tide mha

Lucy Score = Throughput x Availability x Acc / 10,000. LPD condenses live-fit vs Acc-champ RAM.
[T]=Tween [S]=Split [FP]=FastProxy [L]=Linear [HP]=HeadProxy
done - epoch 1/1 (1 left, 100% overall) - lr unset - 2026-08-23 13:32:56 -
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 - mha - offline report

Lucy champions (this tide)

Axis	Cell	Score	Soft	Acc	Thru	Avail
hard acc	bfloat16|none|[T][S]|single|simd	13.90	25.9	0.0	218.2	24.6
throughput	ternary|none|sgd|single|simd	22.22	23.1	21.4	383.9	25.0
availability	fp6|none|[T][S]Sparse|tricameral|simd	1.92	25.0	0.0	19.1	40.2
lucy score	ternary|none|sgd|single|simd	22.22	23.1	21.4	383.9	25.0
mobile score (trap)	binary|none|sgd|single|simd	18.83	21.7	23.8	363.0	23.9
t->50%	nf4|none|step_sgd|single|simd	2.83	15.3	12.6	138.3	13.4
acc/sec	float16|none|tween_chain|single|simd	11.66	25.0	19.7	225.2	20.7

Lucy axis champions (this tide)

Axis	Mode	DType	Arch	Value
hard_acc	Mesh[T][S]Sparse	nf4	bicameralx2	100.00
throughput	sgd	ternary	singlex1	383.90
availability	[T][S]Sparse	fp6	tricameralx3	40.18
score	sgd	ternary	singlex1	22.22
soft_acc	[T][S]	bfloat16	singlex1	25.88
acc_thru	tween_chain	float32	singlex1	100.57
realtime	sgd	int8	singlex1	97.53
adapt	[T][S]	int64	singlex1	25.06
keep_learn	step_sgd	float32	singlex1	17.69
acc_per_sec	tween_chain	float16	singlex1	12.35
time_to_50	step_sgd	nf4	singlex1	0.07
consistency	tween	float32	singlex1	100.00
stability	tween	fp4	tricameralx3	100.00
mobile_score	sgd	binary	singlex1	308577.45
lpd	Mesh[T][S]Sparse	uint2	tricameralx3	1.13
mspeed	[T][S][FP]	uintptr	tricameralx3	1.00
mavail	Mesh[T][S]Sparse	uint2	tricameralx3	1.00
mix	[T][S][FP]	uintptr	tricameralx3	0.89
gold_std	Mesh[T][S]Sparse	nf4	bicameralx2	6.25

Best settings per train mode

Mode	DType	Format	Score	Soft	Acc	Avail	n
sgd	ternary	none	22.2	23.1	21.4	25.0	102
tween_chain	float32	none	21.9	25.0	30.2	26.3	102
[T][S]	ternary	none	17.3	25.0	21.9	22.0	102
tween	float32	none	16.5	25.0	24.5	23.7	102
MeshBP	int64	none	14.0	25.0	24.5	27.5	102
Mesh[T]Chain	float32	none	13.9	25.0	35.0	24.2	102
Step[T][S]	fp4	none	12.7	25.0	25.0	20.1	102
[T][S][HP]	ternary	none	12.3	25.0	34.4	25.8	102
step_tween_chain	uint8	none	11.5	25.0	23.3	20.5	102

Mesh[T]	uint32	none	10.7	25.0	31.5	22.8	102
step_sgd	float64	none	9.7	22.5	24.0	20.1	102
[T][S][L]Cache	float32	none	8.6	25.0	26.8	25.9	102
[T][S][HP]Async	binary	none	8.6	25.0	31.2	29.1	102
[T][S][FP]	bfloat16	none	8.2	24.9	15.6	24.7	102
step_tween	int2	none	8.2	25.0	28.0	16.7	102
[T][S]Sparse	float32	none	7.9	25.0	27.5	32.1	102
[T][S][L]	uint8	none	6.6	25.0	23.2	21.2	102
Mesh[T][S]Sparse	float32	none	5.2	25.0	16.7	30.5	102
[T]Alt	uint2	none	5.2	25.0	30.0	17.5	102
Mesh[T][S]	uint8	none	5.0	25.0	21.9	24.2	102
Mesh[T][S][FP]	float64	none	4.1	25.0	25.0	27.3	102
Step[T]Alt	float32	none	2.7	25.0	12.5	13.9	102
Mesh[T]Alt	int4	none	1.6	25.0	25.0	15.2	102

Best dtype per mode

Mode	Winner dtype	Score	Soft	Acc
sgd	ternary	22.2	23.1	21.4
tween_chain	float32	21.9	25.0	30.2
[T][S]	ternary	17.3	25.0	21.9
tween	float32	16.5	25.0	24.5
MeshBP	int64	14.0	25.0	24.5
Mesh[T]Chain	float32	13.9	25.0	35.0
Step[T][S]	fp4	12.7	25.0	25.0
[T][S][HP]	ternary	12.3	25.0	34.4
step_tween_chain	uint8	11.5	25.0	23.3
Mesh[T]	uint32	10.7	25.0	31.5
step_sgd	float64	9.7	22.5	24.0
[T][S][L]Cache	float32	8.6	25.0	26.8
[T][S][HP]Async	binary	8.6	25.0	31.2
[T][S][FP]	bfloat16	8.2	24.9	15.6
step_tween	int2	8.2	25.0	28.0
[T][S]Sparse	float32	7.9	25.0	27.5
[T][S][L]	uint8	6.6	25.0	23.2
Mesh[T][S]Sparse	float32	5.2	25.0	16.7
[T]Alt	uint2	5.2	25.0	30.0
Mesh[T][S]	uint8	5.0	25.0	21.9
Mesh[T][S][FP]	float64	4.1	25.0	25.0
Step[T]Alt	float32	2.7	25.0	12.5
Mesh[T]Alt	int4	1.6	25.0	25.0

Best mode per dtype

DType	Winner mode	Score	Soft	Acc
ternary	sgd	22.2	23.1	21.4
float32	tween_chain	21.9	25.0	30.2
int8	sgd	21.9	22.4	21.8
int2	tween_chain	19.3	25.0	20.4
binary	sgd	18.8	21.7	23.8
bfloat16	sgd	18.1	22.9	22.9
int64	sgd	17.0	22.5	23.2
int4	sgd	16.2	21.2	19.6
complex128	[T][S]	14.7	25.0	18.8

uint8	[T][S]	14.5	25.0	24.1
uint32	sgd	13.7	19.1	20.2
fp4	sgd	13.7	19.9	19.8
uintptr	tween_chain	13.3	25.0	21.7
int3	[T][S]	13.2	25.0	20.8
uint2	sgd	12.8	21.2	27.6
fp8e5m2	sgd	12.7	21.2	20.6
complex64	tween_chain	12.6	25.0	26.0
int16	tween	12.5	23.7	22.6
fp8e4m3	tween_chain	12.3	25.0	21.6
uint	MeshBP	12.2	25.0	26.2
float16	tween_chain	11.7	25.0	19.7
nf4	[T][S]	11.6	25.0	18.8
int32	sgd	11.2	20.4	21.7
float64	tween	11.0	22.5	20.9
uint16	[T][S]	10.5	25.0	17.7
uint5	[T][S]	9.9	25.0	31.2
uint64	step_sgd	9.4	20.1	16.5
uint3	[T][S]	9.2	25.0	6.2
int5	[T][S]	8.9	25.0	31.2
int	Mesh[T]	8.4	25.0	25.5
uint4	sgd	8.2	19.6	15.5
int6	sgd	7.5	17.9	15.5
fp6	[T][S]	7.5	25.0	18.8
uint6	tween_chain	6.7	25.0	32.9

Leaderboard (Lucy Score)

#	Cell	Score	Soft	Acc	Thru	Avail
1	ternary|none|sgd|single|simd	22.2	23.1	21.4	383.9	25.0
2	float32|none|tween_chain|single|simd	21.9	25.0	30.2	333.1	26.3
3	int8|none|sgd|single|simd	21.9	22.4	21.8	370.5	26.3
4	int2|none|tween_chain|single|simd	19.3	25.0	20.4	322.6	23.9
5	binary|none|sgd|single|simd	18.8	21.7	23.8	363.0	23.9
6	int2|none|sgd|single|simd	18.6	21.8	23.6	364.3	23.5
7	bfloat16|none|sgd|single|simd	18.1	22.9	22.9	330.2	23.9
8	int8|none|tween_chain|single|simd	17.7	25.0	22.8	316.4	22.4
9	ternary|none|[T][S]|single|simd	17.3	25.0	21.9	313.6	22.0
10	float32|none|sgd|single|simd	17.0	21.7	21.4	348.6	22.5
11	int64|none|sgd|single|simd	17.0	22.5	23.2	294.2	25.7
12	float32|none|tween|single|simd	16.5	25.0	24.5	278.2	23.7
13	int4|none|sgd|single|simd	16.2	21.2	19.6	337.3	22.7
14	int8|none|[T][S]|single|simd	16.1	25.0	25.0	285.7	22.5
15	complex128|none|[T][S]|single|simd	14.7	25.0	18.8	252.0	23.4
16	bfloat16|none|tween_chain|single|simd	14.7	25.0	23.3	263.7	22.3
17	uint8|none|[T][S]|single|simd	14.5	25.0	24.1	196.4	29.5
18	int2|none|[T][S]|single|simd	14.1	25.0	34.4	261.6	21.6
19	int64|none|MeshBP|single|simd	14.0	25.0	24.5	203.8	27.5
20	bfloat16|none|[T][S]|single|simd	13.9	25.9	0.0	218.2	24.6

Leaderboard (SoftAcc)

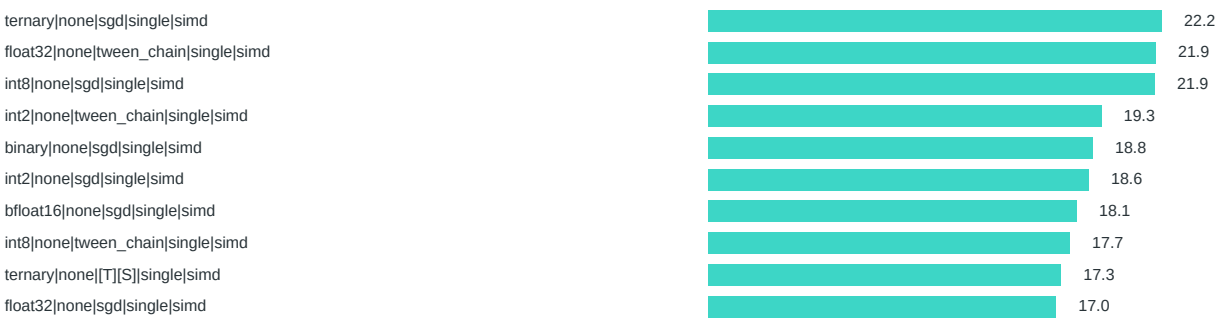
#	Cell	Score	Soft	Acc	Thru	Avail
1	bfloat16|none|[T][S]|single|simd	13.9	25.9	0.0	218.2	24.6

2	uint8|none|[T][S]|single|simd	14.5	25.0	24.1	196.4	29.5
3	int3|none|[T][S]|single|simd	13.2	25.0	20.8	205.8	25.6
4	binary|none|[T][S]|single|simd	13.6	25.0	29.2	214.0	25.5
5	float32|none|Mesh[T]Chain|single|simd	13.9	25.0	35.0	229.4	24.2
6	ternary|none|[T][S][HP]|single|simd	12.3	25.0	34.4	190.7	25.8
7	float32|none|tween_chain|single|simd	21.9	25.0	30.2	333.1	26.3
8	complex64|none|tween_chain|single|simd	12.6	25.0	26.0	219.6	22.9
9	int8|none|[T][S]|single|simd	16.1	25.0	25.0	285.7	22.5
10	int64|none|MeshBP|single|simd	14.0	25.0	24.5	203.8	27.5
11	ternary|none|[T][S]|single|simd	17.3	25.0	21.9	313.6	22.0
12	float32|none|tween|single|simd	16.5	25.0	24.5	278.2	23.7
13	fp4|none|Step[T][S]|single|simd	12.7	25.0	25.0	252.4	20.1
14	float32|none|[T][S]|bicameral|simd	12.4	25.0	18.8	216.7	22.9
15	bfloat16|none|MeshBP|single|simd	12.4	25.0	21.9	216.9	22.9
16	complex128|none|[T][S]|single|simd	14.7	25.0	18.8	252.0	23.4
17	int8|none|tween_chain|single|simd	17.7	25.0	22.8	316.4	22.4
18	int2|none|tween_chain|single|simd	19.3	25.0	20.4	322.6	23.9
19	fp8e4m3|none|tween_chain|single|simd	12.3	25.0	21.6	227.4	21.6
20	bfloat16|none|tween_chain|single|simd	14.7	25.0	23.3	263.7	22.3

Leaderboard (hard Acc)

#	Cell	Score	Soft	Acc	Thru	Avail
1	float32|none|Mesh[T]Chain|single|simd	13.9	25.0	35.0	229.4	24.2
2	int2|none|[T][S]|single|simd	14.1	25.0	34.4	261.6	21.6
3	ternary|none|[T][S][HP]|single|simd	12.3	25.0	34.4	190.7	25.8
4	float32|none|tween_chain|single|simd	21.9	25.0	30.2	333.1	26.3
5	binary|none|[T][S]|single|simd	13.6	25.0	29.2	214.0	25.5
6	uint2|none|sgd|single|simd	12.8	21.2	27.6	260.1	23.2
7	complex64|none|tween_chain|single|simd	12.6	25.0	26.0	219.6	22.9
8	int8|none|[T][S]|single|simd	16.1	25.0	25.0	285.7	22.5
9	fp4|none|Step[T][S]|single|simd	12.7	25.0	25.0	252.4	20.1
10	int64|none|MeshBP|single|simd	14.0	25.0	24.5	203.8	27.5
11	float32|none|tween|single|simd	16.5	25.0	24.5	278.2	23.7
12	uint8|none|[T][S]|single|simd	14.5	25.0	24.1	196.4	29.5
13	binary|none|tween_chain|single|simd	12.3	25.0	24.0	261.9	18.8
14	binary|none|sgd|single|simd	18.8	21.7	23.8	363.0	23.9
15	int2|none|sgd|single|simd	18.6	21.8	23.6	364.3	23.5
16	bfloat16|none|tween_chain|single|simd	14.7	25.0	23.3	263.7	22.3
17	int64|none|sgd|single|simd	17.0	22.5	23.2	294.2	25.7
18	bfloat16|none|sgd|single|simd	18.1	22.9	22.9	330.2	23.9
19	int8|none|tween_chain|single|simd	17.7	25.0	22.8	316.4	22.4
20	int16|none|tween|single|simd	12.5	23.7	22.6	208.7	25.1

