tide cnn2

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 13:32:51 -
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 - cnn2 - offline report

Lucy champions (this tide)

Axis	Cell	Score	Soft	Acc	Thru	Avail
hard acc	float32|none|tween_chain|single|simd	720.90	36.5	86.7	5439.0	36.4
throughput	float32|none|tween_chain|single|simd	720.90	36.5	86.7	5439.0	36.4
availability	float32|none|[T][S][HP]Async|single|simd	306.18	25.5	55.9	2777.6	43.2
lucy score	float32|none|tween_chain|single|simd	720.90	36.5	86.7	5439.0	36.4
mobile score (trap)	binary|none|sgd|single|simd	376.17	25.1	24.7	4492.9	33.4
t->50%	uint32|none|sgd|bicameral|simd	12.12	21.9	40.9	247.5	22.4
acc/sec	float16|none|sgd|single|simd	440.11	35.6	87.6	3564.8	34.6

Lucy axis champions (this tide)

Axis	Mode	DType	Arch	Value
hard_acc	sgd	float16	singlex1	87.61
throughput	tween_chain	float32	singlex1	5439.00
availability	[T][S][HP]Async	float32	singlex1	43.21
score	tween_chain	float32	singlex1	720.90
soft_acc	tween_chain	float32	singlex1	36.45
acc_thru	tween_chain	float32	singlex1	4712.92
realtime	tween_chain	float32	singlex1	1977.59
adapt	MeshBP	float32	singlex1	37.41
keep_learn	MeshBP	float16	singlex1	16.03
acc_per_sec	sgd	float16	singlex1	17.81
time_to_50	sgd	uint32	bicameralx2	0.07
consistency	sgd	float16	singlex1	100.00
stability	step_sgd	fp4	singlex1	100.00
mobile_score	sgd	binary	singlex1	10113850~
lpd	Mesh[T][S][FP]	binary	singlex1	9.52
mspeed	tween_chain	float32	singlex1	1.00
mavail	[T][S]	complex128	singlex1	1.00
mix	tween_chain	float32	singlex1	0.97
gold_std	Mesh[T][S][FP]	binary	singlex1	0.04

Best settings per train mode

Mode	DType	Format	Score	Soft	Acc	Avail	n
tween_chain	float32	none	720.9	36.5	86.7	36.4	102
sgd	float32	none	669.6	34.9	85.5	38.9	102
MeshBP	float32	none	629.5	34.1	80.2	38.0	102
Mesh[T]Chain	float32	none	527.5	31.8	66.0	34.1	102
[T][S][FP]	float32	none	434.2	25.8	60.8	38.1	102
tween	float32	none	409.1	26.1	47.4	31.8	102
[T][S]	float32	none	405.3	32.8	69.9	36.7	102
step_sgd	float32	none	391.0	34.6	80.7	27.3	102
Step[T][S]	float32	none	379.8	29.0	52.5	32.1	102

[T][S][HP]	float32	none	343.4	31.4	70.5	38.8	102
step_tween_chain	float32	none	321.7	33.6	78.5	27.1	102
[T][S][HP]Async	float32	none	306.2	25.5	55.9	43.2	102
Mesh[T]	float32	none	294.3	26.8	56.7	28.4	102
[T][S][L]	float32	none	290.5	24.9	18.6	28.9	102
[T][S][L]Cache	uint8	none	281.0	25.4	27.7	36.2	102
step_tween	float32	none	239.6	25.9	57.3	26.3	102
[T][S]Sparse	float32	none	227.5	25.4	41.6	34.6	102
Mesh[T][S]	float32	none	224.5	26.3	43.3	37.9	102
Mesh[T][S][FP]	float32	none	157.6	25.6	54.7	33.6	102
Mesh[T][S]Sparse	float32	none	154.6	24.9	14.7	34.7	102
[T]Alt	float32	none	133.1	31.0	61.1	20.6	102
Step[T]Alt	float32	none	100.3	30.2	58.5	22.9	102
Mesh[T]Alt	float32	none	75.7	25.7	55.5	23.0	102

Best dtype per mode

Mode	Winner dtype	Score	Soft	Acc
tween_chain	float32	720.9	36.5	86.7
sgd	float32	669.6	34.9	85.5
MeshBP	float32	629.5	34.1	80.2
Mesh[T]Chain	float32	527.5	31.8	66.0
[T][S][FP]	float32	434.2	25.8	60.8
tween	float32	409.1	26.1	47.4
[T][S]	float32	405.3	32.8	69.9
step_sgd	float32	391.0	34.6	80.7
Step[T][S]	float32	379.8	29.0	52.5
[T][S][HP]	float32	343.4	31.4	70.5
step_tween_chain	float32	321.7	33.6	78.5
[T][S][HP]Async	float32	306.2	25.5	55.9
Mesh[T]	float32	294.3	26.8	56.7
[T][S][L]	float32	290.5	24.9	18.6
[T][S][L]Cache	uint8	281.0	25.4	27.7
step_tween	float32	239.6	25.9	57.3
[T][S]Sparse	float32	227.5	25.4	41.6
Mesh[T][S]	float32	224.5	26.3	43.3
Mesh[T][S][FP]	float32	157.6	25.6	54.7
Mesh[T][S]Sparse	float32	154.6	24.9	14.7
[T]Alt	float32	133.1	31.0	61.1
Step[T]Alt	float32	100.3	30.2	58.5
Mesh[T]Alt	float32	75.7	25.7	55.5

Best mode per dtype

DType	Winner mode	Score	Soft	Acc
float32	tween_chain	720.9	36.5	86.7
bfloat16	sgd	499.4	33.6	85.7
uint8	tween_chain	440.7	28.8	77.1
float16	sgd	440.1	35.6	87.6
int4	sgd	404.7	25.2	29.5
ternary	sgd	392.6	24.8	22.3
binary	sgd	376.2	25.1	24.7
int8	tween_chain	370.8	29.2	80.1
int2	sgd	362.6	25.0	22.1

uint32	sgd	347.1	28.4	79.8
float64	MeshBP	333.7	34.0	77.8
fp4	[T][S][FP]	315.8	25.0	19.8
uint16	sgd	313.5	27.3	75.1
uint64	sgd	311.9	28.0	80.3
fp8e5m2	sgd	307.6	25.3	68.8
int64	sgd	303.2	35.7	85.6
fp8e4m3	sgd	301.9	25.6	43.5
complex64	sgd	254.4	34.0	85.6
int	sgd	251.6	34.6	85.2
int32	sgd	247.7	29.3	82.4
uint2	sgd	242.7	24.8	16.9
uint4	sgd	239.4	25.1	30.4
complex128	tween_chain	216.3	34.1	86.0
uintptr	tween_chain	211.4	28.7	74.6
uint	sgd	195.2	26.4	73.0
int16	sgd	192.7	28.6	82.5
uint3	sgd	154.4	24.3	25.5
uint5	[T][S]	146.6	25.7	37.6
nf4	[T][S][FP]	140.9	25.3	54.9
int3	sgd	134.5	25.0	23.4
int5	sgd	108.9	25.8	46.8
fp6	sgd	108.8	27.7	67.9
uint6	MeshBP	107.1	27.2	67.5
int6	sgd	98.7	26.4	65.8

Leaderboard (Lucy Score)

#	Cell	Score	Soft	Acc	Thru	Avail
1	float32|none|tween_chain|single|simd	720.9	36.5	86.7	5439.0	36.4
2	float32|none|sgd|single|simd	669.6	34.9	85.5	4933.5	38.9
3	float32|none|MeshBP|single|simd	629.5	34.1	80.2	4849.9	38.0
4	float32|none|Mesh[T]Chain|single|simd	527.5	31.8	66.0	4858.2	34.1
5	bfloat16|none|sgd|single|simd	499.4	33.6	85.7	4162.9	35.7
6	uint8|none|tween_chain|single|simd	440.7	28.8	77.1	4447.7	34.4
7	float16|none|sgd|single|simd	440.1	35.6	87.6	3564.8	34.6
8	float32|none|[T][S][FP]|single|simd	434.2	25.8	60.8	4408.7	38.1
9	float32|none|tween|single|simd	409.1	26.1	47.4	4925.0	31.8
10	float32|none|[T][S]|single|simd	405.3	32.8	69.9	3372.9	36.7
11	int4|none|sgd|single|simd	404.7	25.2	29.5	4612.7	34.8
12	ternary|none|sgd|single|simd	392.6	24.8	22.3	4635.8	34.1
13	uint8|none|sgd|single|simd	392.3	28.8	77.3	4195.7	32.4
14	float32|none|step_sgd|single|simd	391.0	34.6	80.7	4136.3	27.3
15	float32|none|Step[T][S]|single|simd	379.8	29.0	52.5	4077.9	32.1
16	binary|none|sgd|single|simd	376.2	25.1	24.7	4492.9	33.4
17	int8|none|tween_chain|single|simd	370.8	29.2	80.1	3978.1	31.9
18	uint8|none|step_sgd|single|simd	369.3	30.3	82.8	3973.6	30.7
19	bfloat16|none|MeshBP|single|simd	368.3	31.2	67.5	3617.2	32.6
20	int2|none|sgd|single|simd	362.6	25.0	22.1	4230.4	34.3

Leaderboard (SoftAcc)

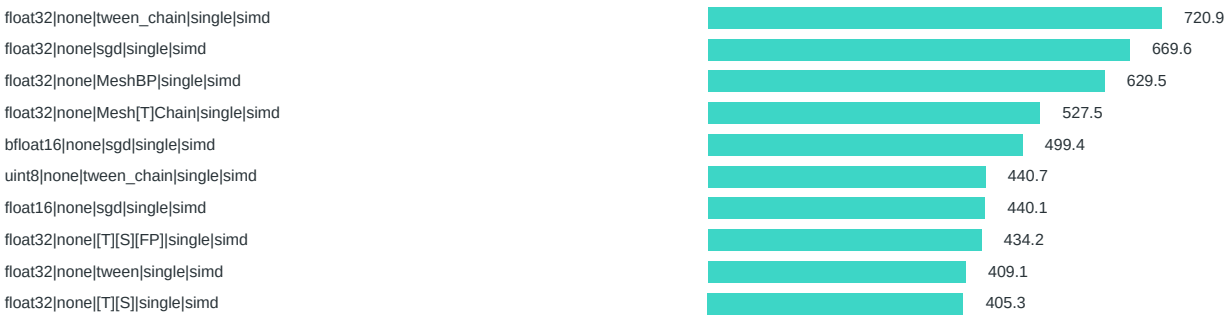
#	Cell	Score	Soft	Acc	Thru	Avail
1	float32|none|tween_chain|single|simd	720.9	36.5	86.7	5439.0	36.4

