	-366
Mesh[T][S]Sparse	-327	-481	-167	-324	-664	-174	-120	-258	-647	-291	-647	-359
Step[T]Alt	-315	-429	-184	-291	-651	-204	-141	-256	-564	-275	-746	-401
Step[T][S]	-127	-82	-41	-46	-311	-38	+50	+17	-177	-94	-106	-105
[T]Alt	-321	-352	-125	-248	-560	-162	-117	-196	-443	-286	-555	-303
[T][S]	-10	+104	+154	+48	-46	+9	+29	+17	-166	+192	-243	+156
[T][S][FP]	-250	-284	-53	-165	-406	-109	-66	-92	-322	-169	-505	-252
[T][S][HP]	-156	-109	+26	-17	-435	-47	-1	-119	-216	-64	-310	-118
[T][S][HP]Async	-232	-416	-115	-202	-581	-129	-94	-217	-501	-228	-565	-289
[T][S][L]	-171	-161	-16	-88	-528	-58	-53	+15	-244	-133	-521	-151
[T][S][L]Cache	-180	-283	-90	-198	-522	-99	-49	-62	-303	-170	-412	-263
[T][S]Sparse	-272	-327	-119	-151	-552	-137	-114	-175	-526	-208	-554	-300
step_sgd	-167	+60	-38	-173	-207	-107	-48	-56	-56	-145	-144	-266
step_tween	-177	-141	-53	-226	-331	-124	-97	-195	-288	-112	-344	-132
step_tween_chain	-201	-187	-79	-223	-344	-129	-98	-171	-491	-176	-504	-276
tween	-76	+5	-1	-65	-86	-100	-9	+3	-33	-108	-124	-118
tween_chain	-43	-89	-17	-63	-229	-17	+16	-6	+121	-84	-208	-91

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	-123	-88	-92	-108	-116	-80	-36	-73	-265	-226
Mesh[T]	-210	-84	-85	-125	-98	-112	-56	-30	-99	-241
Mesh[T]Alt	-424	-312	-238	-484	-365	-239	-160	-372	-660	-382
Mesh[T]Chain	-231	-159	-141	-266	-181	-143	-50	-196	-309	-248
Mesh[T][S]	-322	-239	-202	-382	-250	-152	-107	-273	-560	-308
Mesh[T][S][FP]	-336	-268	-217	-389	-295	-205	-114	-303	-509	-277
Mesh[T][S]Sparse	-384	-268	-184	-414	-278	-192	-106	-284	-556	-330
Step[T]Alt	-349	-250	-207	-420	-297	-214	-145	-243	-601	-320
Step[T][S]	-21	-91	-98	+21	-63	-33	-35	-88	-44	-115
[T]Alt	-343	-178	-181	-394	-212	-194	-86	-284	-523	-239
[T][S]	+125	+52	-13	-61	+170	+20	+122	-19	+437	+8
[T][S][FP]	-238	-95	-80	-241	-163	-108	-85	-159	-366	-207
[T][S][HP]	-143	+68	-91	-171	-114	-86	-44	+13	-323	-67
[T][S][HP]Async	-305	-176	-157	-326	-278	-140	-83	-241	-398	-208
[T][S][L]	-186	-27	-84	-202	-61	-62	-32	-175	-269	-162
[T][S][L]Cache	-192	-135	-69	-217	-200	-105	-25	-138	-413	-130
[T][S]Sparse	-303	-181	-183	-251	-240	-131	-78	-213	-434	-221
step_sgd	-149	-138	-105	-241	-70	-103	-42	-117	-119	-136
step_tween	-229	-112	-76	-130	-212	-156	-66	-233	-333	-268
step_tween_chain	-317	-190	-108	-296	-112	-138	-95	-170	-258	-215
tween	-103	-18	-89	-177	+44	-77	-15	-136	-62	-100
tween_chain	-17	-29	-16	-157	-20	-64	-11	+58	-81	-141