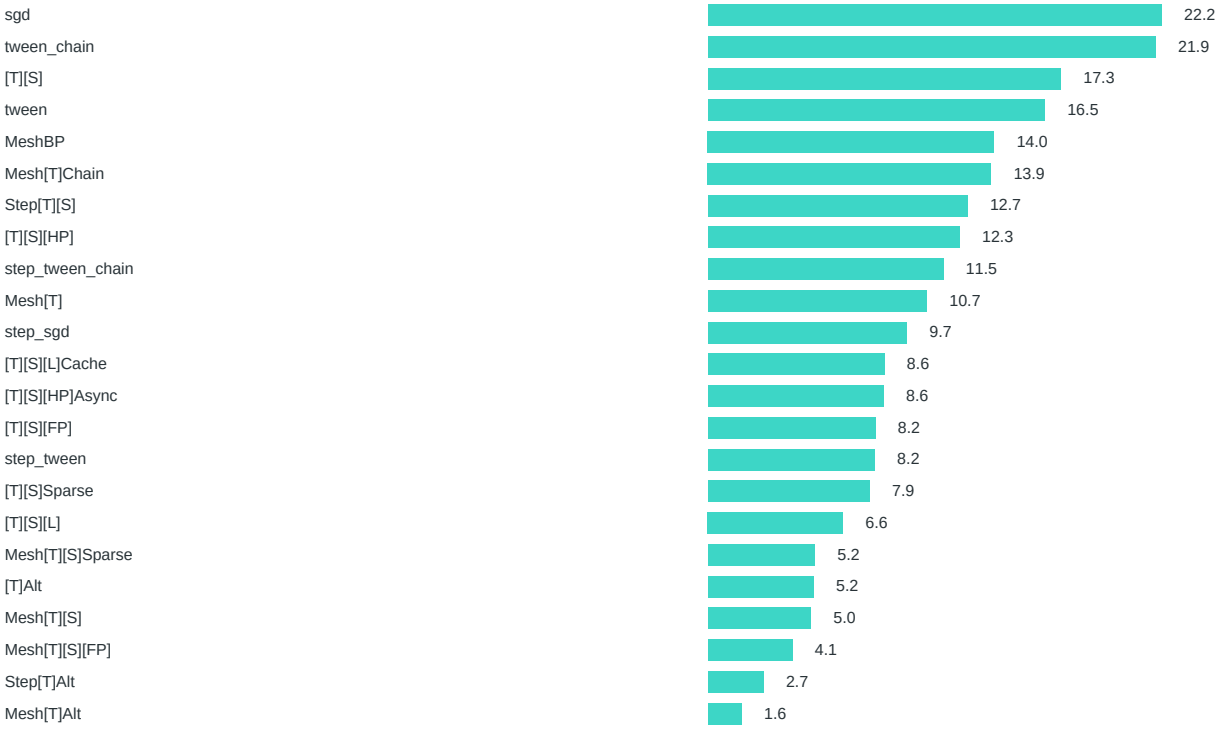
Top scores



int64|none|sgd|single|simd

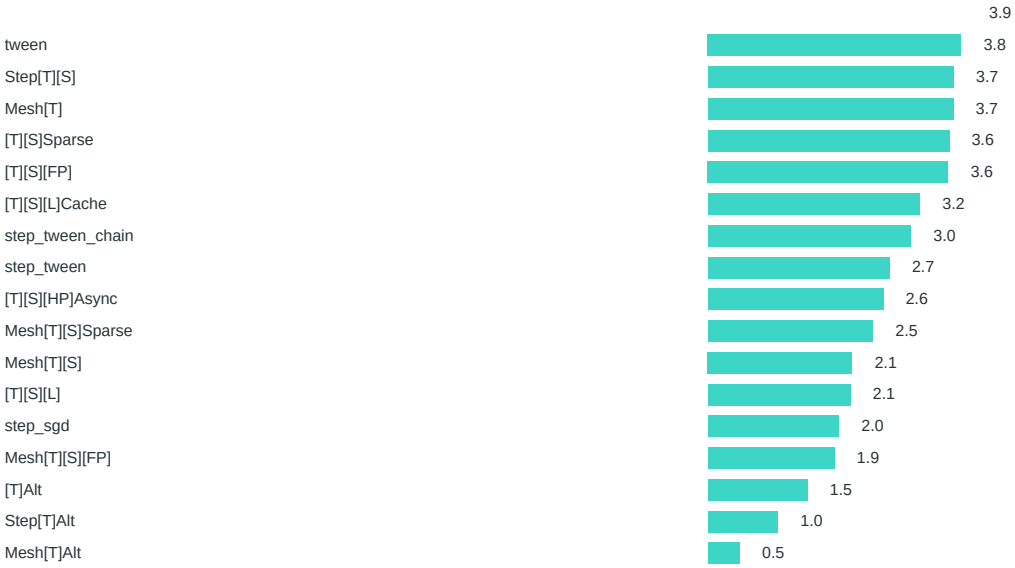


Best settings per mode

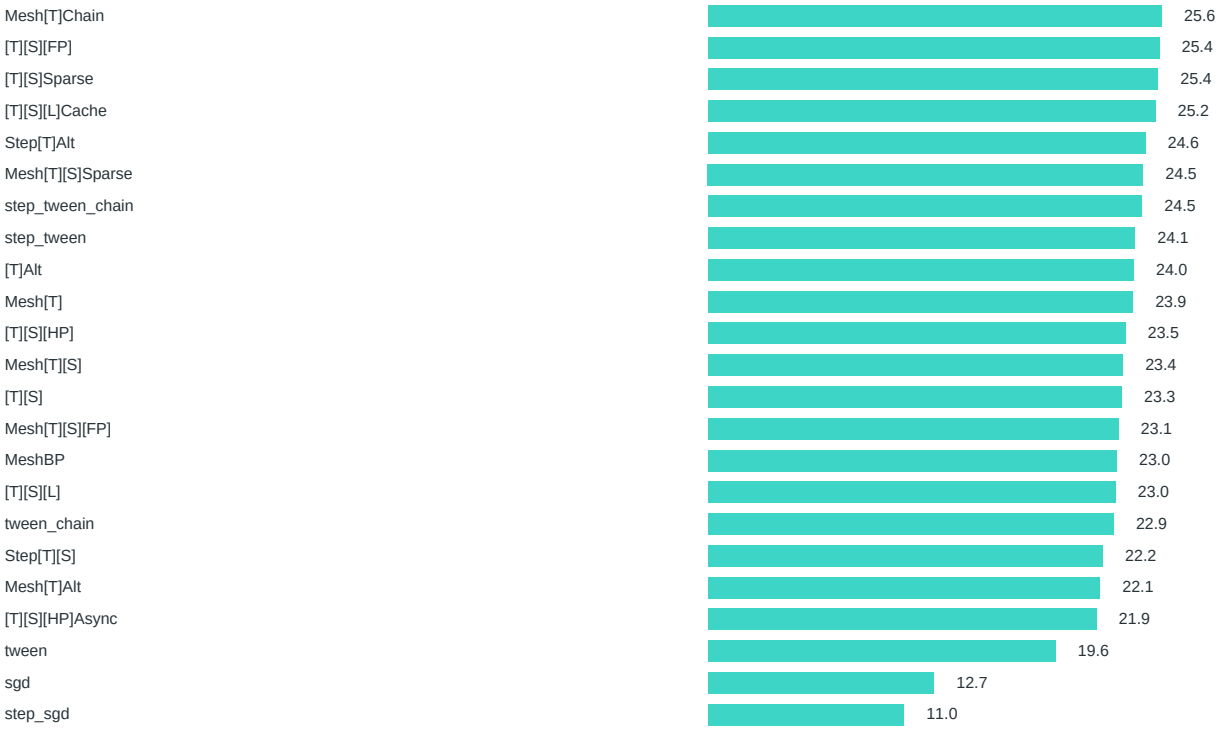


Mean Score by train mode

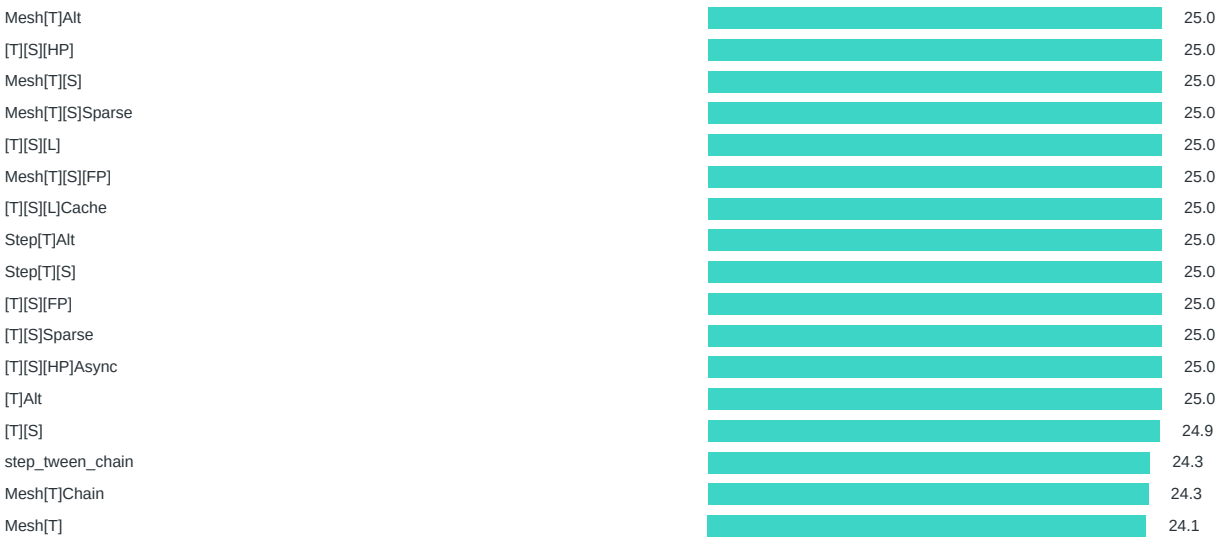




Mean hard Acc by train mode



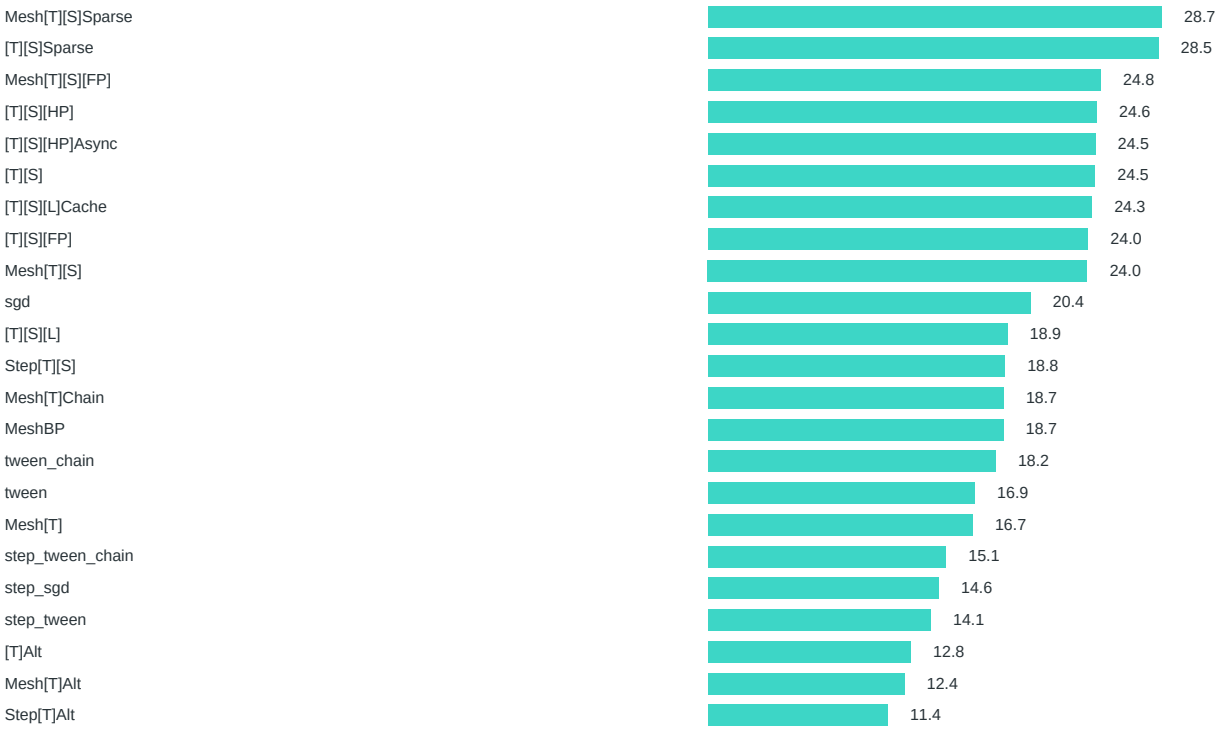
Mean SoftAcc by train mode



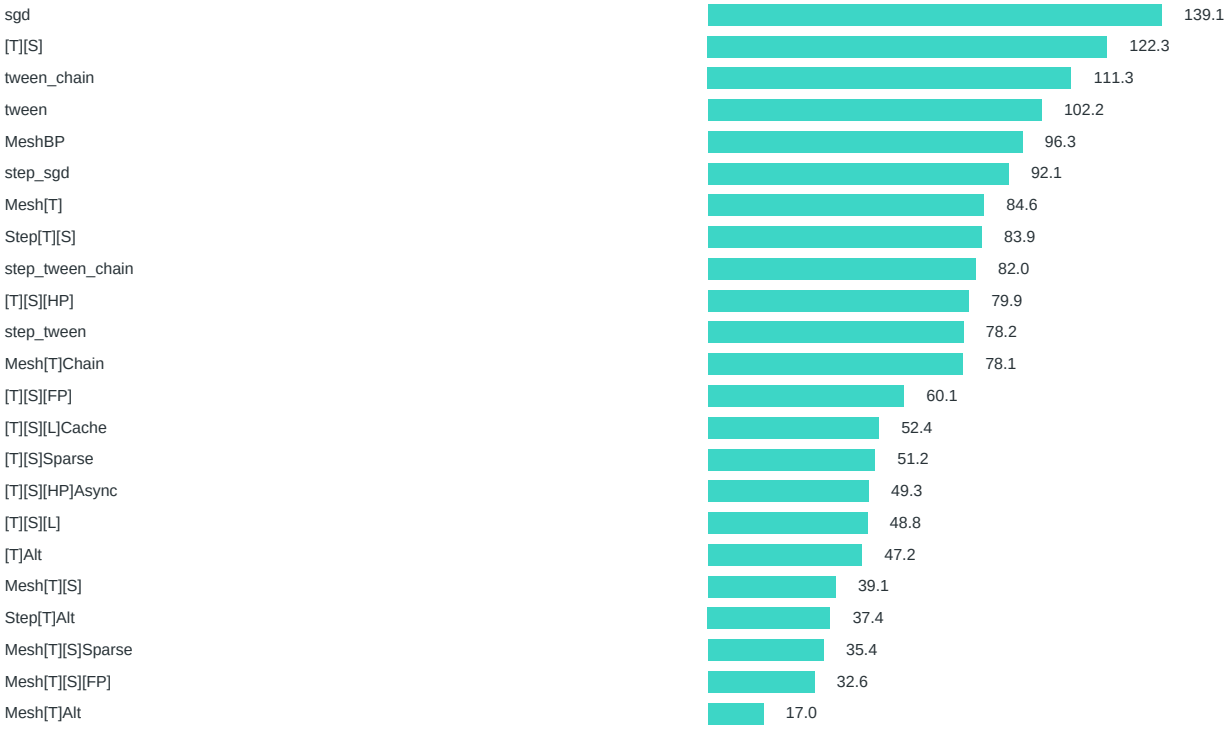
step_tween



Mean Availability by train mode



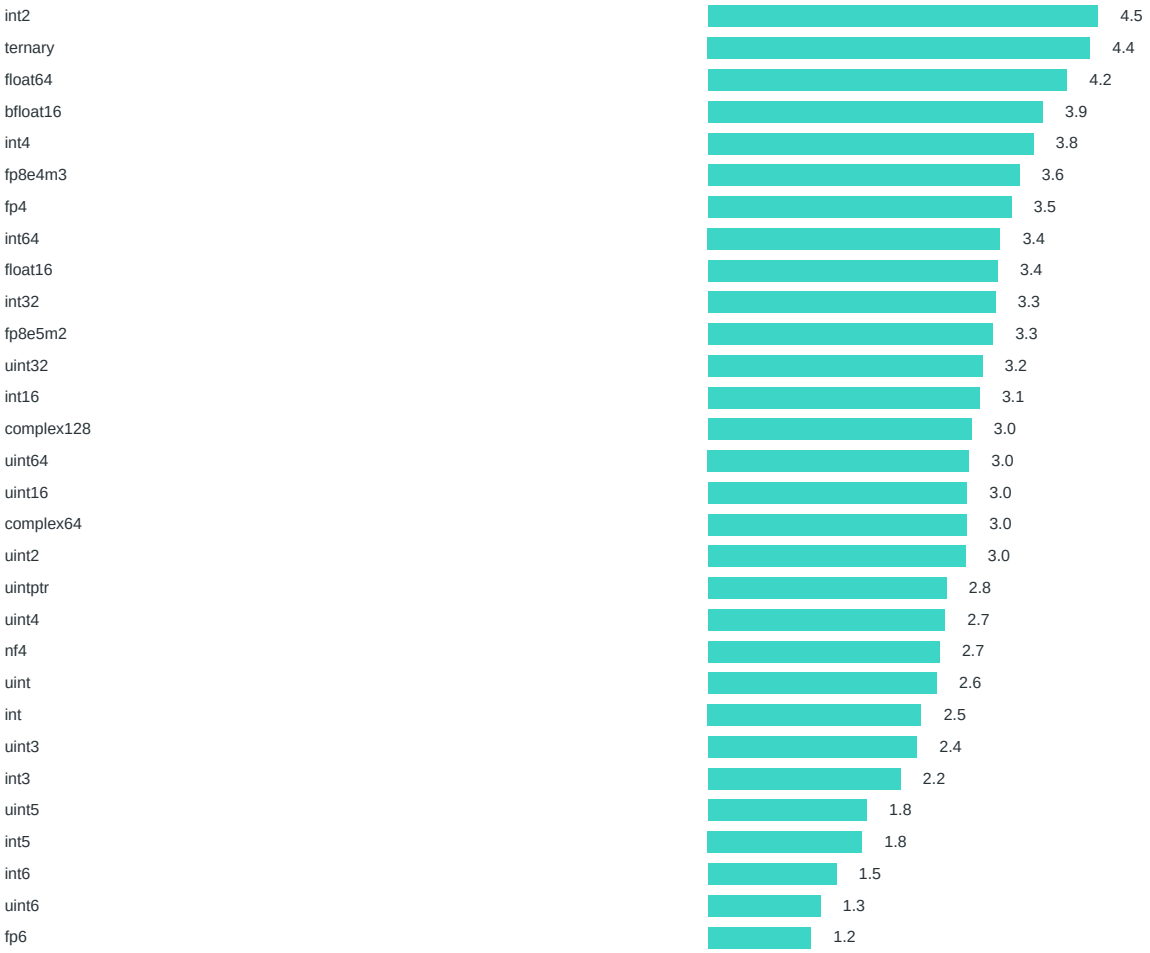
Mean Throughput by train mode



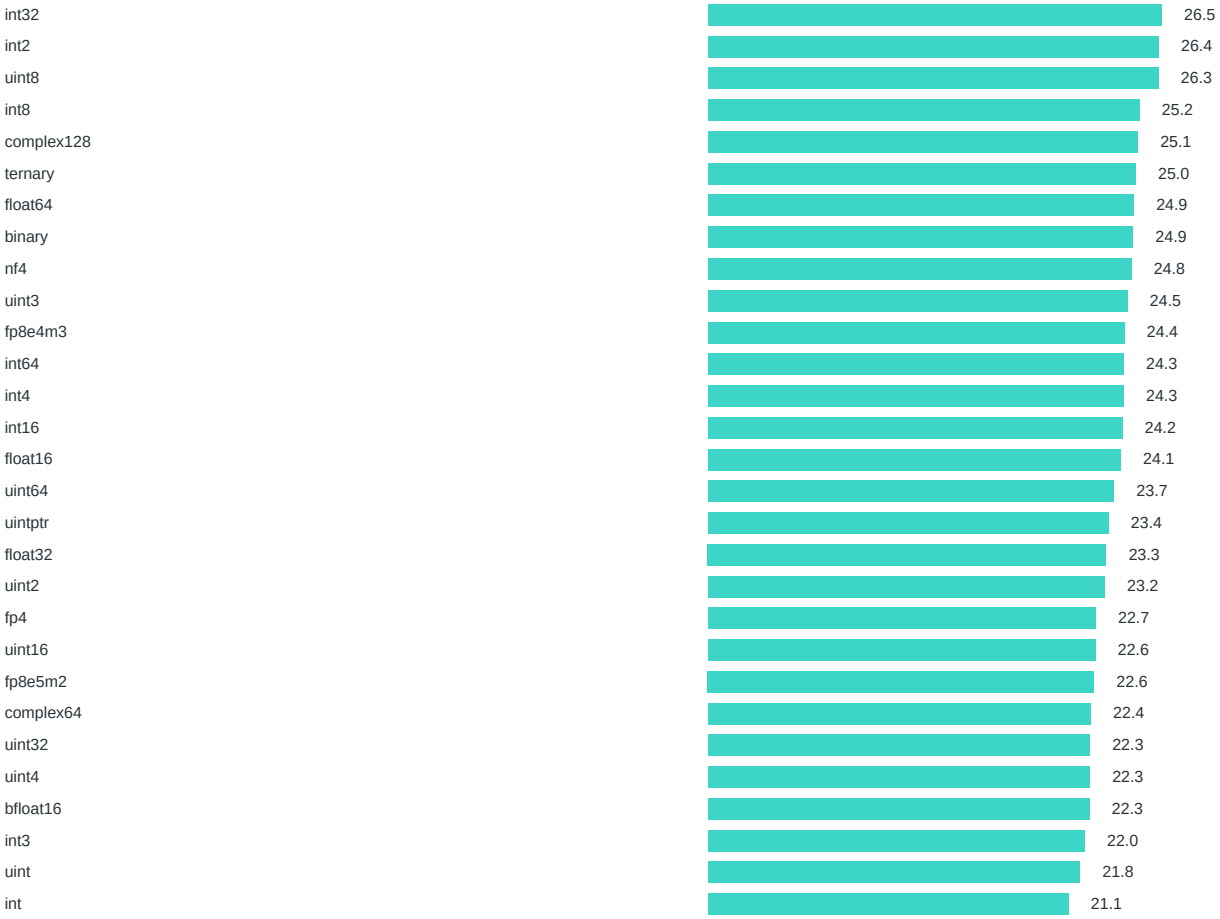
Mean Score by dtype



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

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

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

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	21	21	28	29	25	24	26	23	23	27	27	23
Mesh[T]	22	26	26	16	24	26	27	26	14	29	25	24
Mesh[T]Alt	19	25	29	29	25	23	37	13	17	19	23	10
Mesh[T]Chain	28	26	36	22	31	29	28	26	18	21	25	20
Mesh[T][S]	22	20	31	21	26	11	31	29	21	28	20	20
Mesh[T][S][FP]	21	24	15	26	26	22	25	29	8	35	24	13
Mesh[T][S]Sparse	28	32	29	15	17	25	22	26	17	27	27	29
Step[T]Alt	19	20	27	29	29	32	12	29	4	21	12	31
Step[T][S]	21	22	42	19	31	25	11	25		23	33	26
[T]Alt	30	27	21	16	21	33	40	21	12	25	21	31
[T][S]	16	20	25	31	23	28	27	20	6	25	20	27
[T][S][FP]	30	31	27	23	17	25	31	21	19	31	16	17
[T][S][HP]	17	35	17	23	31	9	22	28	10	18	28	19
[T][S][HP]Async	21	27	21	32	19	16	26	24	8	28	22	19
[T][S][L]	21	20	25	31	23	30	26	25	8	15	28	14