2	float16|none|sgd|single|simd	440.1	35.6	87.6	3564.8	34.6
3	float64|none|tween_chain|single|simd	333.5	35.2	85.0	3027.7	31.3
4	float16|none|tween_chain|single|simd	337.8	34.9	83.8	2799.2	34.6
5	float32|none|sgd|single|simd	669.6	34.9	85.5	4933.5	38.9
6	float32|none|step_sgd|single|simd	391.0	34.6	80.7	4136.3	27.3
7	float32|none|MeshBP|single|simd	629.5	34.1	80.2	4849.9	38.0
8	float64|none|MeshBP|single|simd	333.7	34.0	77.8	2905.7	33.8
9	float32|none|step_tween_chain|single|simd	321.7	33.6	78.5	3529.9	27.1
10	bfloat16|none|sgd|single|simd	499.4	33.6	85.7	4162.9	35.7
11	float32|none|[T][S]|single|simd	405.3	32.8	69.9	3372.9	36.7
12	float32|none|Mesh[T]Chain|single|simd	527.5	31.8	66.0	4858.2	34.1
13	bfloat16|none|[T][S]|single|simd	330.8	31.7	73.7	2956.9	35.3
14	float32|none|[T][S][HP]|single|simd	343.4	31.4	70.5	2820.7	38.8
15	bfloat16|none|MeshBP|single|simd	368.3	31.2	67.5	3617.2	32.6
16	float64|none|sgd|single|simd	329.0	31.1	73.1	3246.2	32.6
17	uint8|none|step_sgd|single|simd	369.3	30.3	82.8	3973.6	30.7
18	int8|none|step_sgd|single|simd	329.5	29.5	82.2	3639.2	30.6
19	int8|none|sgd|single|simd	358.6	29.3	80.3	3534.6	34.7
20	int8|none|tween_chain|single|simd	370.8	29.2	80.1	3978.1	31.9

Leaderboard (hard Acc)

#	Cell	Score	Soft	Acc	Thru	Avail
1	float16|none|sgd|single|simd	440.1	35.6	87.6	3564.8	34.6
2	float32|none|tween_chain|single|simd	720.9	36.5	86.7	5439.0	36.4
3	bfloat16|none|sgd|single|simd	499.4	33.6	85.7	4162.9	35.7
4	float32|none|sgd|single|simd	669.6	34.9	85.5	4933.5	38.9
5	float64|none|tween_chain|single|simd	333.5	35.2	85.0	3027.7	31.3
6	float16|none|tween_chain|single|simd	337.8	34.9	83.8	2799.2	34.6
7	uint8|none|step_sgd|single|simd	369.3	30.3	82.8	3973.6	30.7
8	int8|none|step_sgd|single|simd	329.5	29.5	82.2	3639.2	30.6
9	float32|none|step_sgd|single|simd	391.0	34.6	80.7	4136.3	27.3
10	int8|none|sgd|single|simd	358.6	29.3	80.3	3534.6	34.7
11	float32|none|MeshBP|single|simd	629.5	34.1	80.2	4849.9	38.0
12	int8|none|tween_chain|single|simd	370.8	29.2	80.1	3978.1	31.9
13	uint32|none|sgd|single|simd	347.1	28.4	79.8	3451.0	35.4
14	float32|none|step_tween_chain|single|simd	321.7	33.6	78.5	3529.9	27.1
15	float64|none|MeshBP|single|simd	333.7	34.0	77.8	2905.7	33.8
16	uint8|none|sgd|single|simd	392.3	28.8	77.3	4195.7	32.4
17	uint8|none|tween_chain|single|simd	440.7	28.8	77.1	4447.7	34.4
18	bfloat16|none|[T][S]|single|simd	330.8	31.7	73.7	2956.9	35.3
19	int8|none|MeshBP|single|simd	355.2	28.0	73.4	3771.2	33.7
20	float64|none|sgd|single|simd	329.0	31.1	73.1	3246.2	32.6