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

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

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

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

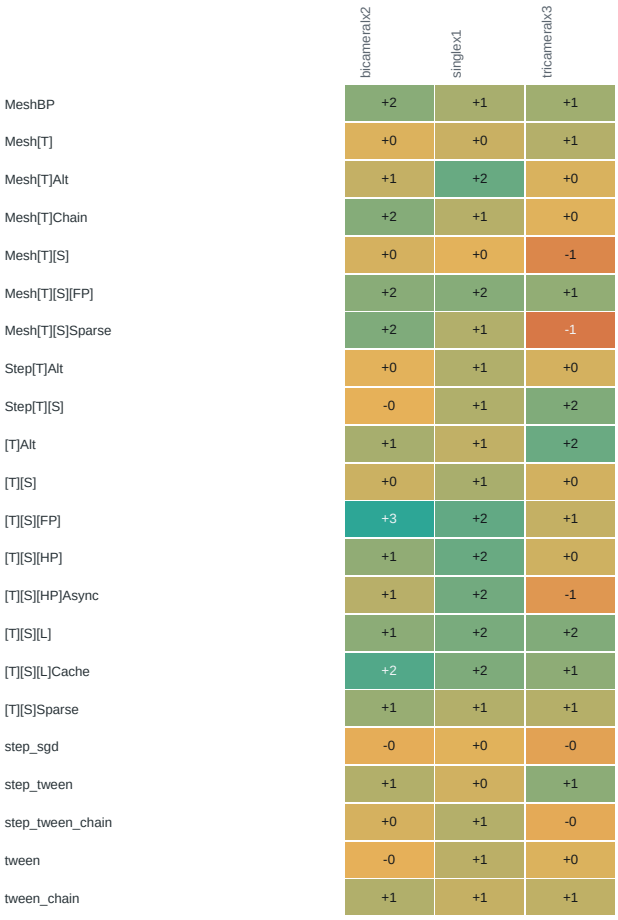
AvailD vs sgd, every mode x dtype (cols 25-34)

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

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

AccD vs sgd, every mode x arch

AccD vs sgd, every mode x arch



Family collapse - Step* vs non-Step

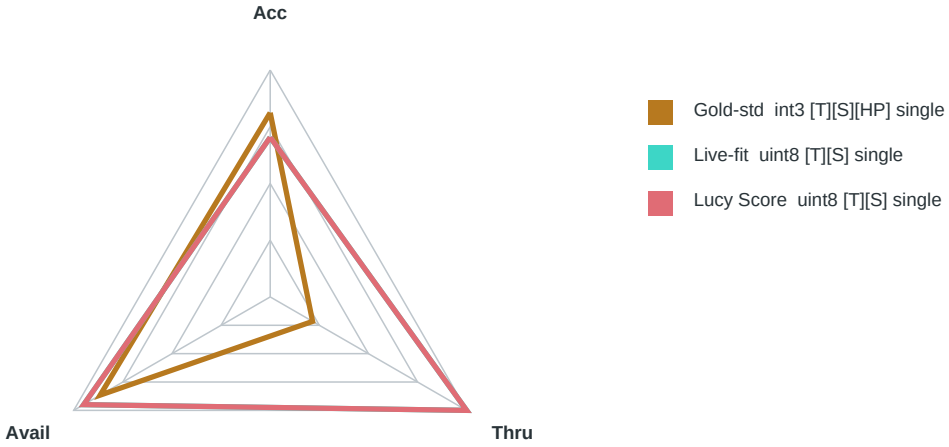
Step* is a 1D pipe (one sample enters layer 0 per tick; output is the sample that entered depth ticks ago). Non-Step of the same family is a full-chain update. AccD is a real scheduler split, not leftover warm-up forwards.

step	plain	n	mean |AccD|
Step[T]Alt	[T]Alt	102	6.30
Step[T][S]	[T][S]	102	5.21
step_sgd	sgd	102	2.79
step_tween	tween	102	3.40
step_tween_chain	tween_chain	102	3.29

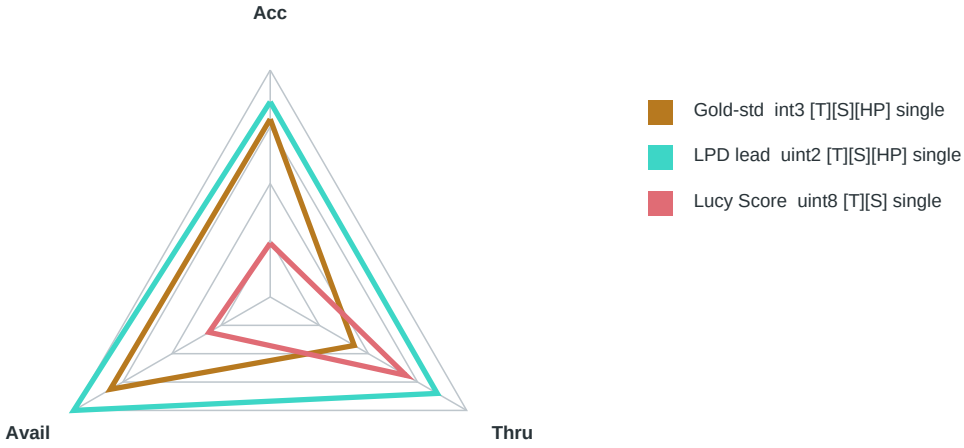
Consciousness - Acc, Throughput, Availability