[T][S][L]Cache	29	40	32	27	38	24	26	12	8	36	25	31
[T][S]Sparse	29	25	31	15	30	25	28	24	15	32	29	21
sgd	15	17	16	11	13	20	12	13	8	16	12	12
step_sgd	13	15	11	10	12	16	16	16	6	8	10	8
step_tween	23	30	21	21	23	23	27	28	20	28	24	28
step_tween_chain	24	22	26	27	25	21	25	20	17	22	27	24
tween	21	23	18	20	23	24	24	20	13	23	19	21
tween_chain	24	24	25	23	25	26	23	24	18	24	22	17

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	28	14	21	25	22	19	23	23	20	26	24
Mesh[T]	22	25	18	25	21	28	26	23	23	18	27	23
Mesh[T]Alt	25	25	17	48	21	17	17	42	21	21	21	19
Mesh[T]Chain	23	31	24	35	31	35	15	26	31	23	31	23
Mesh[T][S]	28	35	46	27	25	5	8	27	36	21	35	21
Mesh[T][S][FP]	14	26	35	25	23	11	6	28	36	25	39	32
Mesh[T][S]Sparse	21	25	19	31	25	19	12	19	26	50	27	29
Step[T]Alt	37	33	25	19	32	31	19	27	27	25	19	25
Step[T][S]	25	27	26	23	18	4	10	17	26	35	19	25
[T]Alt	27	20	25	35	25	12	21	27	27	31	28	8
[T][S]	15	34	19	24	31	27	9	27	29	27	18	23
[T][S][FP]	25	31	18	33	28	19	12	40	27	26	29	27
[T][S][HP]	23	25	31	25	23	30	12	29	21	25	31	19
[T][S][HP]Async	33	28	8	38	25	10	15	24	28	17	18	23
[T][S][L]	44	33	19	21	35	10	12	22	31	33	34	25
[T][S][L]Cache	27	23	21	25	26	21	12	21	25	33	25	27
[T][S]Sparse	27	33	22	36	22	23	25	25	22	25	31	25
sgd	14	15	8	13	16	10	9	16	15	10	14	10
step_sgd	10	17	9	9	14	6	7	13	15	10	16	8
step_tween	23	25	24	32	24	24	20	22	24	24	25	20
step_tween_chain	29	26	33	23	23	25	28	24	27	29	21	22
tween	19	21	18	18	21	14	14	19	17	20	20	18
tween_chain	20	22	26	23	25	18	17	21	22	22	23	23