Top scores

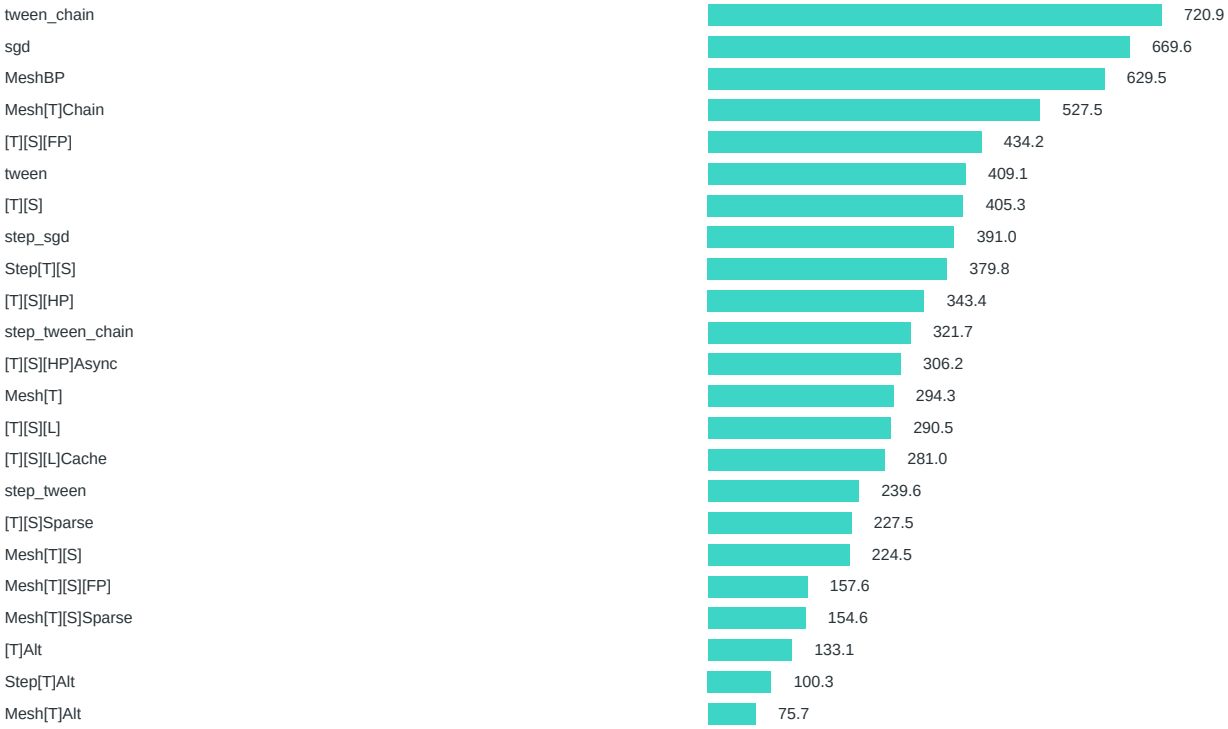


int4|none|sgd|single|simd





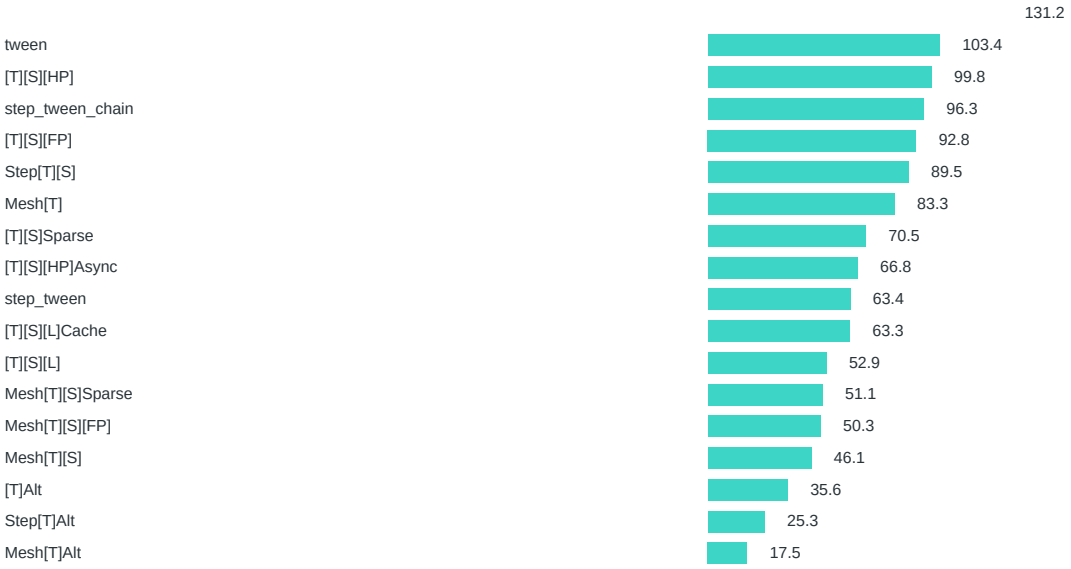
Best settings per mode



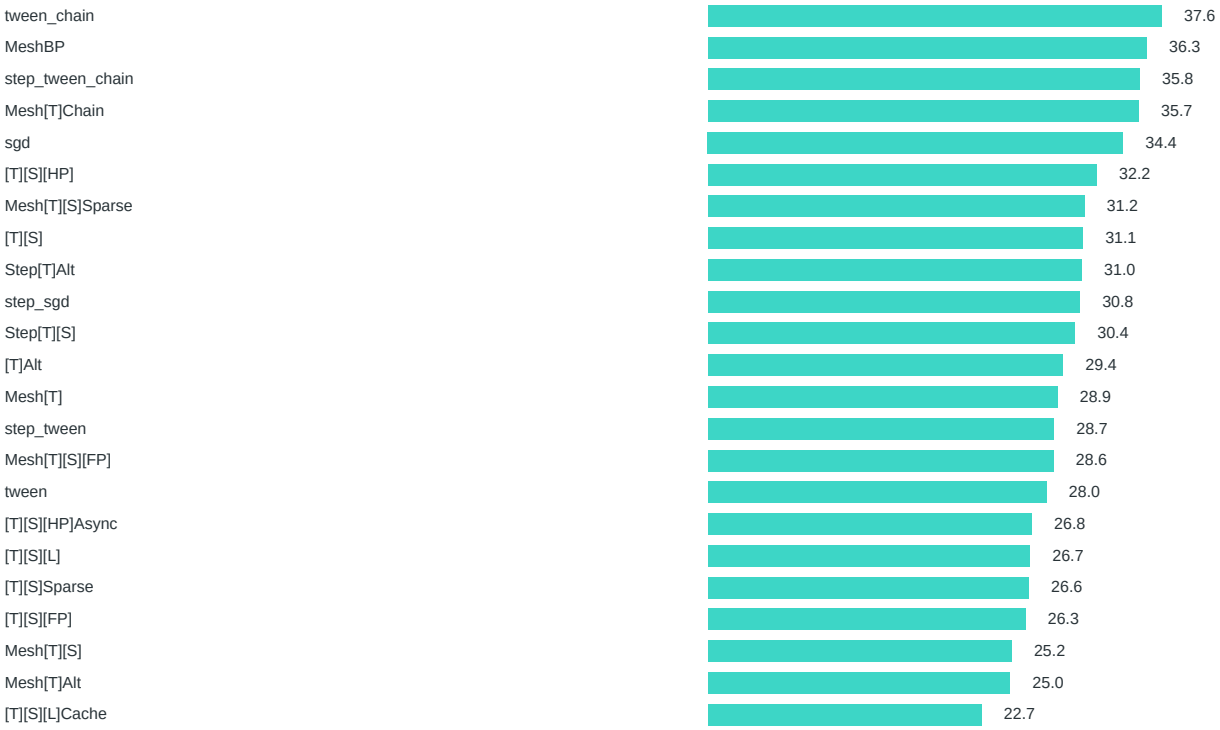
Mean Score by train mode



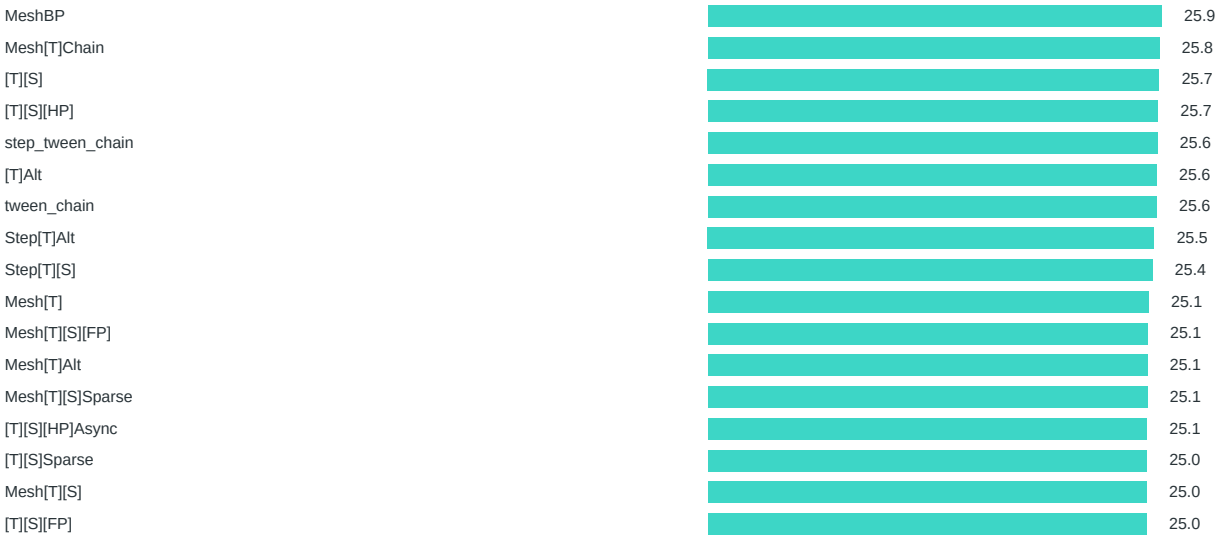
[T][S]