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 float32|none|Step[T]Alt|tricameral|simd Acc 42.7 Thru 2169 Avail 19.8% 1.6 KiB (RAM reference)
Lucy Score champ (T x Avail x Acc) uint8|none|[T][S]|single|simd Score 2331.8 Acc 30.0 Soft 25 0.2 KiB
Live-fit champ (best Q) uint8|none|[T][S]|single|simd Acc 30.0 Thru 16866 Avail 46.0% 0.2 KiB
Gold-std (2+ pillars, Acc keep >= 80%, then smallest then fastest): int3|none|[T][S][HP]|single|simd mode [T][S][HP] Acc 34.7 Thru 3638 0.1 KiB
Board fastest float32|none|sgd|single|simd Thru 19730 (traps may own this) Best availability uint16|none|[T][S][L]|single|simd 52.7%
Learner Thru peak 16866 learner Avail peak 48.5%

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]	3	38.5	0.1	5437	int3 [T][S][HP] single / complex64 [T][S][HP] single
[T][S][L]	1	34.3	0.1	2726	int5 [T][S][L] single
[T][S][FP]	2	36.6	0.2	5667	fp8e4m3 [T][S][FP] single
Mesh[T][S][FP]	2	34.7	0.2	3596	uint8 Mesh[T][S][FP] single
[T][S][L]Cache	3	39.4	0.2	1687	uint3 [T][S][L]Cache tricameral / int64 [T][S][L]Cache bicameral
Mesh[T][S]Sparse	3	37.0	0.2	882	uint5 Mesh[T][S]Sparse bicameral / int Mesh[T][S]Sparse bicameral
[T][S]Sparse	3	37.4	0.6	3533	int32 [T][S]Sparse single / uint32 [T][S]Sparse single
[T][S][HP]Async	1	36.5	2.8	1328	uintptr [T][S][HP]Async bicameral

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][HP] single	81	22	87	53	4	27.7	14.79	34.7	3638	0.1
near	int5 [T][S][L] single	80	16	83	48	6	16.6	7.93	34.3	2726	0.1
near	fp8e4m3 [T][S][FP] single	84	34	92	64	10	10.4	6.64	36.0	5667	0.2

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
near	uint8 Mesh[T][S][FP] single	81	21	91	54	10	9.7	5.22	34.7	3596	0.2
near	uint3 [T][S][L]Cache tricameral	92	5	85	34	11	9.0	3.07	39.3	846	0.2
near	fp8e5m2 [T][S][HP] bicameral	90	17	80	50	21	4.7	2.35	38.5	2850	0.3
near	uint5 Mesh[T][S]Sparse bicameral	84	3	86	28	15	6.8	1.91	35.9	507	0.2
near	uint32 [T][S]Sparse single	88	21	94	56	39	2.6	1.42	37.4	3533	0.6
near	int32 [T][S]Sparse single	81	20	94	53	38	2.6	1.38	34.7	3320	0.6
near	bfloat16 [T][S]Sparse tricameral	80	11	92	44	50	2.0	0.87	34.4	1901	0.8