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	24	19	23	22	20	15	19	22	28	25
Mesh[T]	25	23	23	32	23	21	16	26	27	35
Mesh[T]Alt	29	29	17	42	12	15	10	10	18	8
Mesh[T]Chain	27	26	26	21	18	20	16	26	28	26
Mesh[T][S]	24	29	27	18	23	10	6	26	20	17
Mesh[T][S][FP]	12	26	19	10	27	12	17	19	40	35
Mesh[T][S]Sparse	20	38	31	12	24	17	10	25	26	33
Step[T]Alt	21	27	29	27	33	21	23	23	24	25
Step[T][S]	17	21	31	27	23	10	10	31	33	19
[T]Alt	27	18	29	26	17	19	6	29	38	23
[T][S]	31	28	23	27	12	21	21	27	33	18
[T][S][FP]	29	31	29	25	34	18	6	31	18	39
[T][S][HP]	14	14	29	29	31	40	4	31	31	25
[T][S][HP]Async	28	19	15	28	23	10	6	30	39	17
[T][S][L]	21	21	27	2	19	19	12	23	24	29
[T][S][L]Cache	27	25	31	23	29	10	10	25	27	33
[T][S]Sparse	33	26	39	21	23	15	6	33	25	23
sgd	11	16	8	14	11	10	10	13	16	11
step_sgd	10	10	9	13	11	6	7	11	14	11
step_tween	19	23	22	22	28	21	27	22	30	22
step_tween_chain	25	25	26	23	24	21	27	23	23	24
tween	21	18	23	23	21	14	17	18	22	20
tween_chain	24	22	30	26	25	24	23	23	23	21

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	19	25	25	25
Mesh[T]	25	25	25	25	25	25	25	25	17	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	21	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	15	17	13	12	12	20	13	13	9	15	13	12
step_sgd	13	15	10	11	11	17	14	14	7	8	10	8
step_tween	25	25	25	25	23	23	25	25	18	25	25	23
step_tween_chain	25	25	25	25	25	25	25	22	20	25	25	25
tween	21	21	18	21	21	24	23	23	12	20	21	20
tween_chain	24	24	24	25	25	23	24	23	20	25	25	21

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	21	25	25	21	19	25	25	25	25	25
Mesh[T]	25	25	25	25	25	21	21	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	17	25	25	25	25	21
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	14	17	9	14	17	11	9	15	16	12	16	11
step_sgd	12	16	9	10	16	5	7	10	16	11	15	9
step_tween	25	25	25	25	25	21	20	23	25	25	25	23
step_tween_chain	25	25	25	25	25	22	20	25	25	25	25	23
tween	20	24	18	19	21	15	13	18	20	20	21	20
tween_chain	22	25	23	21	23	20	19	24	25	22	24	23

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	21	25	25	25	21	18	25	25	25
Mesh[T]	25	25	25	25	25	21	17	25	25	25
Mesh[T]Alt	25	25	25	25	25	25	25	25	25	25
Mesh[T]Chain	25	25	25	25	25	21	21	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	21	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	11	14	8	14	13	10	9	13	16	12
step_sgd	11	11	9	12	11	7	7	12	14	12
step_tween	25	25	21	25	25	25	23	25	23	23
step_tween_chain	25	25	25	25	25	22	25	23	25	25
tween	21	18	18	22	20	16	17	18	23	20
tween_chain	23	23	25	24	23	22	23	21	24	22

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	20	16	19	20	20	19	17	15	18	19	20	20
Mesh[T]	15	13	19	15	16	16	16	15	18	19	15	21
Mesh[T]Alt	11	9	13	11	14	10	14	10	16	12	13	11
Mesh[T]Chain	17	15	19	23	20	18	15	16	20	20	20	17
Mesh[T][S]	24	21	24	25	24	21	23	21	27	24	24	24
Mesh[T][S][FP]	23	19	27	26	24	22	26	20	30	26	25	23
Mesh[T][S]Sparse	30	27	28	29	32	27	30	29	31	29	29	30
Step[T]Alt	11	9	11	12	13	14	11	10	14	11	11	12
Step[T][S]	18	17	21	17	19	16	16	17	23	18	16	18
[T]Alt	13	9	11	14	14	12	14	9	16	13	12	15
[T][S]	24	21	26	26	25	20	22	20	29	23	24	26
[T][S][FP]	24	19	25	27	22	23	25	22	28	22	24	24
[T][S][HP]	21	19	27	23	26	21	24	20	29	22	22	26
[T][S][HP]Async	21	25	23	25	24	19	25	22	29	26	26	24
[T][S][L]	18	15	21	22	20	14	17	18	23	19	19	21
[T][S][L]Cache	25	21	27	26	24	21	24	20	26	24	23	26
[T][S]Sparse	29	25	27	29	27	28	28	26	32	28	28	30
sgd	19	18	21	20	20	22	18	18	21	22	20	20
step_sgd	15	12	16	14	15	16	16	13	14	13	14	13
step_tween	13	10	15	15	12	13	14	11	15	12	16	14
step_tween_chain	12	13	14	17	15	12	15	14	17	15	15	18
tween	18	15	14	18	19	19	19	15	18	16	17	16
tween_chain	19	16	19	21	19	16	16	15	20	19	19	14

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	20	15	20	20	14	20	21	20	17	18	15	20
Mesh[T]	18	14	17	17	14	18	19	18	14	16	12	17
Mesh[T]Alt	12	10	15	16	10	12	15	13	10	13	11	14
Mesh[T]Chain	19	14	20	18	16	21	19	21	16	17	14	21
Mesh[T][S]	25	19	27	25	19	29	30	22	19	24	19	27
Mesh[T][S][FP]	26	19	27	25	19	31	28	26	21	27	22	25
Mesh[T][S]Sparse	30	27	29	30	23	31	28	28	25	27	28	27
Step[T]Alt	11	8	10	13	10	12	14	12	9	12	8	14
Step[T][S]	19	15	21	19	14	22	23	20	17	21	17	22
[T]Alt	13	9	14	13	9	15	16	14	11	13	9	13
[T][S]	24	21	28	25	19	29	29	24	19	22	19	25
[T][S][FP]	25	20	29	25	18	28	28	25	20	24	20	23
[T][S][HP]	24	21	28	28	21	26	27	28	20	27	22	27
[T][S][HP]Async	25	18	28	27	20	28	29	24	22	26	20	26
[T][S][L]	19	13	24	21	15	21	19	18	12	18	13	20
[T][S][L]Cache	24	19	27	24	22	29	27	27	22	25	20	23
[T][S]Sparse	29	25	30	29	23	31	29	29	28	30	28	30
sgd	19	18	19	22	18	21	20	23	19	20	19	20
step_sgd	16	14	16	15	12	13	19	16	13	13	12	12
step_tween	14	12	17	13	11	14	16	15	12	17	12	14
step_tween_chain	16	13	18	16	12	15	15	18	13	13	11	14
tween	19	14	16	15	14	20	16	16	14	18	14	17
tween_chain	17	16	21	15	12	23	18	20	20	20	17	18

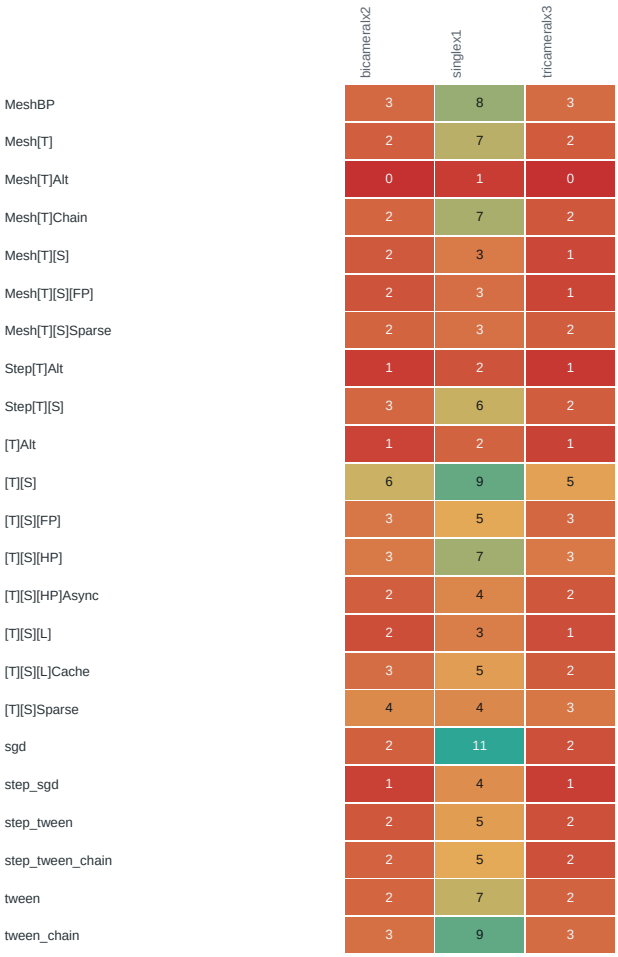
Honesty - mean Avail, every mode x dtype (cols 25-34)

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

	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64	uint8	uintptr
MeshBP	18	20	20	19	19	21	19	17	18	23
Mesh[T]	16	17	18	19	17	19	19	16	18	19
Mesh[T]Alt	12	12	14	12	12	14	16	12	11	11
Mesh[T]Chain	17	20	20	23	18	19	21	19	17	24
Mesh[T][S]	24	25	27	25	24	27	27	23	23	23
Mesh[T][S][FP]	26	27	28	23	26	30	31	23	22	24
Mesh[T][S]Sparse	31	29	29	29	30	30	31	27	29	28
Step[T]Alt	11	11	10	11	12	13	15	13	10	11
Step[T][S]	19	20	19	16	19	20	21	20	19	19
[T]Alt	12	14	15	11	14	18	15	13	12	13
[T][S]	26	29	28	21	25	32	28	25	26	25
[T][S][FP]	24	24	24	25	26	26	27	23	24	25
[T][S][HP]	27	23	28	24	24	29	29	24	24	24
[T][S][HP]Async	22	26	26	25	26	27	25	24	24	26
[T][S][L]	19	18	24	19	18	24	24	20	17	20
[T][S][L]Cache	25	28	24	23	24	27	27	27	22	24
[T][S]Sparse	27	27	31	29	29	29	32	30	31	27
sgd	20	21	19	24	20	23	23	21	21	23
step_sgd	15	17	16	17	15	15	13	16	14	15
step_tween	15	17	14	15	15	19	15	15	11	15
step_tween_chain	15	17	18	15	17	15	17	15	18	15
tween	18	15	20	17	18	22	20	16	16	16
tween_chain	20	17	21	21	17	20	22	16	16	20

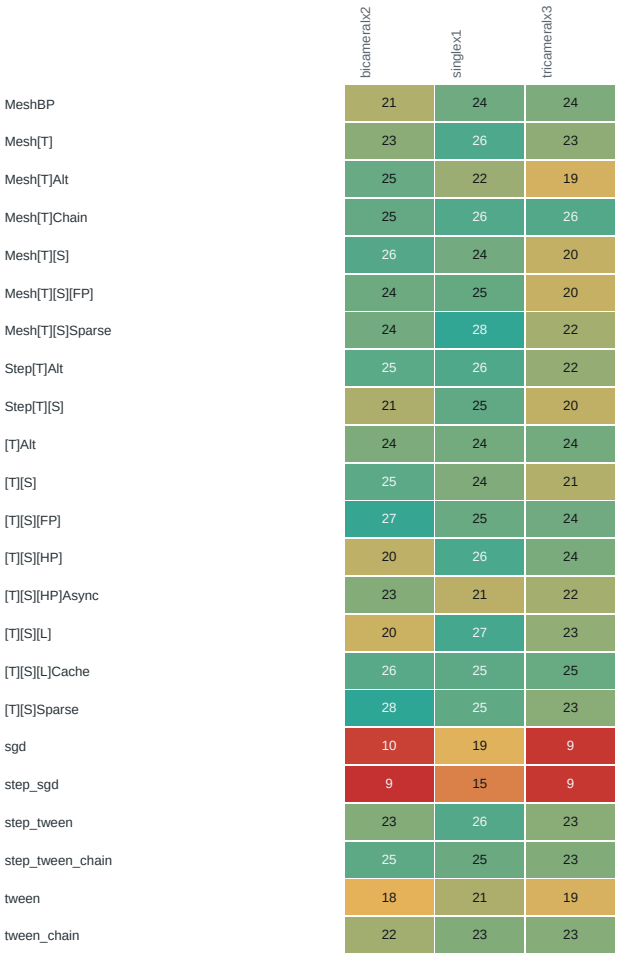
Mean Score, every mode x arch

Mean Score, every mode x arch



Mean hard Acc, every mode x arch

Mean hard Acc, every mode x arch



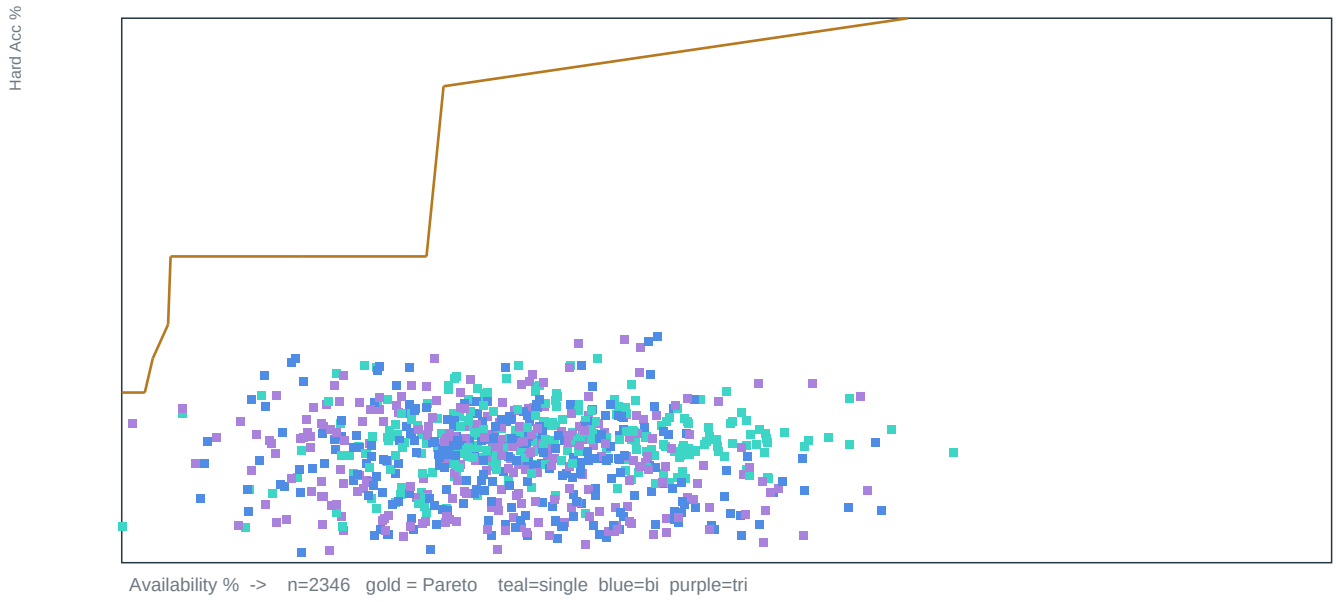
	bicameralx2	singlex1	tricameralx3
MeshBP	21	24	24
Mesh[T]	23	26	23
Mesh[T]Alt	25	22	19
Mesh[T]Chain	25	26	26
Mesh[T][S]	26	24	20
Mesh[T][S][FP]	24	25	20
Mesh[T][S]Sparse	24	28	22
Step[T]Alt	25	26	22
Step[T][S]	21	25	20
[T]Alt	24	24	24
[T][S]	25	24	21
[T][S][FP]	27	25	24
[T][S][HP]	20	26	24
[T][S][HP]Async	23	21	22
[T][S][L]	20	27	23
[T][S][L]Cache	26	25	25
[T][S]Sparse	28	25	23
sgd	10	19	9
step_sgd	9	15	9
step_tween	23	26	23
step_tween_chain	25	25	23
tween	18	21	19
tween_chain	22	23	23