Mean hard Acc by train mode



Mean SoftAcc by train mode

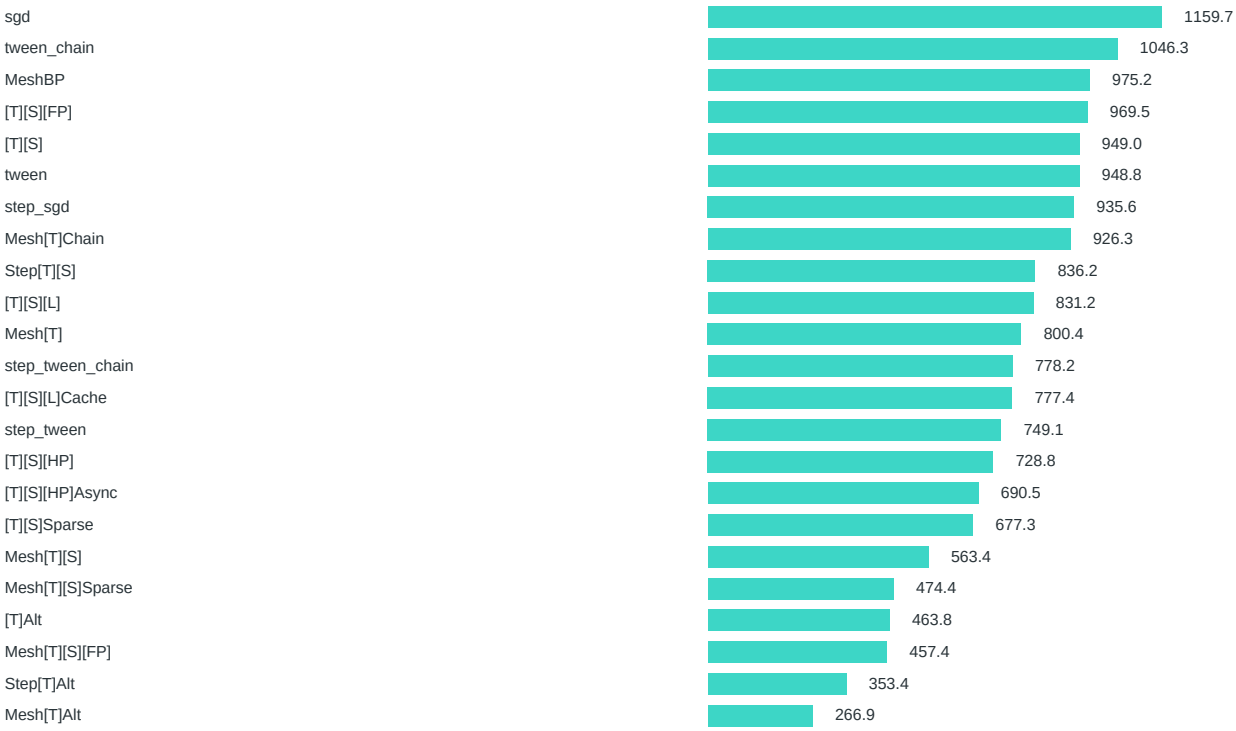




Mean Availability by train mode



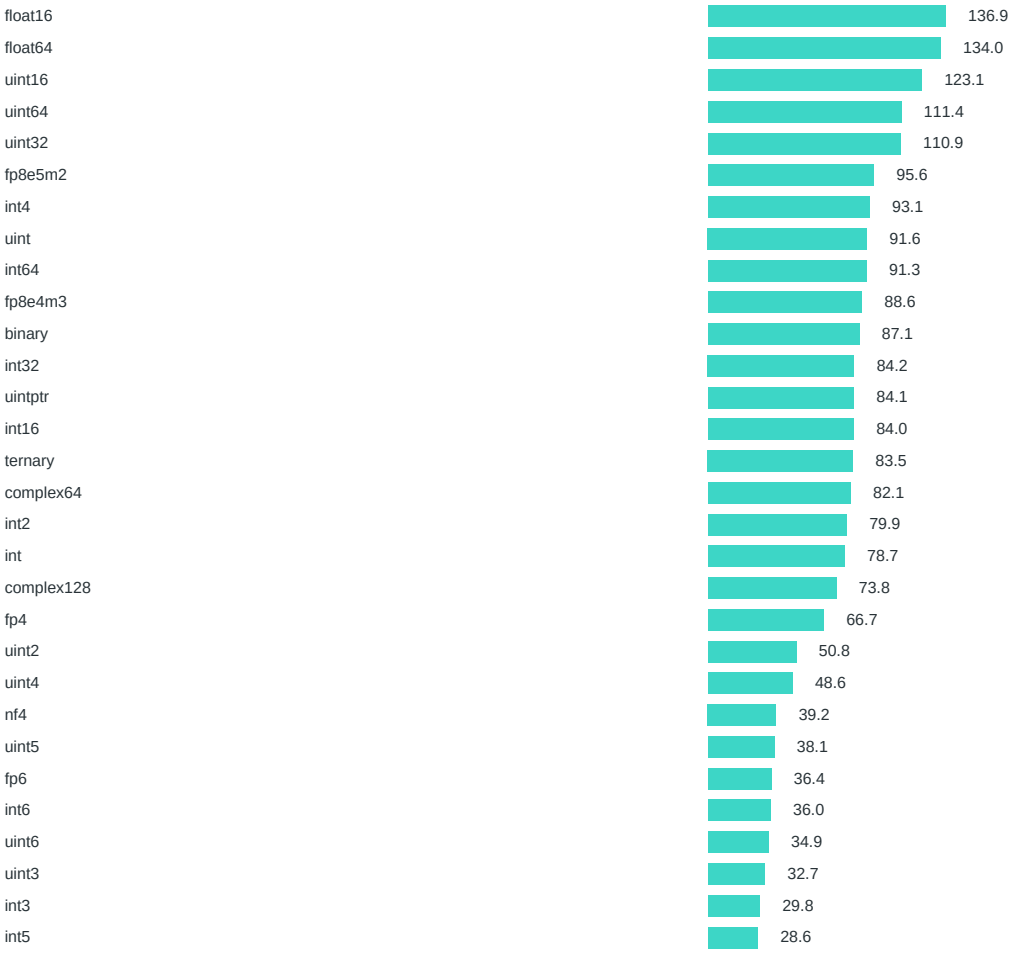
Mean Throughput by train mode



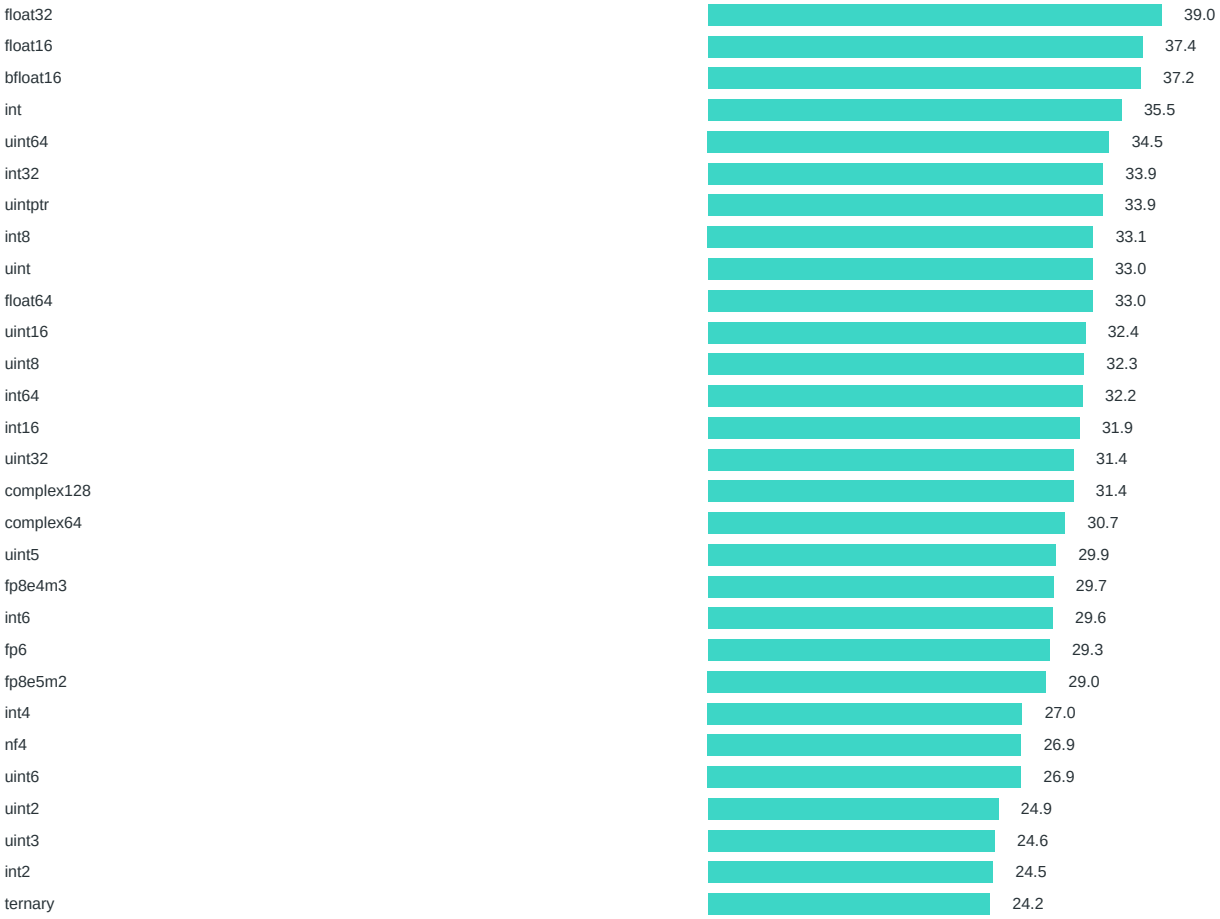
Mean Score by dtype



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	279	114	126	149	213	541	271	61	83	123	142	109
Mesh[T]	156	53	72	85	73	232	132	45	29	63	73	62
Mesh[T]Alt	22	14	10	8	16	62	17	12	3	15	8	23
Mesh[T]Chain	220	110	105	147	184	386	271	98	59	151	163	105
Mesh[T][S]	13	28	36	33	78	148	23	46	23	75	46	18
Mesh[T][S][FP]	114	148	22	27	70	144	46	43	10	40	38	42
Mesh[T][S]Sparse	55	100	36	36	61	72	47	53	24	31	61	46
Step[T]Alt	51	21	23	23	35	72	37	23	8	23	21	13
Step[T][S]	193	84	63	93	150	255	135	69	51	138	108	79
[T]Alt	68	21	26	41	41	95	64	27	15	53	46	35
[T][S]	279	138	156	121	218	335	217	93	40	148	161	135
[T][S][FP]	87	101	77	70	110	373	150	98	60	100	51	77
[T][S][HP]	197	63	78	91	163	303	150	72	51	68	58	111
[T][S][HP]Async	72	92	66	37	86	239	55	71	35	39	80	45
[T][S][L]	70	127	62	21	97	90	30	75	23	54	83	39
[T][S][L]Cache	97	97	13	47	96	200	85	77	18	165	78	53
[T][S]Sparse	69	89	27	50	113	188	88	71	6	86	79	48
sgd	443	142	173	218	370	586	285	98	90	179	287	215
step_sgd	219	135	135	151	231	330	206	76	45	124	121	126
step_tween	97	55	56	66	117	198	113	61	12	44	48	39
step_tween_chain	152	105	52	92	181	277	179	61	51	86	112	103
tween	201	77	96	100	166	276	196	93	36	38	125	109
tween_chain	249	90	188	180	279	609	282	112	67	194	208	180

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	173	86	36	176	112	31	75	173	323	53	93	137
Mesh[T]	92	77	27	98	100	12	20	84	164	35	132	63
Mesh[T]Alt	5	28	12	12	50	1	9	25	40	20	11	20
Mesh[T]Chain	154	107	58	115	72	55	46	161	264	50	78	133
Mesh[T][S]	57	94	36	29	44	42	15	39	89	14	67	47
Mesh[T][S][FP]	26	37	27	52	47	4	18	32	110	22	97	51
Mesh[T][S]Sparse	69	77	9	60	148	22	18	62	94	17	53	33
Step[T]Alt	24	22	9	25	30	7	5	28	55	14	22	26
Step[T][S]	92	101	29	57	100	39	33	107	141	41	71	68
[T]Alt	24	43	21	43	45	6	14	40	54	17	26	37
[T][S]	127	99	55	143	151	44	53	165	209	65	97	134
[T][S][FP]	76	99	12	38	113	22	40	73	82	114	129	125
[T][S][HP]	101	112	29	96	137	33	67	111	209	47	81	98
[T][S][HP]Async	58	69	43	85	164	22	34	97	107	26	73	69
[T][S][L]	26	21	33	48	30	29	22	16	95	28	60	81
[T][S][L]Cache	38	93	30	43	72	31	60	27	44	50	90	99
[T][S]Sparse	71	81	49	35	76	9	28	76	195	16	116	123
sgd	195	110	44	243	175	67	83	249	344	72	127	185
step_sgd	144	98	22	121	108	34	44	105	326	50	153	136
step_tween	71	107	12	70	72	18	15	60	102	21	76	53
step_tween_chain	84	97	22	78	54	36	37	94	219	20	79	114
tween	83	123	31	115	96	31	20	95	217	42	106	115
tween_chain	138	58	41	153	145	65	72	183	363	70	85	161

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	231	82	38	207	65	60	92	205	287	162
Mesh[T]	147	44	26	133	56	15	30	115	187	98
Mesh[T]Alt	17	12	7	14	13	4	1	25	32	26
Mesh[T]Chain	201	104	26	179	35	51	66	169	299	113
Mesh[T][S]	48	48	21	33	46	27	20	26	101	57
Mesh[T][S][FP]	68	41	35	55	15	20	11	55	103	41
Mesh[T][S]Sparse	95	22	26	59	8	19	21	48	108	48
Step[T]Alt	39	35	10	25	9	4	5	29	70	17
Step[T][S]	79	63	38	75	58	29	46	105	182	72
[T]Alt	54	14	16	43	21	12	11	43	62	31
[T][S]	171	35	57	138	54	79	50	170	233	92
[T][S][FP]	163	110	59	95	82	68	24	90	93	97
[T][S][HP]	124	21	32	110	53	45	46	138	195	102
[T][S][HP]Async	44	43	36	66	26	55	15	81	108	32
[T][S][L]	89	30	40	79	73	39	20	37	62	67
[T][S][L]Cache	53	19	57	35	44	20	9	45	108	63
[T][S]Sparse	69	80	11	57	81	42	29	69	89	78
sgd	296	62	56	337	103	100	79	308	370	192
step_sgd	236	73	35	200	47	56	62	197	344	84
step_tween	109	22	29	89	34	11	20	96	108	58
step_tween_chain	144	46	23	119	64	37	42	129	197	92
tween	156	39	35	131	68	29	31	137	178	123
tween_chain	198	125	41	274	65	54	71	244	410	188

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	54	22	37	33	44	54	43	25	41	30	28	47
Mesh[T]	33	29	40	31	25	37	33	22	22	22	23	26
Mesh[T]Alt	28	22	30	16	32	37	32	24	27	36	18	48
Mesh[T]Chain	54	14	43	48	52	37	47	27	27	35	33	39
Mesh[T][S]	17	16	21	18	28	31	16	25	26	26	35	22
Mesh[T][S][FP]	42	38	16	14	43	47	17	25	11	31	28	43
Mesh[T][S]Sparse	23	38	29	33	19	22	27	24	38	25	47	44
Step[T]Alt	39	31	38	36	35	39	31	30	25	32	33	29
Step[T][S]	42	22	42	30	44	34	38	23	31	36	28	33
[T]Alt	33	14	34	38	29	38	31	25	28	38	35	28
[T][S]	44	23	34	38	40	41	32	23	17	32	33	35
[T][S][FP]	20	21	18	22	18	32	36	24	60	27	11	41
[T][S][HP]	47	13	32	31	44	49	33	18	43	26	16	61
[T][S][HP]Async	35	25	24	20	36	33	21	28	42	21	30	29
[T][S][L]	18	33	45	21	37	18	15	24	33	27	39	18
[T][S][L]Cache	24	20	9	23	38	45	14	23	21	36	21	21
[T][S]Sparse	20	23	8	15	32	36	38	25	14	29	25	27
sgd	59	27	42	41	46	49	48	24	31	29	38	45
step_sgd	47	27	33	38	40	50	47	20	25	28	23	37
step_tween	29	19	36	33	40	35	36	23	27	24	23	26
step_tween_chain	56	30	36	46	44	46	41	24	29	35	31	42
tween	32	22	28	31	44	33	36	24	24	20	31	31
tween_chain	60	23	46	46	49	51	48	24	31	34	38	44

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	46	22	24	39	23	26	32	40	35	30	26	35
Mesh[T]	31	23	22	30	33	14	23	29	32	36	31	27
Mesh[T]Alt	10	33	27	18	33	12	20	28	37	23	20	44
Mesh[T]Chain	40	25	30	37	23	33	37	53	36	30	19	41
Mesh[T][S]	44	24	22	22	29	34	34	20	29	22	22	28
Mesh[T][S][FP]	22	20	33	36	27	6	43	16	53	20	32	28
Mesh[T][S]Sparse	34	29	15	49	52	44	22	42	24	25	25	16
Step[T]Alt	35	21	29	40	35	35	24	28	24	26	25	31
Step[T][S]	29	26	26	26	28	30	18	34	29	38	23	25
[T]Alt	27	35	24	36	23	27	41	36	31	20	16	30
[T][S]	37	26	30	34	26	21	27	41	29	31	24	38
[T][S][FP]	31	23	25	24	25	20	24	32	14	39	18	38
[T][S][HP]	35	27	25	37	29	31	29	38	39	34	19	35
[T][S][HP]Async	29	23	20	43	32	17	39	27	26	25	34	25
[T][S][L]	10	21	18	28	21	20	24	20	33	30	29	31
[T][S][L]Cache	14	28	26	15	12	22	45	11	17	24	19	28
[T][S]Sparse	27	18	40	24	18	20	23	24	41	32	25	39
sgd	45	13	17	46	26	21	29	40	40	19	17	37
step_sgd	37	26	11	39	27	22	25	41	44	19	24	33
step_tween	38	31	14	39	23	25	20	29	28	18	28	31
step_tween_chain	44	26	21	39	24	22	35	39	44	21	31	50
tween	28	24	21	38	28	18	19	27	33	27	26	28
tween_chain	43	19	21	43	25	28	47	45	43	30	24	43

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	40	29	18	47	37	33	46	40	52	58
Mesh[T]	33	29	21	38	24	19	31	44	36	34
Mesh[T]Alt	19	13	16	14	21	22	10	22	30	30
Mesh[T]Chain	44	34	22	35	22	28	45	48	39	37
Mesh[T][S]	15	40	20	18	28	26	9	31	31	29
Mesh[T][S][FP]	42	26	39	19	20	31	28	22	21	32
Mesh[T][S]Sparse	42	13	33	34	8	33	38	43	43	27
Step[T]Alt	36	31	29	37	25	28	22	32	36	26
Step[T][S]	28	30	23	29	36	27	43	26	28	28
[T]Alt	30	15	29	31	24	27	29	32	29	40
[T][S]	35	19	36	33	12	31	33	37	29	34
[T][S][FP]	38	29	22	17	31	26	7	19	19	40
[T][S][HP]	39	10	19	27	33	30	33	36	38	39
[T][S][HP]Async	15	32	19	27	12	40	12	31	26	15
[T][S][L]	27	16	29	36	31	42	18	30	18	45
[T][S][L]Cache	17	12	43	26	21	13	25	20	15	21
[T][S]Sparse	30	32	24	17	37	46	16	30	22	26
sgd	40	21	15	50	22	30	29	45	46	42
step_sgd	32	21	16	35	16	29	28	39	40	29
step_tween	32	36	25	35	17	35	24	35	28	32
step_tween_chain	37	24	20	46	25	42	33	48	39	46
tween	30	27	21	34	30	20	19	34	31	33
tween_chain	44	33	29	41	25	32	39	48	46	39