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
-	uint2 [T][S][HP] single	77	37	92	64	3	32.0	20.54	33.0	6269	0.1
-	ternary [T][S][L]Cache single	78	37	85	63	2	32.0	20.06	33.2	6292	0.0
acc	ternary [T]Alt single	81	43	57	58	2	32.0	18.63	34.5	7286	0.0
-	int2 Step[T]Alt single	75	39	56	55	2	32.0	17.56	32.2	6647	0.0
-	binary [T][S][HP] bicameral	71	23	79	51	3	32.0	16.30	30.5	3938	0.0
-	binary [T][S][FP] bicameral	78	17	76	46	3	32.0	14.80	33.1	2817	0.0
near	int3 [T][S][HP] single	81	22	87	53	4	27.7	14.79	34.7	3638	0.1
-	int4 MeshBP single	72	67	72	70	5	20.8	14.60	30.6	11346	0.1
-	int4 [T][S][FP] single	73	41	83	63	5	20.8	13.09	31.1	6916	0.1
-	binary Mesh[T][S] bicameral	73	11	77	40	3	32.0	12.73	31.2	1881	0.0
-	uint2 Mesh[T]Alt single	80	10	67	38	3	32.0	12.18	34.2	1734	0.1
-	int4 [T][S]Sparse single	72	29	90	57	5	20.8	11.95	30.9	4894	0.1
-	int3 [T]Alt single	76	17	48	39	4	27.7	10.95	32.6	2852	0.1
acc	uint3 [T][S][FP] single	84	16	78	47	4	23.1	10.90	36.0	2702	0.1
-	uint3 [T][S][HP] single	74	16	76	45	4	23.1	10.43	31.7	2750	0.1
-	uint4 step_tween_chain single	75	39	64	57	6	18.1	10.35	32.1	6573	0.1
acc	binary Step[T]Alt tricameral	90	10	39	32	3	32.0	10.34	38.3	1613	0.1
-	nf4 step_tween_chain single	72	28	59	49	5	20.8	10.17	30.8	4663	0.1
-	int2 [T][S][L] bicameral	79	19	81	50	5	18.9	9.39	33.8	3221	0.1
acc	int5 MeshBP single	82	28	78	56	6	16.6	9.34	35.2	4670	0.1

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

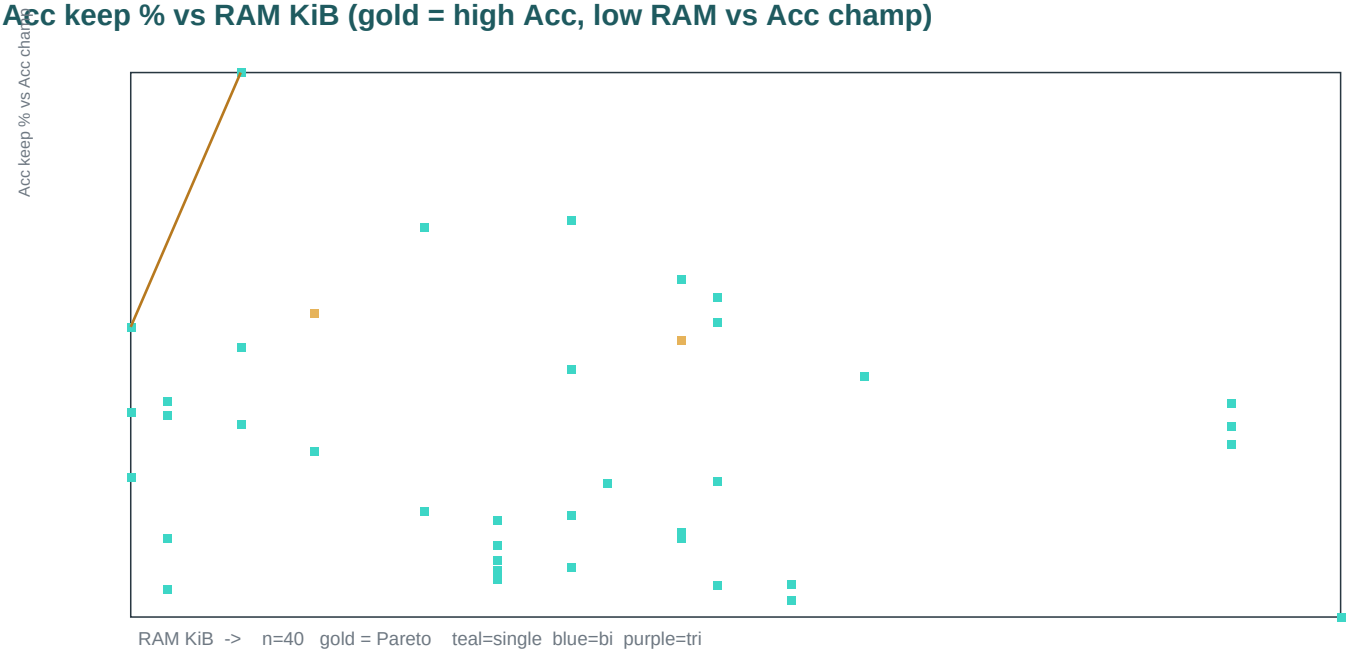
Band	Cell	Acc%	Thru%	Avail%	Q%	LPD	Thru	Avail
-	uint8 [T][S] single	70	100	95	87	8.46	16866	46.0
-	int8 Mesh[T]Chain single	78	68	75	73	7.64	11407	36.4
-	int8 [T][S][L] single	77	54	90	72	7.52	9163	43.7
-	float64 [T][S][HP] single	75	51	93	71	0.92	8676	44.9
-	float32 [T][S][L]Cache single	71	51	98	71	1.84	8627	47.4
-	float32 [T]Alt single	76	68	68	71	1.84	11458	33.0
-	int4 MeshBP single	72	67	72	70	14.60	11346	34.7
-	int8 [T][S][L]Cache single	77	44	91	67	6.99	7374	44.0
-	uint8 [T][S][L] single	74	46	90	67	6.49	7687	43.5
acc	int Step[T][S] single	82	44	78	66	0.85	7478	37.7