Mean Avail, every mode x arch

Mean Avail, every mode x arch

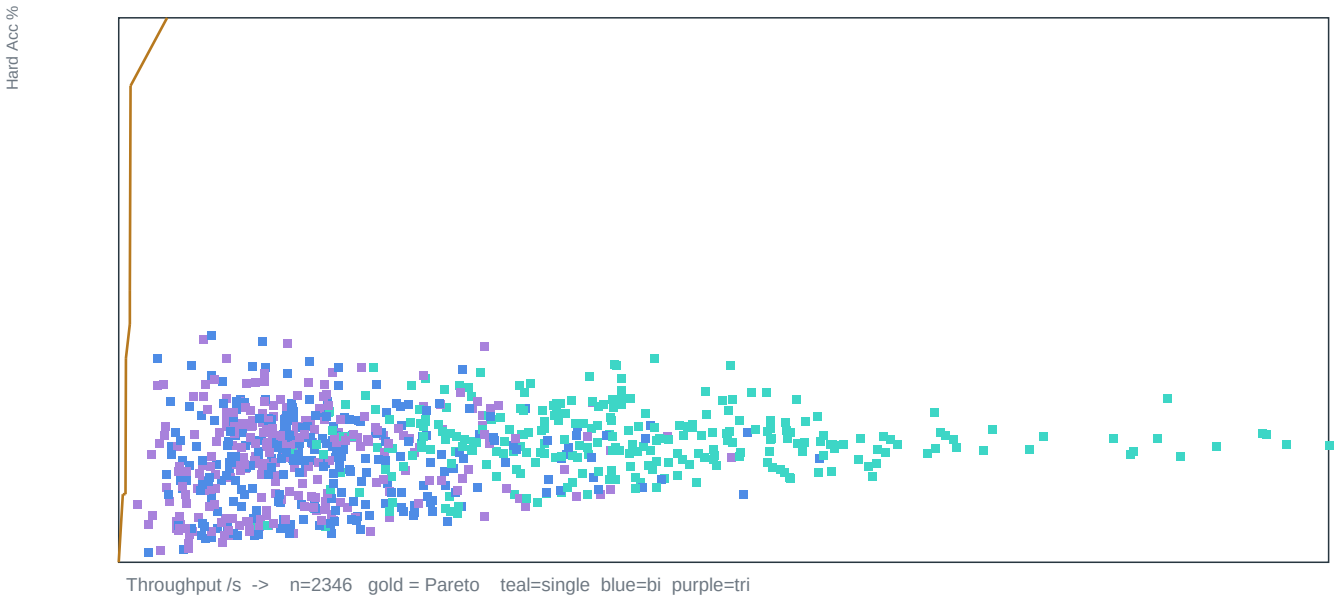
	bicameralx2	singlex1	tricameralx3
MeshBP	18	20	18
Mesh[T]	16	17	17
Mesh[T]Alt	12	12	13
Mesh[T]Chain	19	19	18
Mesh[T][S]	25	22	25
Mesh[T][S][FP]	26	23	26
Mesh[T][S]Sparse	31	22	33
Step[T]Alt	11	11	12
Step[T][S]	19	18	20
[T]Alt	13	12	13
[T][S]	25	23	26
[T][S][FP]	25	22	25
[T][S][HP]	25	23	26
[T][S][HP]Async	25	23	26
[T][S][L]	20	17	20
[T][S][L]Cache	25	23	25
[T][S]Sparse	31	22	33
sgd	20	22	19
step_sgd	15	15	14
step_tween	14	14	14
step_tween_chain	15	15	14
tween	17	17	17
tween_chain	17	19	18