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	27	25	27	25	28	28	28	25	26	25	25	27
Mesh[T]	25	25	25	25	25	26	25	25	25	25	25	25
Mesh[T]Alt	25	25	25	25	25	25	25	25	25	26	25	25
Mesh[T]Chain	27	25	27	27	27	27	27	25	26	25	25	27
Mesh[T][S]	25	25	25	25	25	25	25	25	25	25	25	25
Mesh[T][S][FP]	25	26	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	26	25	27	26	26	27	26	25	25	26	25	26
Step[T][S]	26	25	26	26	26	26	26	25	25	26	25	26
[T]Alt	27	25	27	27	27	27	27	25	25	26	26	27
[T][S]	27	25	27	27	27	28	27	25	25	26	26	28
[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]	27	25	27	27	27	27	27	25	26	25	25	27
[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	27	25	24	24	27	28	26	22	17	23	24	24
step_sgd	24	24	20	20	23	28	26	22	14	21	20	19
step_tween	25	25	25	25	25	25	25	25	23	24	25	24
step_tween_chain	28	25	26	27	27	28	28	25	26	25	25	27
tween	24	24	23	25	24	25	25	24	17	24	24	24
tween_chain	28	25	27	27	28	29	28	25	22	25	25	27

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	26	25	25	26	25	25	26	27	26	25	25	26
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	26	25	25	26	25	25	25	27	26	25	25	26
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	26	25	25	25	25
Step[T][S]	25	25	25	25	25	25	25	26	25	25	25	21
[T]Alt	25	25	25	26	25	25	25	27	25	25	25	25
[T][S]	25	25	25	26	25	25	25	27	26	25	25	25
[T][S][FP]	25	25	25	25	25	25	25	25	25	25	25	25
[T][S][HP]	26	25	25	26	25	25	25	27	26	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	21	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	16	24	25	16	16	26	26	19	24	20
step_sgd	21	24	13	20	24	14	14	21	26	16	24	19
step_tween	25	25	23	24	25	23	23	25	25	25	25	25
step_tween_chain	26	25	25	26	25	24	23	27	26	25	25	26
tween	23	25	19	24	25	18	16	23	25	22	25	23
tween_chain	26	25	24	26	25	25	24	28	26	25	25	26

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	26	25	25	26	25	26	26	26	26	26
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	26	25	25	26	25	25	25	26	26	26
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	26	25
Step[T][S]	25	25	25	25	25	25	25	25	25	25
[T]Alt	26	25	25	25	25	25	25	25	25	25
[T][S]	26	25	25	25	25	25	25	25	26	25
[T][S][FP]	25	25	25	25	25	25	25	25	25	25
[T][S][HP]	26	25	25	26	25	25	26	26	26	26
[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	22	20	15	22	22	16	17	24	26	21
step_sgd	18	18	14	19	18	15	14	20	25	18
step_tween	25	25	25	25	24	24	23	25	25	25
step_tween_chain	26	25	25	26	25	25	23	26	26	26
tween	23	24	21	24	24	18	17	24	25	25
tween_chain	26	24	24	25	25	24	22	25	26	26

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	23	19	24	25	25	28	26	21	24	26	24	24
Mesh[T]	22	20	22	25	22	22	24	19	25	25	24	24
Mesh[T]Alt	16	13	17	18	17	19	16	13	18	15	14	18
Mesh[T]Chain	24	20	25	25	25	24	25	21	25	23	24	24
Mesh[T][S]	32	26	29	32	35	31	33	28	33	34	32	32
Mesh[T][S][FP]	29	25	33	33	32	27	30	29	32	33	32	31
Mesh[T][S]Sparse	36	32	36	34	36	35	35	35	36	35	34	34
Step[T]Alt	15	12	14	15	14	15	17	12	17	14	15	14
Step[T][S]	26	22	25	26	23	25	25	23	26	26	24	24
[T]Alt	16	14	18	17	16	15	17	13	18	16	18	18
[T][S]	32	26	36	32	32	29	36	27	36	33	32	33
[T][S][FP]	32	27	33	32	32	30	31	30	33	31	32	32
[T][S][HP]	31	28	32	33	33	29	33	30	33	31	30	33
[T][S][HP]Async	30	26	31	32	31	29	30	28	34	31	32	31
[T][S][L]	25	20	27	27	27	24	29	24	27	28	25	28
[T][S][L]Cache	32	27	29	32	31	26	31	29	33	32	31	32
[T][S]Sparse	36	33	35	35	35	34	35	33	35	34	34	35
sgd	25	22	25	27	28	26	27	22	26	26	27	27
step_sgd	19	19	21	20	22	20	21	19	22	22	21	21
step_tween	20	16	21	21	20	20	19	17	19	18	19	18
step_tween_chain	18	19	18	20	21	22	23	19	21	19	22	21
tween	22	21	22	23	22	23	25	21	24	23	23	25
tween_chain	24	20	24	25	25	25	23	25	22	24	23	23

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	25	20	26	26	19	26	26	25	23	23	20	23
Mesh[T]	25	17	25	23	18	22	23	22	22	22	20	22
Mesh[T]Alt	18	15	17	16	15	15	18	22	16	17	14	16
Mesh[T]Chain	25	19	25	24	19	24	26	25	24	22	19	25
Mesh[T][S]	33	25	31	31	27	33	32	32	27	30	26	33
Mesh[T][S][FP]	32	28	31	33	27	33	34	34	26	29	27	33
Mesh[T][S]Sparse	36	35	35	35	33	35	34	34	34	35	33	35
Step[T]Alt	14	14	15	16	12	14	16	15	16	15	12	16
Step[T][S]	26	22	26	26	23	26	27	26	23	23	22	25
[T]Alt	18	13	19	17	12	17	18	17	12	17	12	18
[T][S]	33	26	34	31	27	33	34	32	26	31	25	33
[T][S][FP]	33	29	33	32	27	32	33	32	28	32	26	33
[T][S][HP]	32	26	32	30	26	32	34	33	28	30	27	33
[T][S][HP]Async	30	25	33	31	30	33	35	32	28	30	26	31
[T][S][L]	26	20	28	28	16	29	30	26	17	25	18	26
[T][S][L]Cache	32	26	32	30	26	32	32	32	25	30	27	32
[T][S]Sparse	34	34	34	35	34	35	35	34	33	32	33	36
sgd	29	19	26	27	22	27	26	27	22	25	21	25
step_sgd	21	17	19	22	19	21	21	20	21	22	20	21
step_tween	20	18	18	19	17	19	18	18	18	18	18	18
step_tween_chain	19	16	19	19	16	20	20	20	19	19	17	20
tween	24	18	23	25	18	24	22	23	20	22	20	25
tween_chain	23	20	24	24	21	25	25	24	25	24	23	24

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	24	23	23	25	24	23	25	24	24	25
Mesh[T]	24	23	22	23	23	26	24	23	21	24
Mesh[T]Alt	18	17	18	18	17	15	19	16	15	18
Mesh[T]Chain	25	25	24	24	22	25	25	25	25	24
Mesh[T][S]	33	32	33	31	32	32	33	32	28	34
Mesh[T][S][FP]	32	31	31	30	33	33	35	33	30	32
Mesh[T][S]Sparse	37	34	37	35	36	34	35	36	33	36
Step[T]Alt	15	18	15	15	15	14	14	16	14	14
Step[T][S]	24	26	25	24	25	26	26	23	25	25
[T]Alt	18	18	18	16	17	17	18	17	17	19
[T][S]	32	31	33	32	32	35	32	33	30	32
[T][S][FP]	34	32	32	31	33	34	33	34	30	32
[T][S][HP]	31	32	34	31	33	34	32	33	31	34
[T][S][HP]Async	30	31	32	32	33	33	32	32	30	31
[T][S][L]	27	27	25	26	26	28	28	26	22	27
[T][S][L]Cache	32	30	32	31	29	32	34	33	30	31
[T][S]Sparse	34	36	34	34	35	37	34	35	35	35
sgd	28	26	25	27	27	26	25	27	24	25
step_sgd	22	21	20	22	22	20	21	22	21	19
step_tween	21	20	19	20	20	18	21	19	21	19
step_tween_chain	22	20	20	21	20	20	18	20	20	20
tween	24	24	24	24	25	21	23	25	21	26
tween_chain	24	26	25	27	24	25	22	27	25	26