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

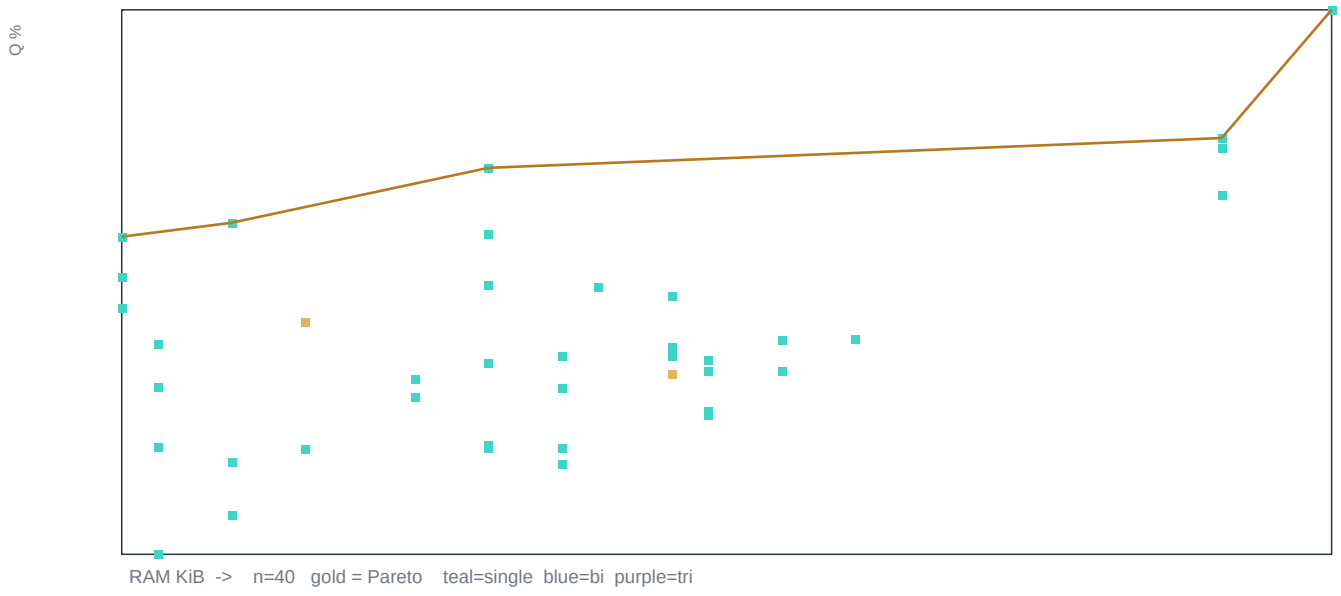
Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
trap	binary sgd single	48	92	69	67	1	32.0	0.00	20.7	15563	0.0
trap	binary step_sgd single	56	97	76	74	1	32.0	0.00	23.8	16284	0.0
trap	binary tween single	63	82	70	71	1	32.0	0.00	26.9	13871	0.0
trap	binary tween_chain single	63	89	74	75	1	32.0	0.00	26.9	14996	0.0
trap	binary step_tween single	50	92	75	70	1	32.0	0.00	21.6	15528	0.0

trap	binary step_tween_chain single	61	67	66	65	1	32.0	0.00	26.2	11301	0.0
trap	binary MeshBP single	64	72	77	71	1	32.0	0.00	27.2	12157	0.0
trap	binary Mesh[T] single	52	79	73	67	1	32.0	0.00	22.2	13405	0.0
trap	binary Mesh[T]Chain single	60	63	79	67	1	32.0	0.00	25.7	10657	0.0
trap	binary [T][S] single	54	100	95	80	1	32.0	0.00	23.2	17143	0.0