Pillars - Availability vs hard Acc

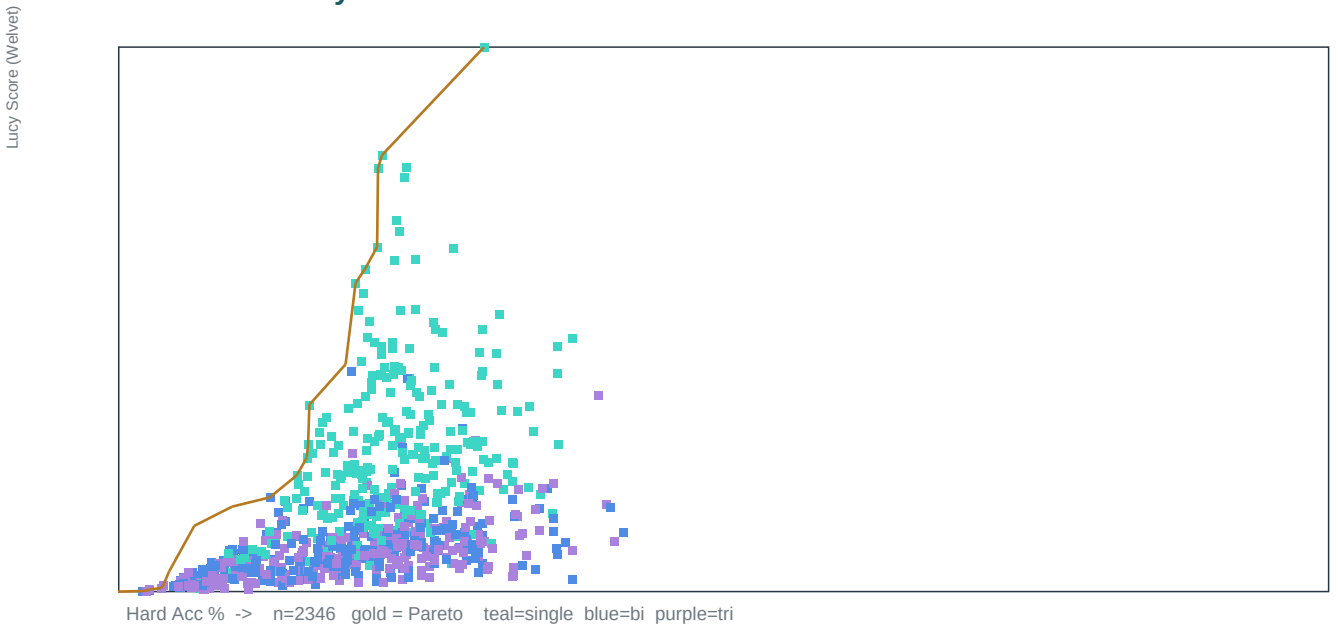


Pillars - Throughput vs hard Acc

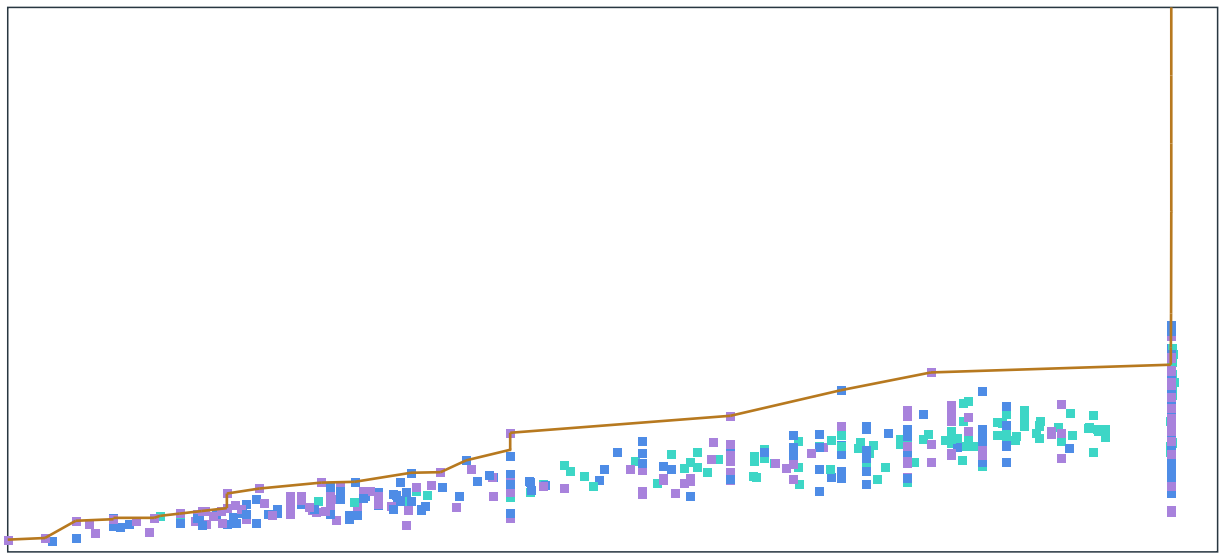
Pillars - Throughput vs hard Acc



Pareto - hard Acc vs Lucy Score

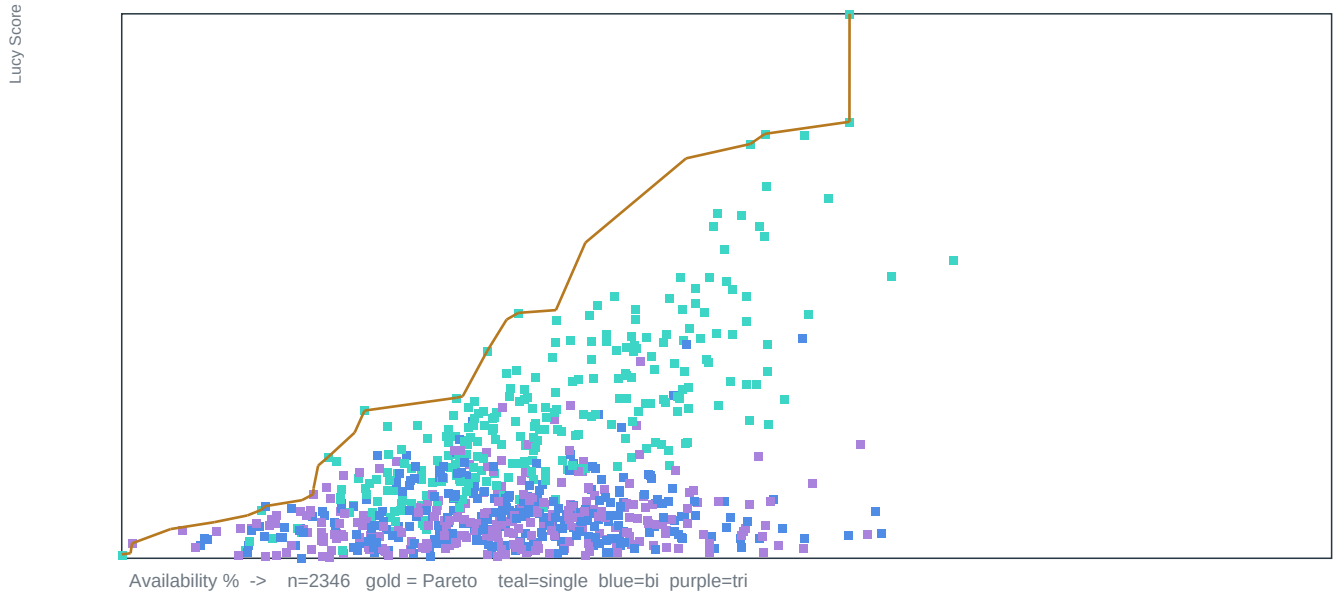


SoftAcc (serve-confidence) vs hard Acc

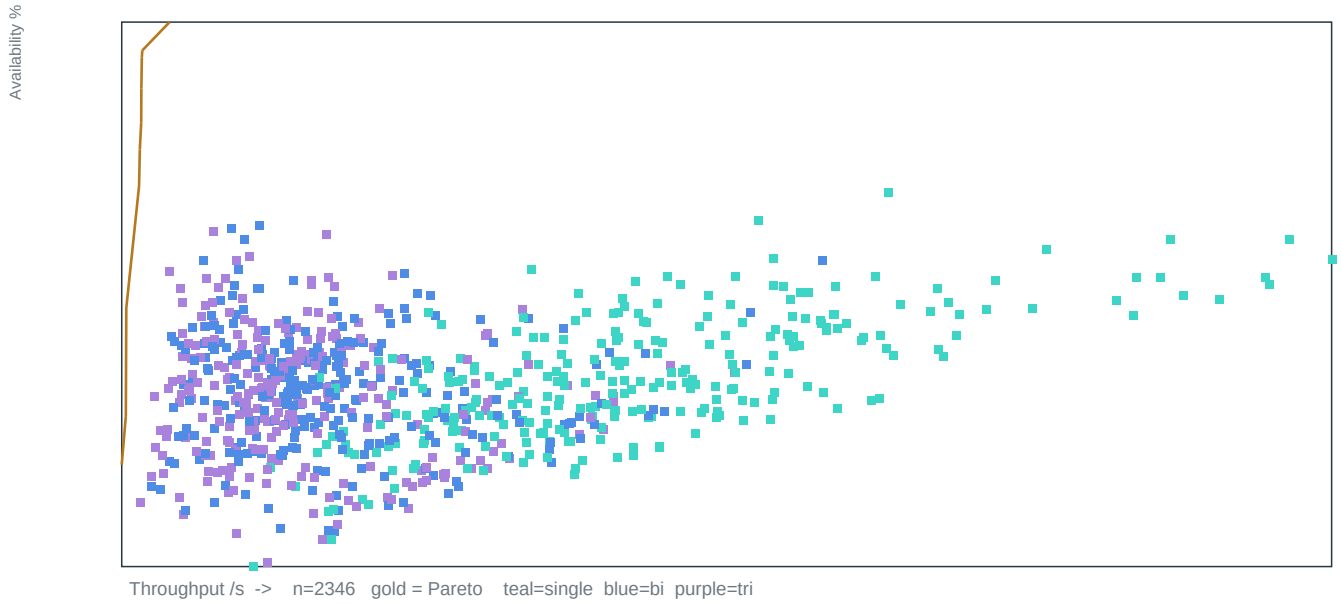



SoftAcc % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

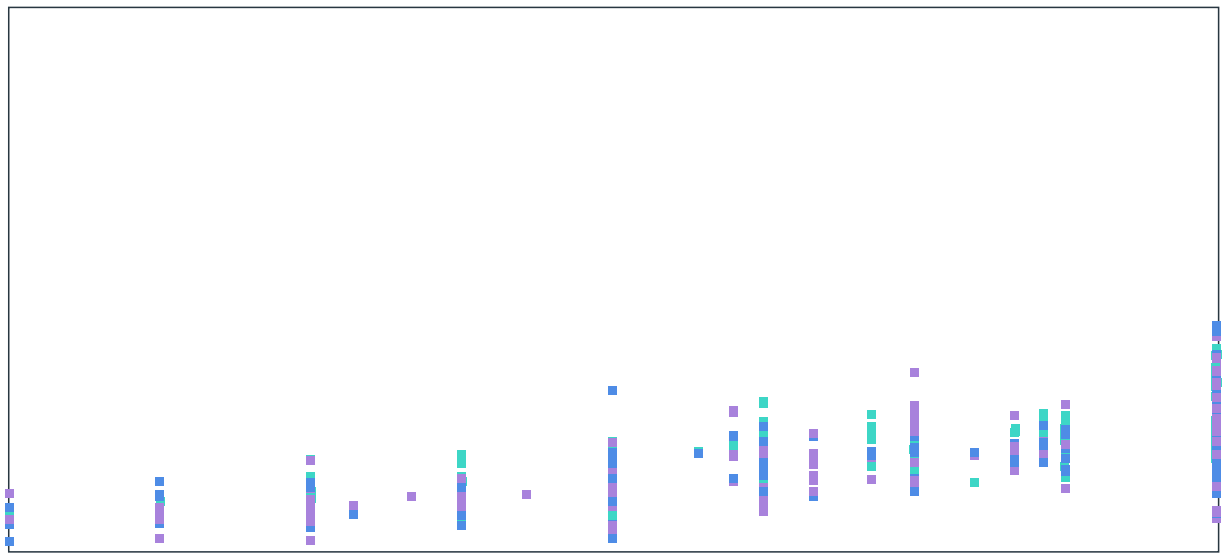
Avail vs Lucy Score (duty clock)



Pillars - Throughput vs Availability



AdaptPct vs hard Acc



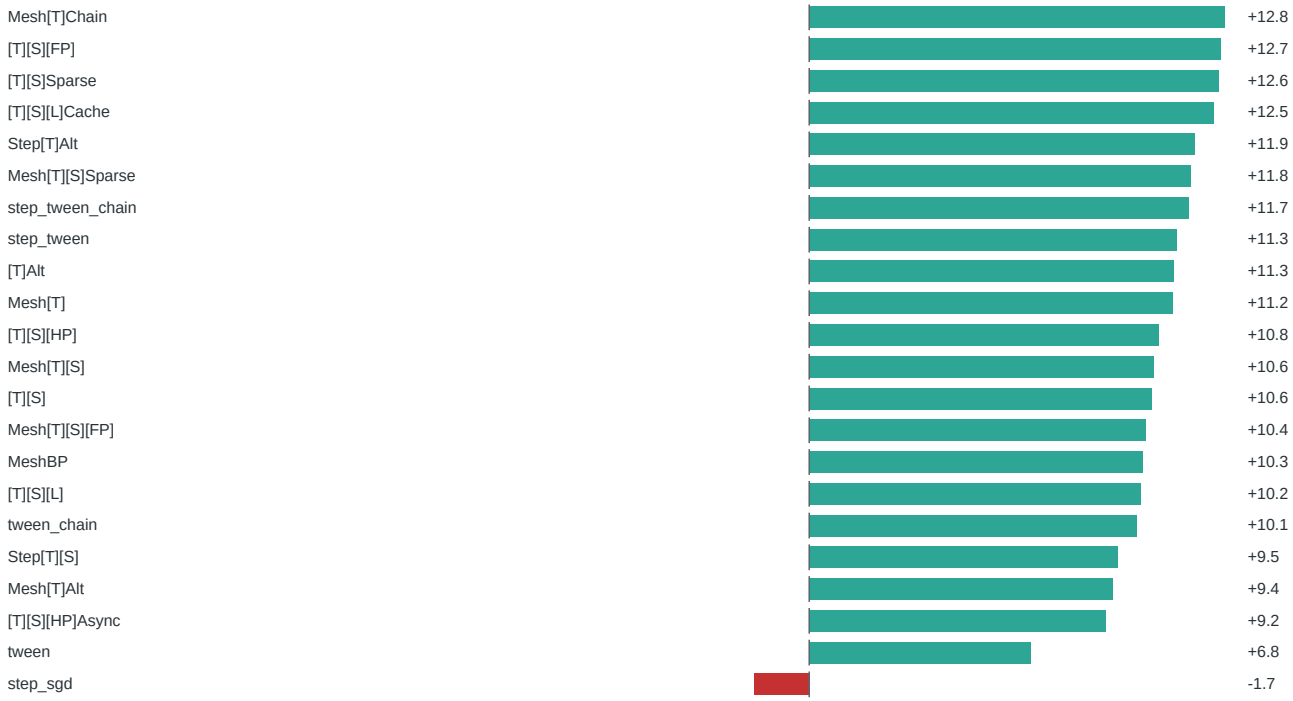

AdaptPct % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

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]Chain	102	+12.8	94	+11.1	-1.7	-61	-1.0	25
[T][S][FP]	102	+12.7	77	+11.9	+3.6	-79	-1.3	34
[T][S]Sparse	102	+12.6	82	+11.9	+8.1	-88	-1.2	39
[T][S][L]Cache	102	+12.5	80	+11.9	+3.9	-87	-1.7	28
Step[T]Alt	102	+11.9	75	+11.9	-9.0	-102	-3.8	0
Mesh[T][S]Sparse	102	+11.8	79	+11.9	+8.3	-104	-2.4	25
step_tween_chain	102	+11.7	93	+11.2	-5.3	-57	-1.8	13
step_tween	102	+11.3	93	+10.9	-6.3	-61	-2.1	14
[T]Alt	102	+11.3	75	+11.9	-7.6	-92	-3.4	4
Mesh[T]	102	+11.2	92	+11.0	-3.7	-55	-1.2	20
[T][S][HP]	102	+10.8	75	+11.9	+4.2	-59	-0.2	48
Mesh[T][S]	102	+10.6	76	+11.9	+3.6	-100	-2.7	12
[T][S]	102	+10.6	79	+11.8	+4.1	-17	+1.9	60
Mesh[T][S][FP]	102	+10.4	70	+11.9	+4.4	-106	-3.0	10
MeshBP	102	+10.3	92	+10.9	-1.7	-43	-0.5	33
[T][S][L]	102	+10.2	75	+11.9	-1.5	-90	-2.7	14
tween_chain	102	+10.1	91	+9.9	-2.2	-28	+0.1	40
Step[T][S]	102	+9.5	72	+11.9	-1.6	-55	-1.2	27
Mesh[T]Alt	102	+9.4	70	+11.9	-8.0	-122	-4.4	0
[T][S][HP]Async	102	+9.2	70	+11.9	+4.1	-90	-2.2	20
tween	102	+6.8	87	+6.5	-3.5	-37	-1.1	25
step_sgd	102	-1.7	35	-1.9	-5.8	-47	-2.9	1

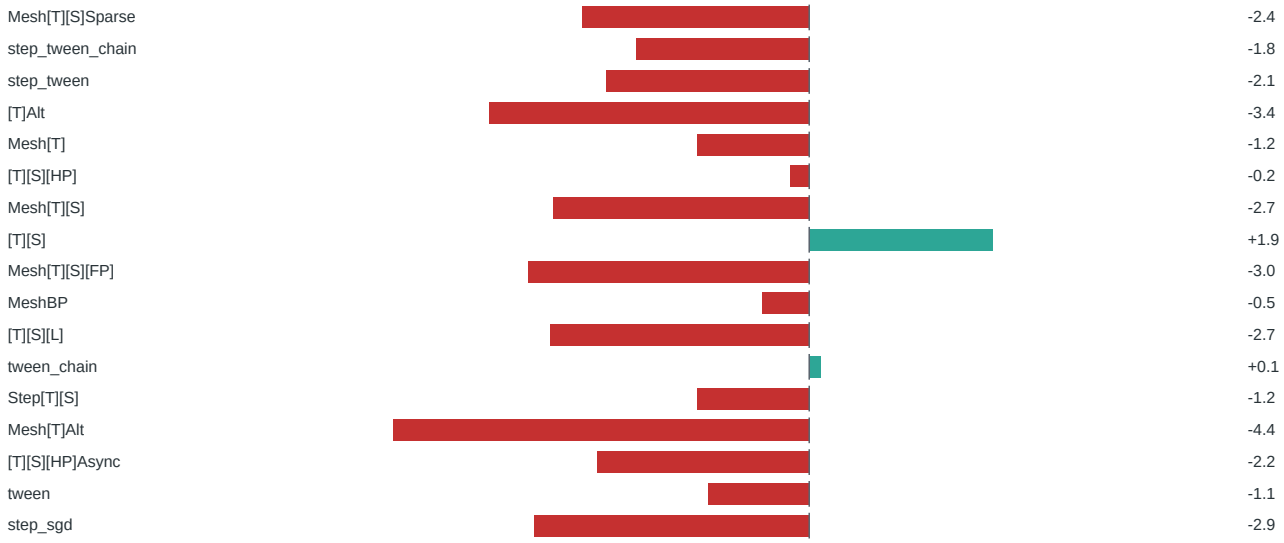
mean AccD vs sgd



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	+6	+3	+12	+18	+12	+4	+14	+10	+15	+11	+16	+10
Mesh[T]	+7	+9	+11	+5	+11	+6	+15	+13	+6	+13	+13	+12
Mesh[T]Alt	+4	+8	+14	+18	+12	+3	+25	+0	+9	+3	+11	-2
Mesh[T]Chain	+13	+9	+20	+12	+18	+9	+16	+12	+10	+5	+13	+8
Mesh[T][S]	+7	+3	+16	+10	+13	-9	+19	+16	+13	+13	+8	+7
Mesh[T][S][FP]	+6	+7	-1	+15	+13	+2	+13	+16	+1	+20	+12	+0
Mesh[T][S]Sparse	+13	+15	+14	+4	+4	+5	+10	+13	+9	+11	+15	+17
Step[T]Alt	+4	+3	+11	+18	+16	+12	+0	+16	-4	+5	+1	+19
Step[T][S]	+6	+5	+26	+9	+18	+5	-1	+12	-8	+7	+22	+14
[T]Alt	+15	+10	+5	+5	+8	+13	+28	+8	+5	+9	+9	+18
[T][S]	+1	+3	+9	+20	+10	+8	+15	+7	-1	+9	+9	+14
[T][S][FP]	+15	+14	+11	+12	+4	+5	+19	+8	+11	+16	+4	+4
[T][S][HP]	+2	+18	+1	+12	+18	-11	+10	+15	+3	+2	+16	+6
[T][S][HP]Async	+7	+10	+5	+21	+7	-4	+14	+11	+1	+13	+10	+6
[T][S][L]	+6	+3	+9	+20	+10	+10	+14	+12	+1	-1	+16	+1
[T][S][L]Cache	+14	+23	+16	+16	+25	+4	+14	-1	+1	+21	+13	+19
[T][S]Sparse	+14	+8	+16	+4	+17	+6	+16	+11	+7	+16	+18	+8
step_sgd	-1	-2	-5	-1	-1	-4	+4	+2	-2	-7	-2	-4
step_tween	+8	+12	+5	+10	+10	+3	+14	+15	+13	+12	+13	+15
step_tween_chain	+10	+5	+11	+16	+12	+1	+13	+7	+9	+7	+16	+12
tween	+6	+6	+3	+9	+10	+4	+11	+7	+5	+7	+8	+8
tween_chain	+9	+7	+9	+12	+13	+6	+11	+11	+11	+8	+11	+5