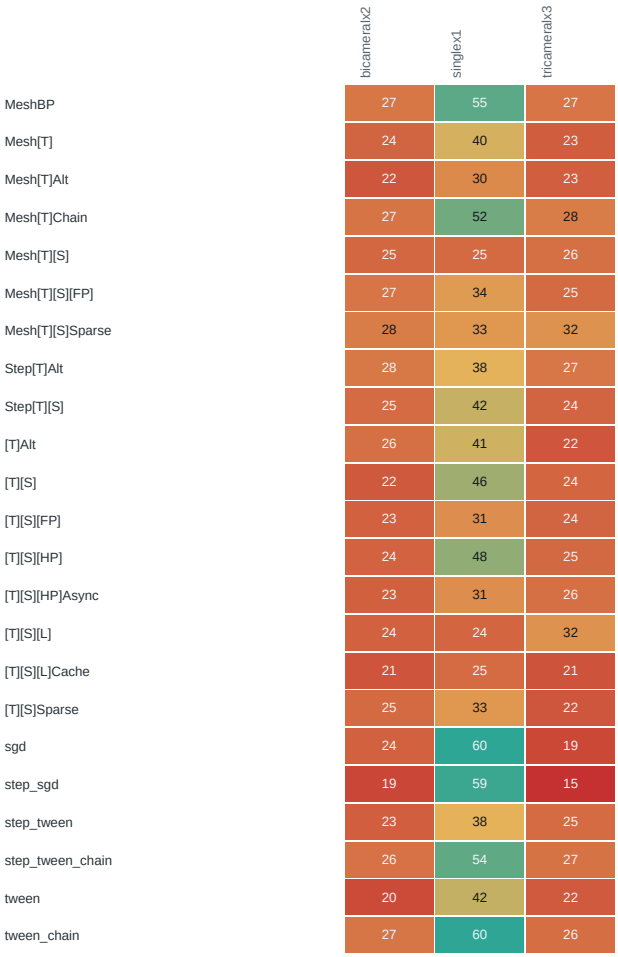
Mean Score, every mode x arch

Mean Score, every mode x arch



Mean hard Acc, every mode x arch

Mean hard Acc, every mode x arch



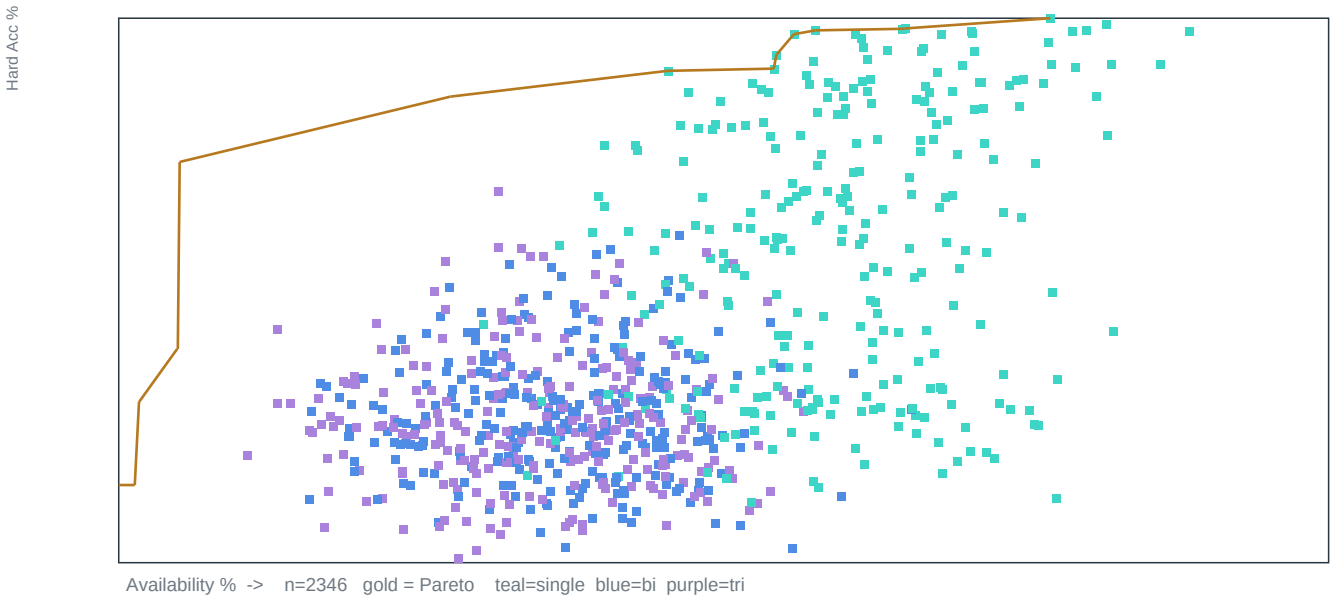
	bicameralx2	singlex1	tricameralx3
MeshBP	27	55	27
Mesh[T]	24	40	23
Mesh[T]Alt	22	30	23
Mesh[T]Chain	27	52	28
Mesh[T][S]	25	25	26
Mesh[T][S][FP]	27	34	25
Mesh[T][S]Sparse	28	33	32
Step[T]Alt	28	38	27
Step[T][S]	25	42	24
[T]Alt	26	41	22
[T][S]	22	46	24
[T][S][FP]	23	31	24
[T][S][HP]	24	48	25
[T][S][HP]Async	23	31	26
[T][S][L]	24	24	32
[T][S][L]Cache	21	25	21
[T][S]Sparse	25	33	22
sgd	24	60	19
step_sgd	19	59	15
step_tween	23	38	25
step_tween_chain	26	54	27
tween	20	42	22
tween_chain	27	60	26

Mean Avail, every mode x arch

Mean Avail, every mode x arch

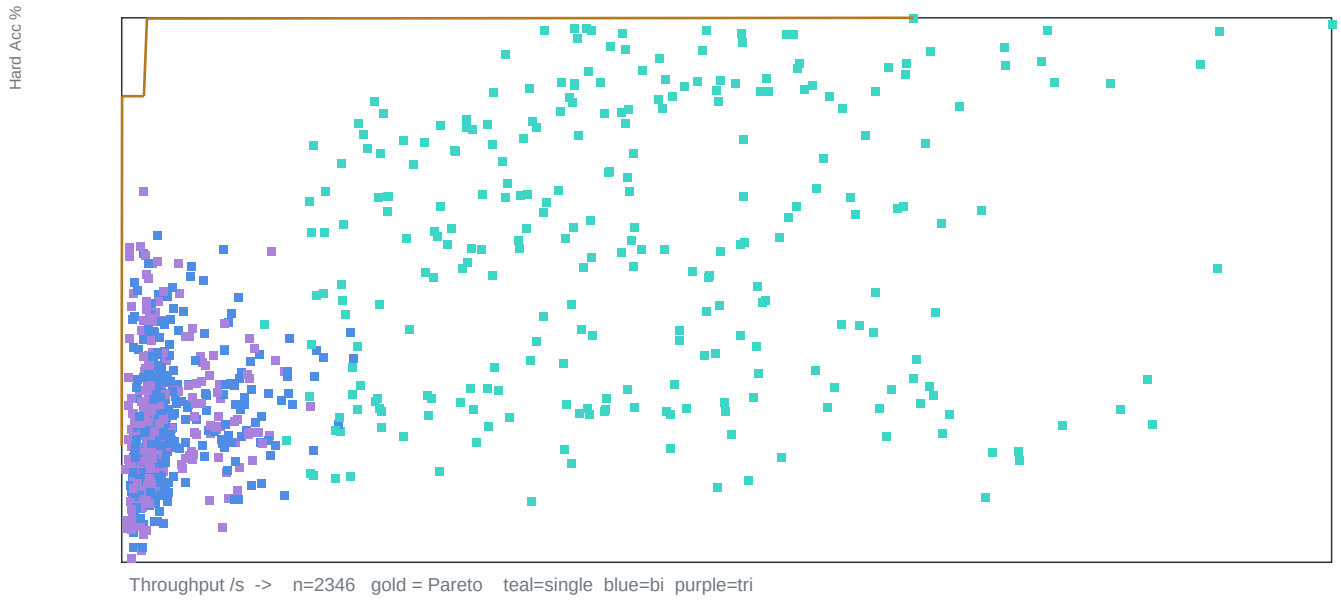
	bicameralx2	singlex1	tricameralx3
MeshBP	21	31	20
Mesh[T]	20	27	20
Mesh[T]Alt	14	22	14
Mesh[T]Chain	21	30	20
Mesh[T][S]	30	34	29
Mesh[T][S][FP]	30	33	30
Mesh[T][S]Sparse	35	33	37
Step[T]Alt	13	19	12
Step[T][S]	23	28	23
[T]Alt	14	21	14
[T][S]	30	34	30
[T][S][FP]	31	34	30
[T][S][HP]	31	33	30
[T][S][HP]Async	30	33	29
[T][S][L]	25	27	25
[T][S][L]Cache	29	33	29
[T][S]Sparse	35	33	36
sgd	22	33	22
step_sgd	17	28	17
step_tween	17	23	17
step_tween_chain	17	25	17
tween	20	28	20
tween_chain	22	31	20