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

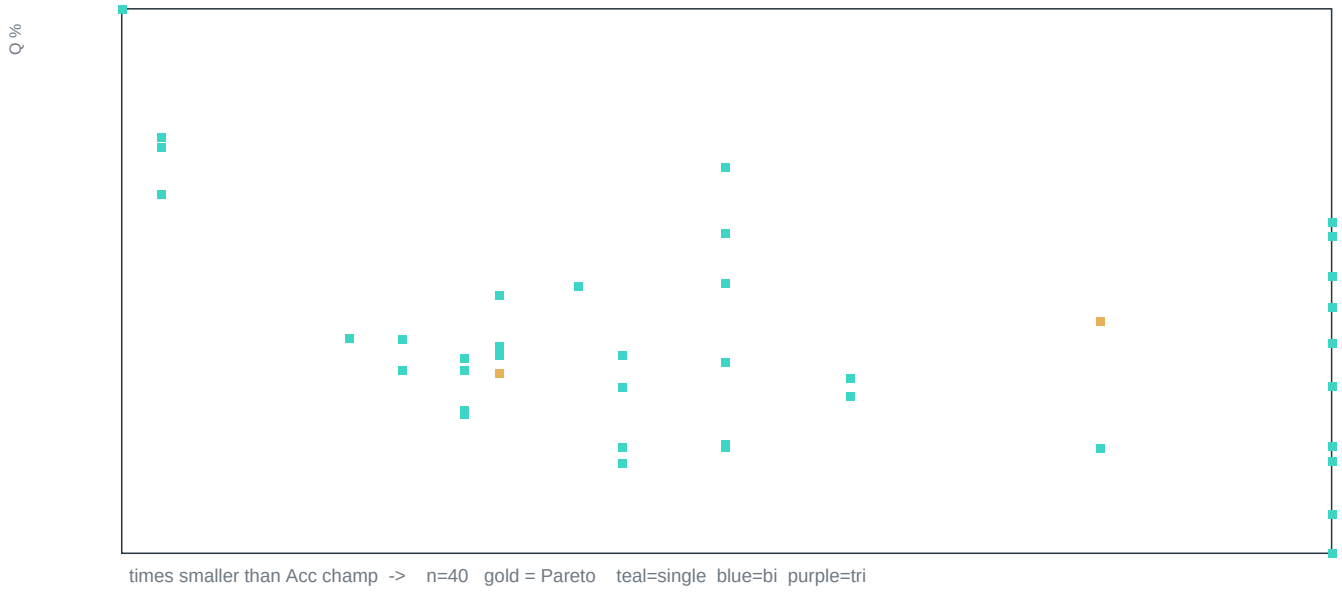


Q% vs RAM KiB (gold = high consciousness, low RAM)



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

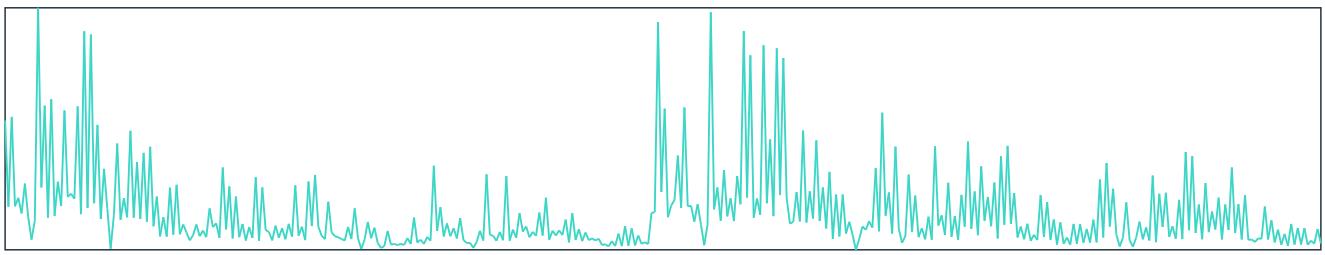
Q% vs shrink vs Acc champ (gold = upper right)