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	+12	+13	+5	+8	+9	+12	+11	+8	+8	+10	+12	+14
Mesh[T]	+8	+10	+10	+12	+5	+18	+17	+7	+8	+8	+14	+12
Mesh[T]Alt	+11	+10	+8	+35	+5	+6	+8	+26	+6	+11	+7	+9
Mesh[T]Chain	+10	+16	+16	+21	+15	+24	+7	+10	+17	+13	+18	+13
Mesh[T][S]	+14	+20	+37	+14	+9	-5	-0	+11	+22	+11	+22	+11
Mesh[T][S][FP]	-0	+11	+27	+12	+7	+1	-2	+13	+22	+15	+25	+21
Mesh[T][S]Sparse	+7	+10	+10	+18	+9	+9	+4	+3	+11	+40	+13	+19
Step[T]Alt	+23	+18	+17	+6	+16	+20	+10	+11	+12	+15	+5	+15
Step[T][S]	+11	+12	+18	+10	+2	-6	+2	+1	+11	+25	+5	+15
[T]Alt	+13	+5	+17	+22	+9	+2	+12	+11	+12	+21	+14	-2
[T][S]	+1	+20	+11	+11	+15	+17	+0	+11	+14	+17	+4	+13
[T][S][FP]	+11	+16	+10	+20	+12	+9	+4	+24	+12	+16	+15	+17
[T][S][HP]	+9	+10	+23	+12	+7	+20	+4	+13	+6	+15	+18	+9
[T][S][HP]Async	+19	+14	-0	+25	+9	-1	+6	+8	+13	+7	+4	+13
[T][S][L]	+30	+18	+10	+8	+19	-1	+4	+6	+16	+23	+20	+15
[T][S][L]Cache	+13	+8	+12	+12	+10	+11	+4	+5	+10	+23	+11	+17
[T][S]Sparse	+13	+18	+14	+23	+6	+13	+16	+9	+7	+15	+17	+15
step_sgd	-4	+2	+0	-4	-2	-4	-1	-3	+0	-0	+2	-2
step_tween	+9	+10	+16	+19	+8	+14	+12	+6	+9	+14	+11	+10
step_tween_chain	+15	+11	+25	+10	+6	+15	+19	+8	+12	+19	+7	+12
tween	+5	+6	+10	+5	+5	+3	+5	+3	+2	+10	+7	+8
tween_chain	+6	+7	+18	+10	+9	+8	+9	+5	+7	+12	+9	+13

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	+12	+3	+15	+8	+9	+5	+9	+9	+12	+14
Mesh[T]	+14	+7	+15	+17	+12	+11	+6	+13	+11	+24
Mesh[T]Alt	+18	+13	+9	+27	+1	+5	+1	-2	+2	-2
Mesh[T]Chain	+16	+9	+18	+6	+7	+10	+6	+13	+12	+15
Mesh[T][S]	+13	+13	+19	+4	+12	+1	-3	+13	+4	+6
Mesh[T][S][FP]	+1	+10	+11	-4	+16	+3	+7	+7	+24	+25
Mesh[T][S]Sparse	+8	+21	+23	-2	+13	+7	+1	+12	+10	+23
Step[T]Alt	+10	+11	+21	+13	+22	+11	+13	+10	+8	+14
Step[T][S]	+5	+5	+23	+13	+12	+1	+1	+19	+17	+8
[T]Alt	+16	+2	+21	+11	+6	+9	-3	+17	+21	+12
[T][S]	+20	+11	+15	+13	+1	+11	+12	+14	+17	+8
[T][S][FP]	+18	+15	+21	+11	+23	+8	-3	+18	+2	+28
[T][S][HP]	+3	-2	+21	+15	+20	+30	-5	+19	+15	+14
[T][S][HP]Async	+16	+2	+7	+14	+12	+1	-3	+17	+22	+6
[T][S][L]	+10	+5	+19	-12	+8	+9	+3	+10	+8	+18
[T][S][L]Cache	+16	+9	+23	+9	+18	+1	+1	+12	+11	+23
[T][S]Sparse	+22	+10	+31	+7	+12	+5	-3	+20	+9	+12
step_sgd	-1	-7	+1	-1	+0	-4	-3	-1	-2	-0
step_tween	+8	+7	+15	+8	+17	+11	+17	+9	+14	+11
step_tween_chain	+14	+9	+18	+9	+13	+12	+17	+11	+6	+13
tween	+10	+1	+15	+9	+10	+4	+7	+6	+6	+10
tween_chain	+13	+5	+22	+11	+14	+14	+13	+10	+7	+11

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

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

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

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

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

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

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

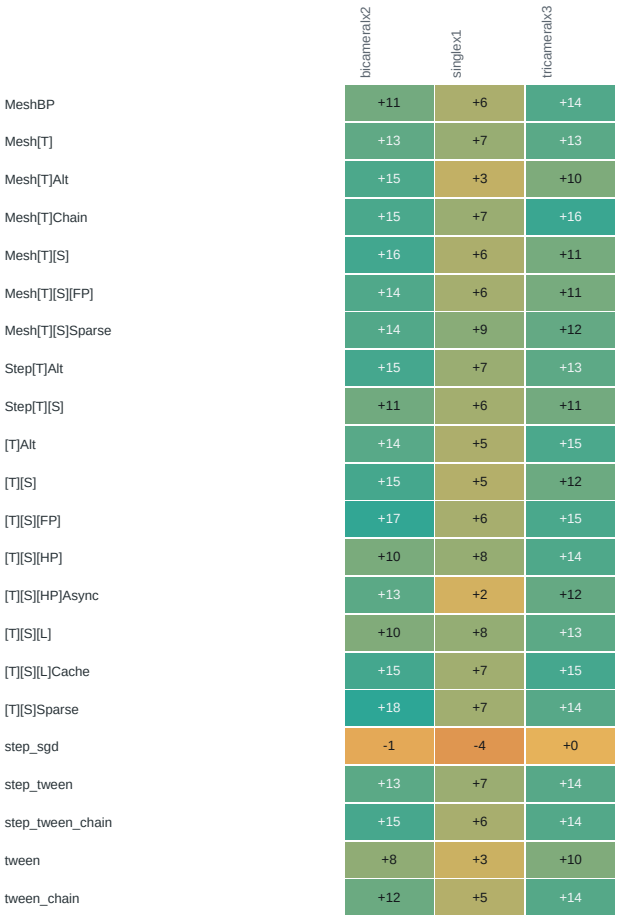
AvailD vs sgd, every mode x dtype (cols 25-34)

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

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

AccD vs sgd, every mode x arch

AccD vs sgd, every mode x arch



Family collapse - Step* vs non-Step

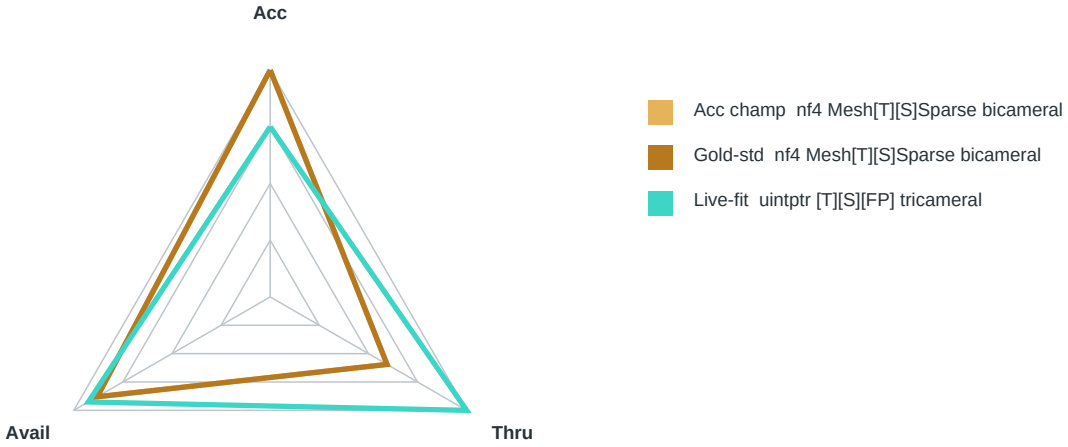
Step* is a 1D pipe (one sample enters layer 0 per tick; output is the sample that entered depth ticks ago). Non-Step of the same family is a full-chain update. AccD is a real scheduler split, not leftover warm-up forwards.

step	plain	n	mean |AccD|
Step[T]Alt	[T]Alt	102	15.00
Step[T][S]	[T][S]	102	13.27
step_sgd	sgd	102	3.79
step_tween	tween	102	6.63
step_tween_chain	tween_chain	102	5.58

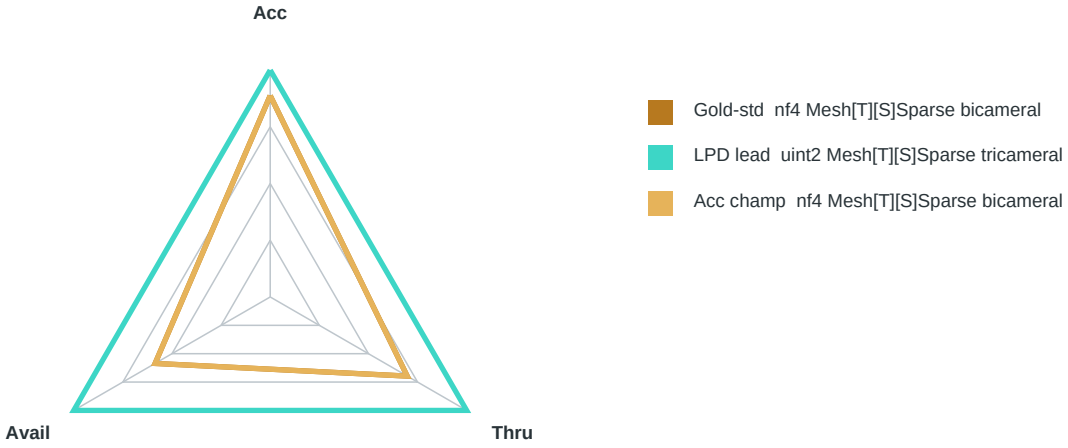
Consciousness - Acc, Throughput, Availability

Synthetic organism / Lucy density: can the net run and train at the same time in a small box. Lucy Score = Throughput x Availability x Acc / 10,000 (hard Acc; SoftAcc is serve-confidence only). SGD that blocks serve dies on Availability. Q = geomean Acc/Thru/Avail vs learner peaks (traps do not set Thru/Avail). LPD = Q x shrink vs Acc-champ RAM; 0 unless Acc keep >=70%. Gold = all 3 pillars >=80% at <=20% Acc-champ RAM. Gold-std = Acc >=80% plus Thru or Avail, then smallest then fastest. Score/MiB is the binary trap.
Acc champ nf4|none|Mesh[T][S]Sparse|bicameral|simd Acc 100.0 Thru 19 Avail 28.0% 6.2 KiB (RAM reference)
Lucy Score champ (T x Avail x Acc) float32|none|tween_chain|single|simd Score 26.5 Acc 30.2 Soft 25 2.0 KiB
Live-fit champ (best Q) uintptr|none|[T][S][FP]|tricameral|simd Acc 75.0 Thru 32 Avail 29.5% 132.0 KiB
Gold-std (2+ pillars, Acc keep >= 80%, then smallest then fastest): nf4|none|Mesh[T][S]Sparse|bicameral|simd mode Mesh[T][S]Sparse Acc 100.0 Thru 19 6.2 KiB
Board fastest ternary|none|sgd|single|simd Thru 384 (traps may own this) Best availability fp6|none|[T][S]Sparse|tricameral|simd 40.2%
Learner Thru peak 32 learner Avail peak 31.8%

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
Mesh[T][S]Sparse	1	100.0	6.2	19	nf4 Mesh[T][S]Sparse bicameral

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 Mesh[T][S]Sparse tricameral	75	57	100	75	67	1.5	1.13	75.0	18	4.2
keep	nf4 Mesh[T][S]Sparse bicameral	100	59	88	81	100	1.0	0.81	100.0	19	6.2
-	int32 [T][S][HP]Async tricameral	75	94	92	87	1056	0.1	0.08	75.0	30	66.0
acc	int32 Mesh[T]Alt bicameral	88	24	46	46	800	0.1	0.06	87.5	8	50.0
-	uintptr [T][S][FP] tricameral	75	100	93	89	2113	0.0	0.04	75.0	32	132.0
-	int16 [T][S][HP]Async bicameral	62	100	86	81	400	0.2	0.00	62.5	33	25.0
-	uint16 [T][S][FP] bicameral	62	100	85	81	400	0.2	0.00	62.5	49	25.0
-	uint3 [T][S][HP] tricameral	50	100	100	79	100	1.0	0.00	50.0	40	6.2
-	float64 [T][S][HP]Async tricameral	56	100	83	78	2112	0.0	0.00	56.2	44	132.0
-	uint8 Mesh[T][S][FP] bicameral	62	100	74	77	200	0.5	0.00	62.5	42	12.5

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
-	int5 [T][S] bicameral	50	100	93	77	125	0.8	0.00	50.0	59	7.8
-	uint3 [T][S]Sparse bicameral	50	91	100	77	76	1.3	0.00	50.0	30	4.7
-	uint5 [T][S][HP] tricameral	50	90	100	77	166	0.6	0.00	50.0	29	10.3
-	float16 [T][S]Sparse bicameral	44	100	100	76	400	0.2	0.00	43.8	51	25.0
-	float64 [T][S]Sparse bicameral	44	100	100	76	1600	0.1	0.00	43.8	69	100.0
-	uint64 [T][S]Sparse tricameral	44	100	100	76	2113	0.0	0.00	43.8	38	132.0
-	complex128 [T][S][L]Cache bicameral	56	100	77	76	3200	0.0	0.00	56.2	33	200.0
-	int Mesh[T][S]Sparse single	56	100	76	75	64	1.6	0.00	56.2	43	4.0
-	uint32 [T][S][FP] tricameral	50	100	85	75	1057	0.1	0.00	50.0	40	66.0
-	fp8e4m3 Mesh[T][S]Sparse tricameral	44	96	100	75	264	0.4	0.00	43.8	31	16.5