Pillars - Availability vs hard Acc

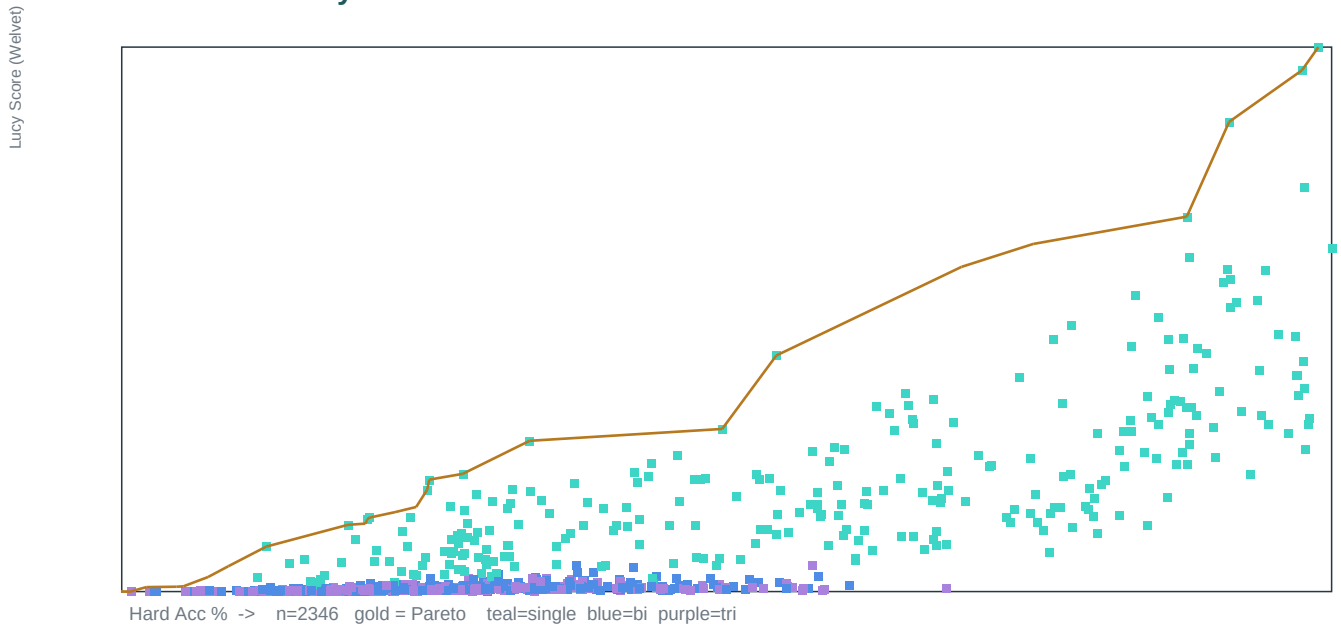


Pillars - Throughput vs hard Acc

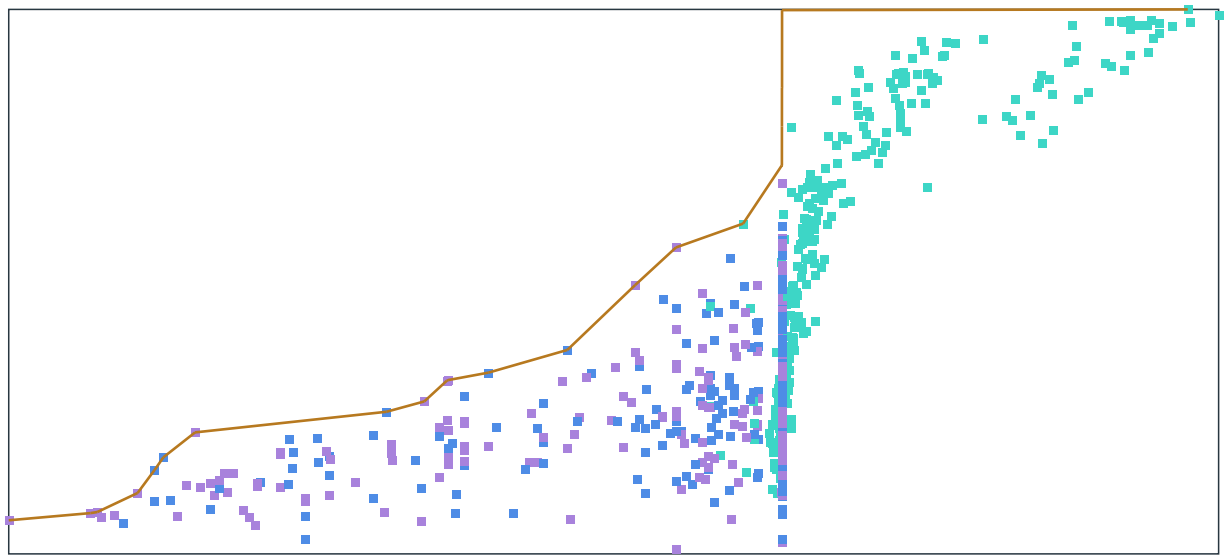
Pillars - Throughput vs hard Acc



Pareto - hard Acc vs Lucy Score

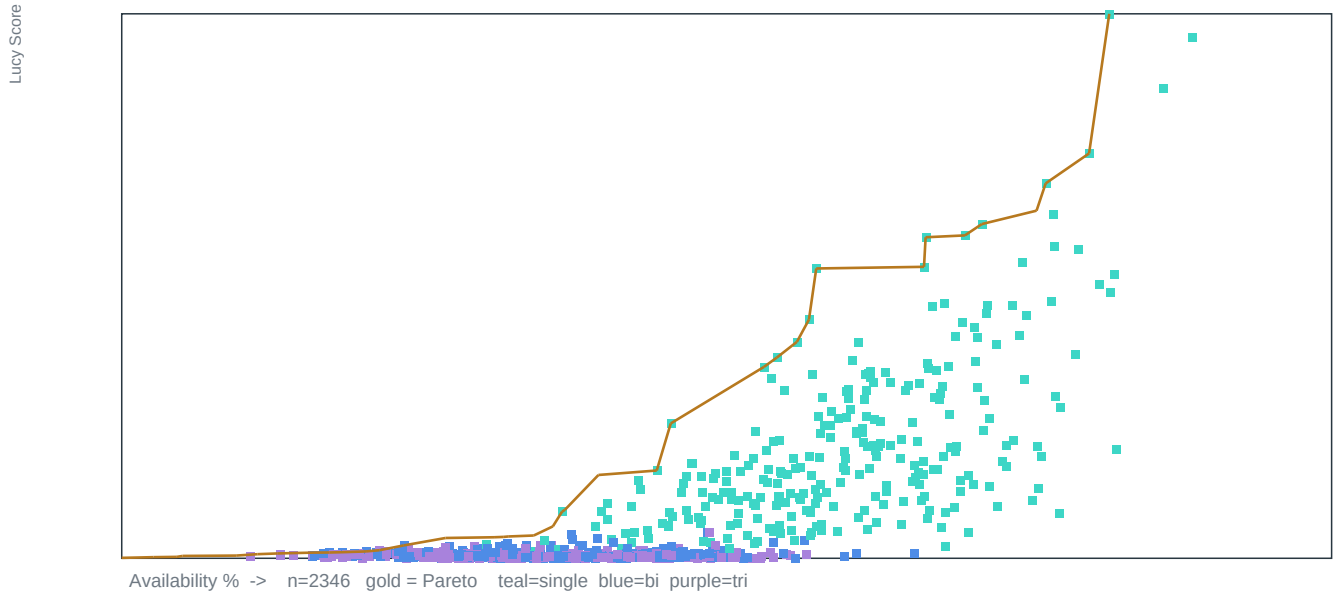


SoftAcc (serve-confidence) vs hard Acc

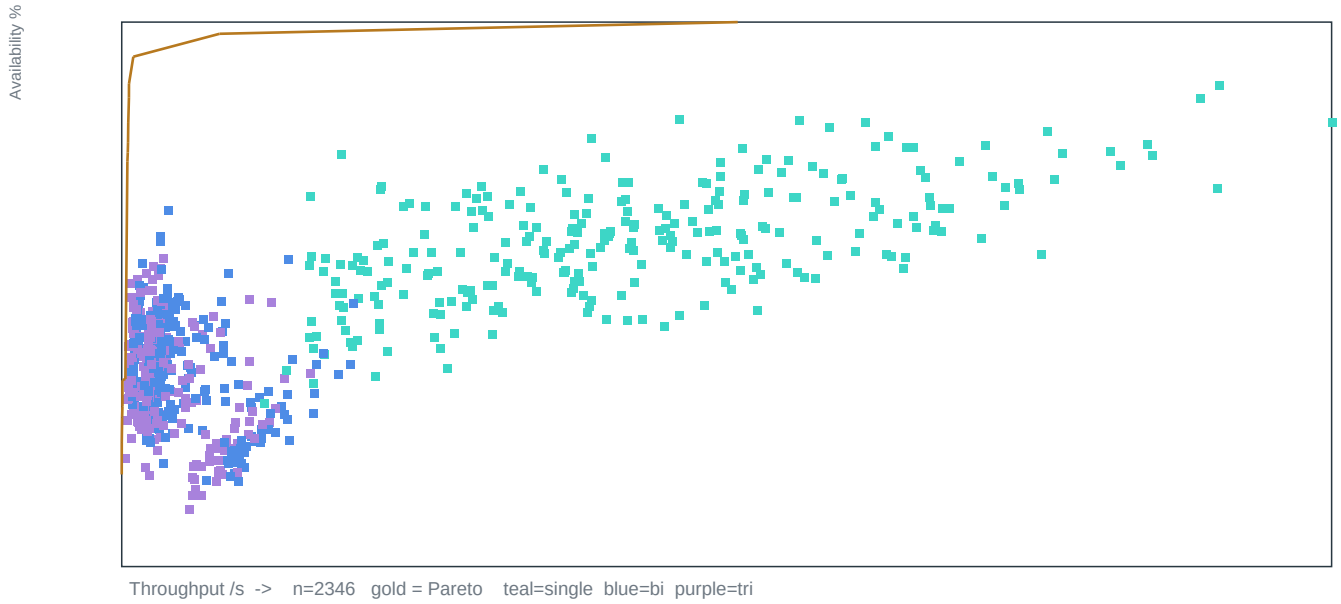



SoftAcc % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

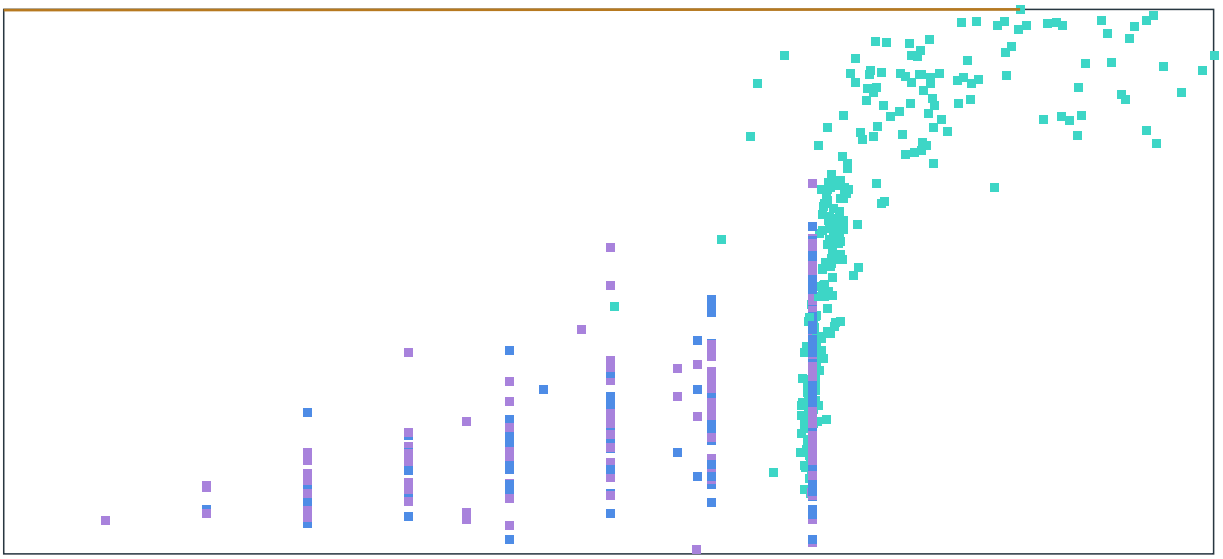
Avail vs Lucy Score (duty clock)