Top Lucy density (LPD)

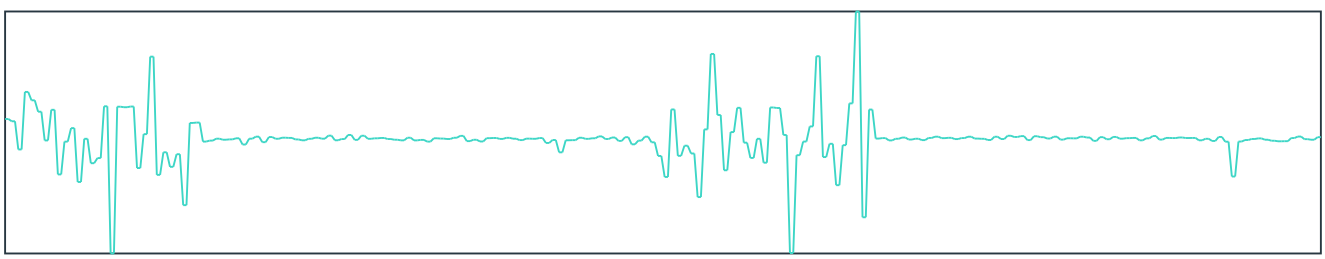


Live pulse (Score)



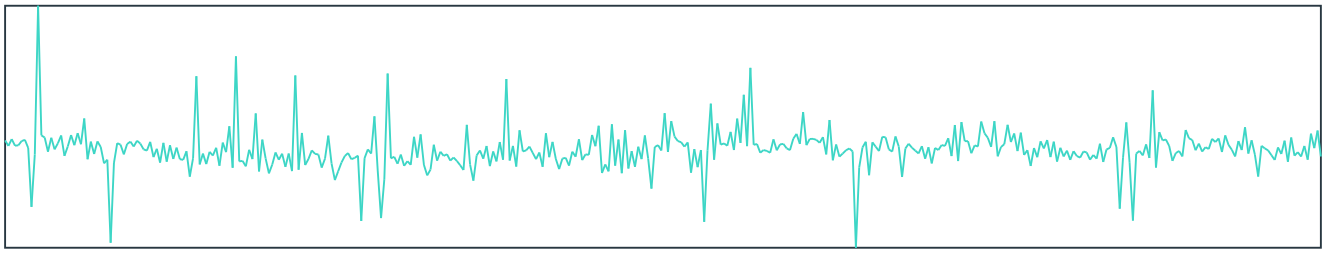
n=400 min=1.10 max=1802.37

Live pulse (SoftAcc)



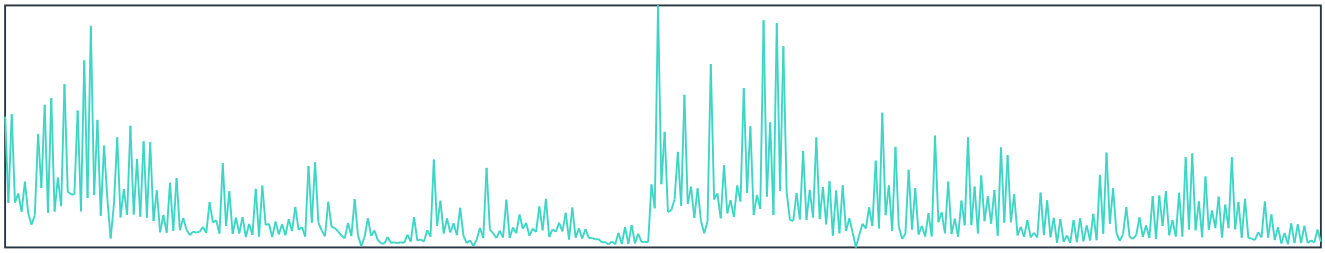
n=400 min=24.99 max=25.01

Live pulse (Availability)



n=400 min=3.52 max=100.00

Live pulse (Throughput)



n=400 min=124.48 max=15274.13

Queue by train mode (this epoch)

Mode	Done	Run	Left	Total