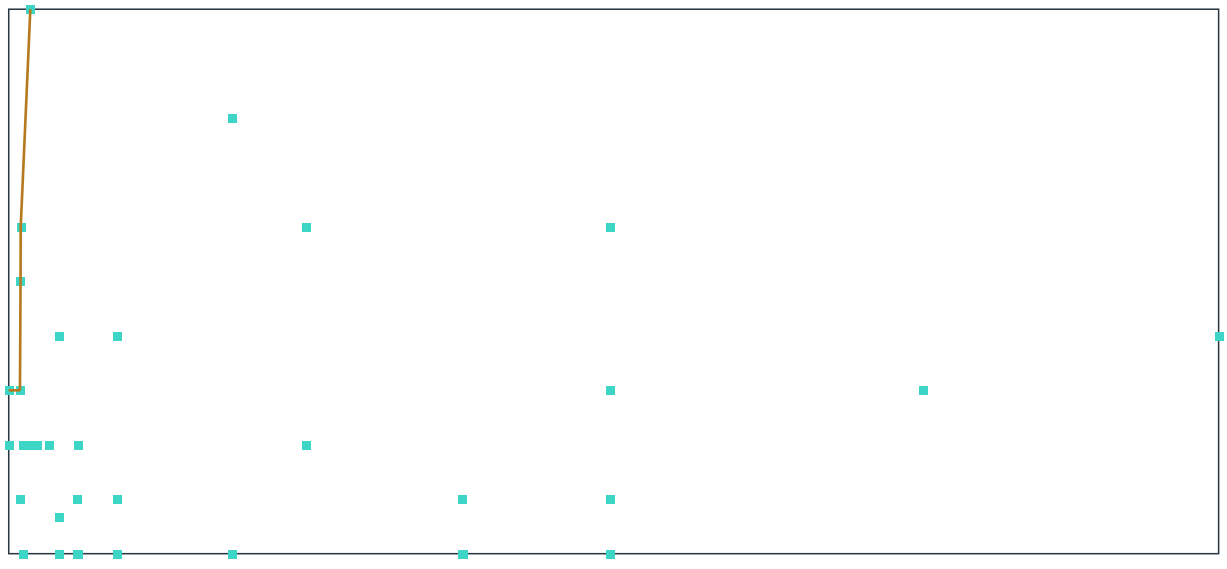
Consciousness rank - Q = geomean Acc/Thru/Avail keep

Band	Cell	Acc%	Thru%	Avail%	Q%	LPD	Thru	Avail
-	uintptr [T][S][FP] tricameral	75	100	93	89	0.04	32	29.5
-	int32 [T][S][HP]Async tricameral	75	94	92	87	0.08	30	29.3
keep	nf4 Mesh[T][S]Sparse bicameral	100	59	88	81	0.81	19	28.0
-	uint2 Mesh[T][S]Sparse tricameral	75	57	100	75	1.13	18	31.8
acc	int32 Mesh[T]Alt bicameral	88	24	46	46	0.06	8	14.7
-	int16 [T][S][HP]Async bicameral	62	100	86	81	0.00	33	27.5
-	uint16 [T][S][FP] bicameral	62	100	85	81	0.00	49	27.1
-	uint3 [T][S][HP] tricameral	50	100	100	79	0.00	40	32.6
-	float64 [T][S][HP]Async tricameral	56	100	83	78	0.00	44	26.5
-	uint8 Mesh[T][S][FP] bicameral	62	100	74	77	0.00	42	23.6

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

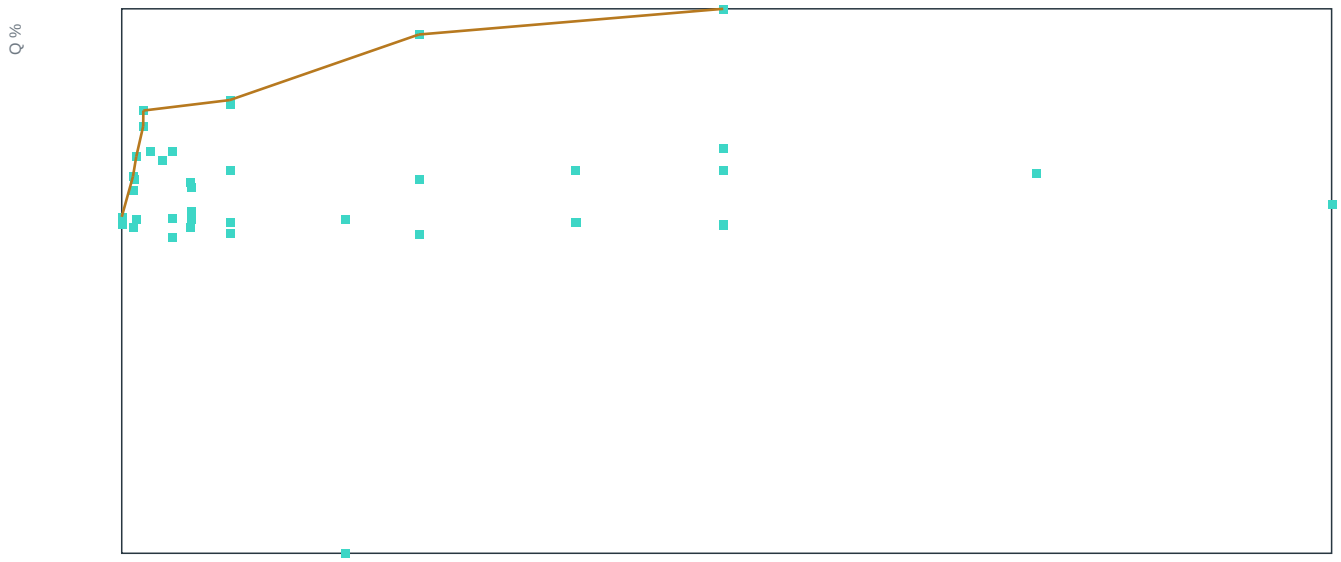
Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
trap	binary sgd single	24	100	75	56	1	32.0	0.00	23.8	363	0.1
trap	binary step_sgd single	18	100	50	45	1	32.0	0.00	17.7	239	0.1
trap	binary tween single	23	100	63	52	1	32.0	0.00	22.8	237	0.1
trap	binary tween_chain single	24	100	59	52	1	32.0	0.00	24.0	262	0.1
trap	binary step_tween single	36	100	39	52	1	32.0	0.00	36.3	160	0.1
trap	binary step_tween_chain single	20	100	39	43	1	32.0	0.00	20.1	138	0.1
trap	binary MeshBP single	19	100	51	46	1	32.0	0.00	18.9	191	0.1
trap	binary Mesh[T] single	31	100	56	56	1	32.0	0.00	31.2	207	0.1
trap	binary Mesh[T]Chain single	29	100	55	54	1	32.0	0.00	28.9	160	0.1
trap	binary [T][S] single	29	100	80	62	1	32.0	0.00	29.2	214	0.1

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



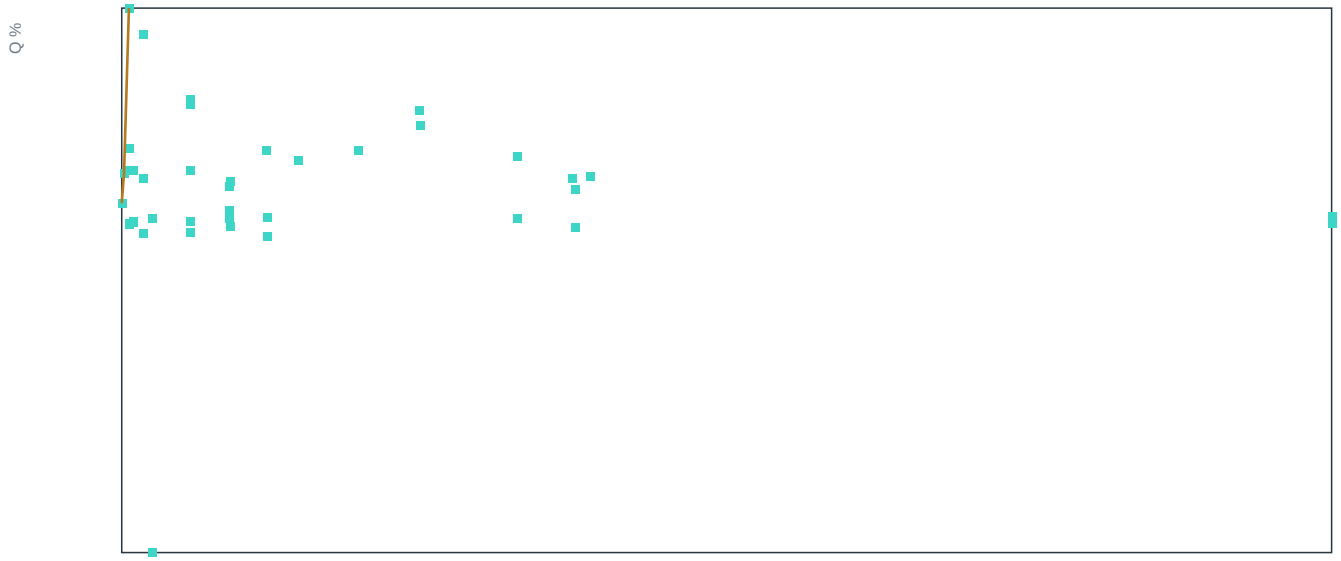

RAM KiB -> n=40 gold = Pareto teal=single blue=bi purple=tri
Acc keep % vs Acc champ

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



RAM KiB -> n=40 gold = Pareto teal=single blue=bi purple=tri

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

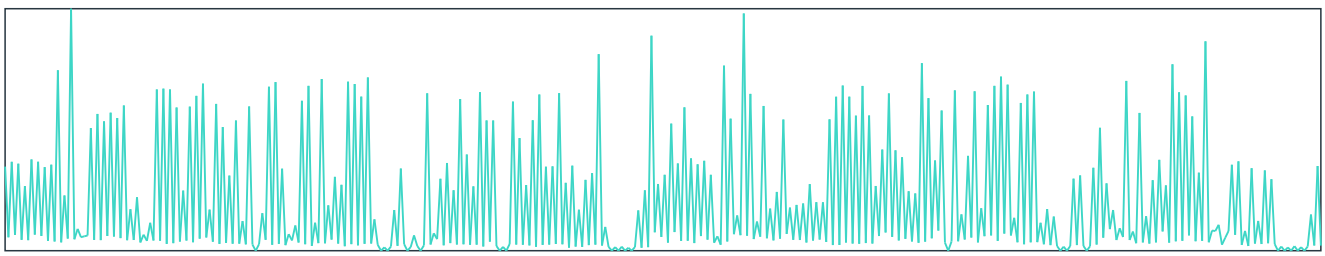


times smaller than Acc champ -> n=40 gold = Pareto teal=single blue=bi purple=tri

Top Lucy density (LPD)

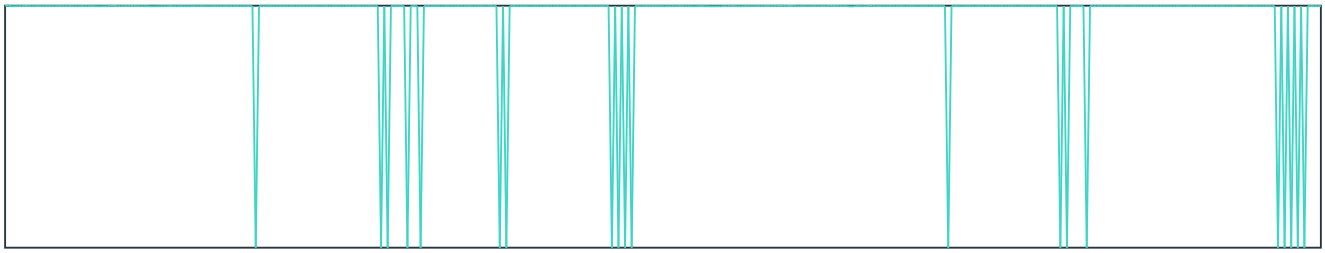


Live pulse (Score)



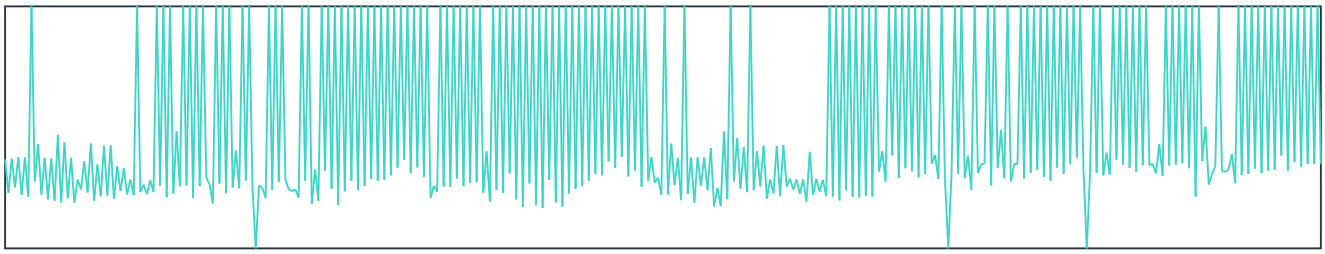
n=400 min=0.00 max=58.67

Live pulse (SoftAcc)



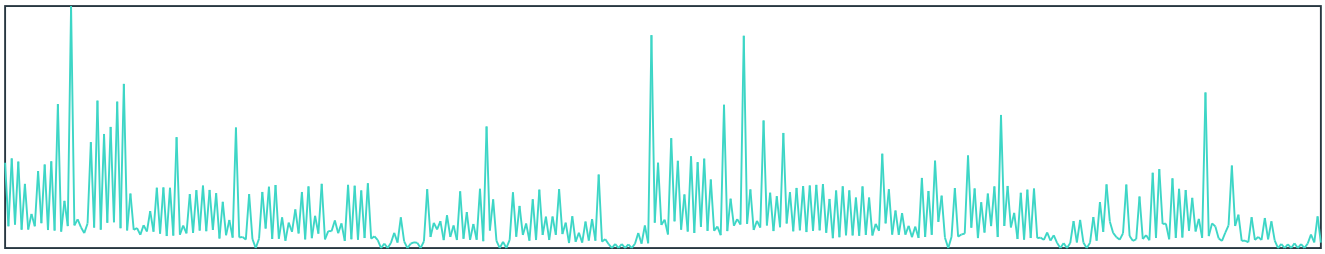
n=400 min=0.00 max=25.04

Live pulse (Availability)



n=400 min=0.00 max=100.00

Live pulse (Throughput)



n=400 min=0.00 max=627.81

Queue by train mode (this epoch)

Mode	Done	Run	Left	Total