Pillars - Throughput vs Availability



AdaptPct vs hard Acc



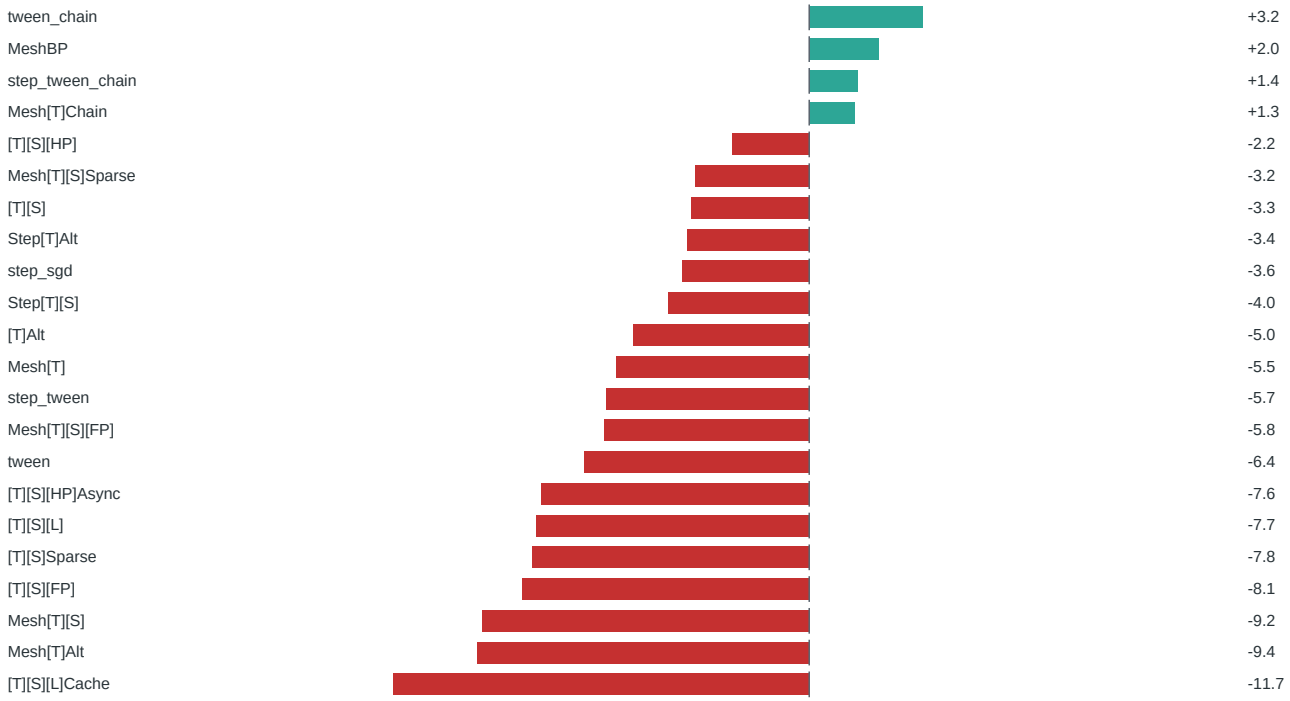

AdaptPct % -> n=2346 gold = Pareto teal=single blue=bi purple=tri
Hard Acc %

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%
tween_chain	102	+3.2	57	+3.4	-1.4	-113	-30.5	37
MeshBP	102	+2.0	47	+3.7	-1.6	-184	-52.2	28
step_tween_chain	102	+1.4	52	+3.4	-5.7	-382	-106.1	9
Mesh[T]Chain	102	+1.3	51	+3.5	-1.7	-233	-69.0	25
[T][S][HP]	102	-2.2	42	+3.4	+5.8	-431	-102.7	44
Mesh[T][S]Sparse	102	-3.2	42	+2.8	+9.4	-685	-151.3	42
[T][S]	102	-3.3	39	+3.5	+6.1	-211	-71.2	57
Step[T]Alt	102	-3.4	48	+3.2	-10.8	-806	-177.2	0
step_sgd	102	-3.6	32	-2.4	-4.8	-224	-67.9	8
Step[T][S]	102	-4.0	43	+3.1	-0.7	-324	-112.9	32
[T]Alt	102	-5.0	40	+3.4	-9.0	-696	-166.9	4
Mesh[T]	102	-5.5	45	+2.9	-2.9	-359	-119.2	17
step_tween	102	-5.7	42	+2.5	-6.5	-411	-139.0	10
Mesh[T][S][FP]	102	-5.8	45	+2.8	+5.6	-702	-152.2	26
tween	102	-6.4	37	+0.5	-2.6	-211	-99.0	20
[T][S][HP]Async	102	-7.6	46	+2.8	+5.3	-469	-135.7	41
[T][S][L]	102	-7.7	43	+2.7	-0.0	-329	-149.6	34
[T][S]Sparse	102	-7.8	38	+2.8	+9.0	-482	-132.0	48
[T][S][FP]	102	-8.1	34	+2.8	+6.1	-190	-109.6	45
Mesh[T][S]	102	-9.2	38	+2.8	+5.7	-596	-156.3	34
Mesh[T]Alt	102	-9.4	41	+2.8	-8.8	-893	-185.0	1
[T][S][L]Cache	102	-11.7	40	+2.8	+5.2	-382	-139.1	34

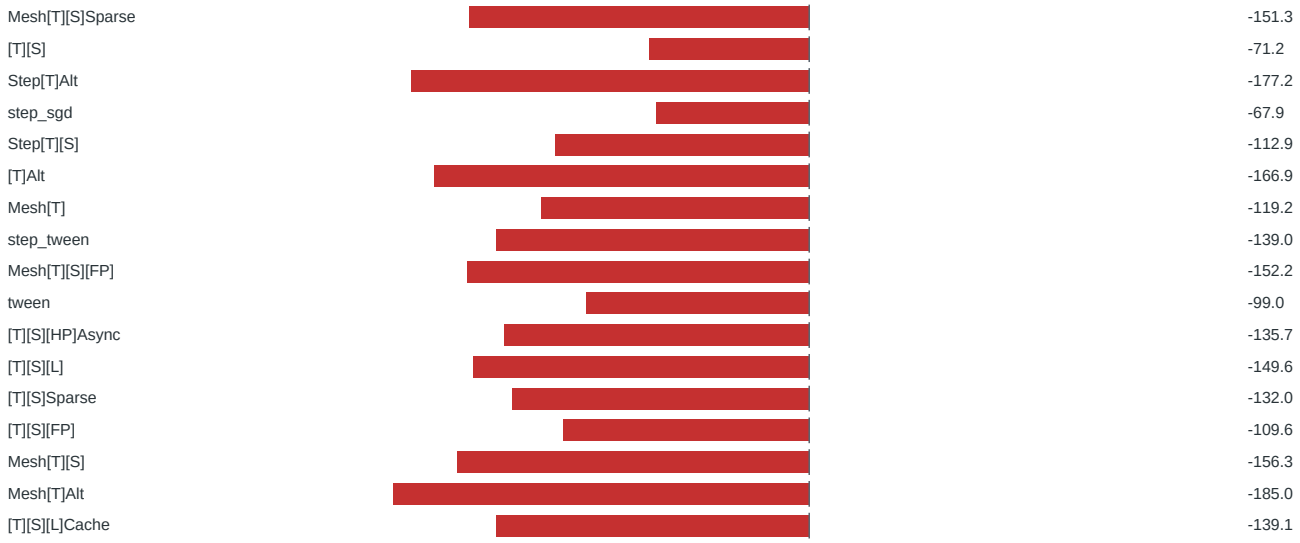
mean AccD vs sgd



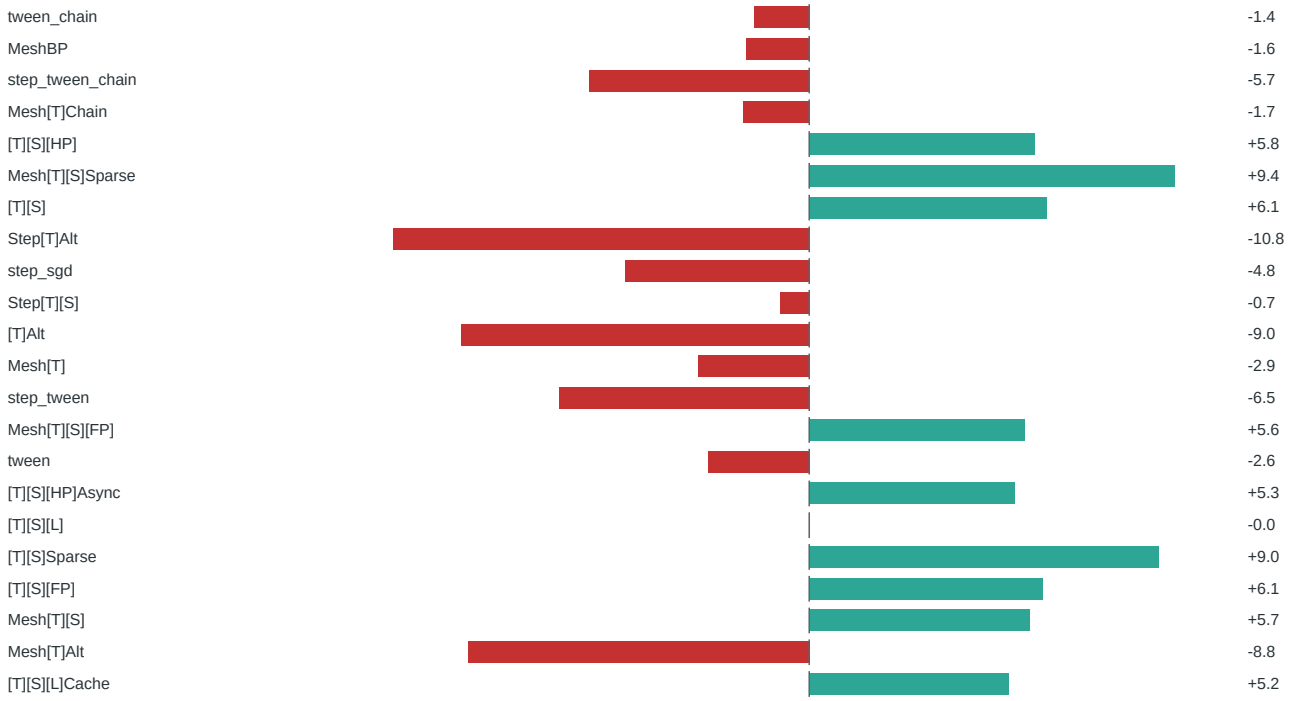
mean ScoreD vs sgd (duty clock)



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	-5	-5	-5	-8	-2	+5	-5	+2	+11	+0	-10	+2
Mesh[T]	-26	+2	-2	-10	-21	-12	-15	-2	-8	-7	-15	-19
Mesh[T]Alt	-31	-4	-12	-25	-14	-12	-16	+0	-3	+7	-20	+3
Mesh[T]Chain	-5	-13	+1	+7	+6	-12	-2	+3	-4	+6	-5	-6
Mesh[T][S]	-42	-11	-21	-23	-18	-19	-32	+1	-4	-4	-3	-23
Mesh[T][S][FP]	-17	+11	-26	-27	-3	-2	-32	+1	-20	+2	-10	-2
Mesh[T][S]Sparse	-36	+11	-13	-8	-27	-27	-21	+0	+7	-4	+9	-1
Step[T]Alt	-20	+4	-4	-5	-11	-10	-18	+6	-5	+2	-5	-16
Step[T][S]	-17	-5	+0	-11	-2	-15	-10	-0	+1	+7	-10	-12
[T]Alt	-26	-12	-8	-3	-17	-11	-18	+2	-3	+9	-3	-17
[T][S]	-15	-4	-8	-3	-5	-8	-17	-1	-14	+3	-5	-10
[T][S][FP]	-39	-6	-24	-19	-28	-17	-12	+1	+30	-2	-27	-4
[T][S][HP]	-12	-14	-10	-10	-2	-1	-15	-6	+13	-3	-22	+16
[T][S][HP]Async	-24	-2	-18	-21	-10	-16	-27	+4	+12	-9	-8	-16
[T][S][L]	-41	+6	+3	-20	-9	-31	-34	+0	+3	-2	+1	-27
[T][S][L]Cache	-34	-7	-34	-18	-8	-4	-34	-1	-10	+7	-17	-24
[T][S]Sparse	-39	-4	-34	-26	-13	-13	-10	+1	-17	-0	-13	-18
step_sgd	-12	-0	-9	-3	-6	+1	-2	-3	-6	-1	-15	-8
step_tween	-29	-8	-6	-8	-6	-15	-13	-1	-3	-5	-15	-19
step_tween_chain	-3	+3	-6	+5	-2	-3	-8	-0	-1	+6	-7	-3
tween	-27	-5	-14	-10	-2	-16	-12	+0	-7	-9	-7	-14
tween_chain	+1	-4	+4	+5	+3	+2	-1	+1	+1	+5	-0	-1

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

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

	int16	int2	int3	int32	int4	int5	int6	int64	int8	nf4	ternary	uint
MeshBP	+1	+9	+7	-7	-3	+5	+2	+1	-5	+11	+9	-2
Mesh[T]	-14	+11	+4	-16	+6	-7	-6	-11	-7	+17	+13	-10
Mesh[T]Alt	-35	+21	+10	-27	+7	-9	-9	-11	-2	+3	+2	+7
Mesh[T]Chain	-5	+13	+12	-9	-3	+12	+8	+13	-3	+11	+2	+4
Mesh[T][S]	-1	+11	+4	-24	+3	+13	+5	-19	-11	+2	+4	-10
Mesh[T][S][FP]	-23	+8	+15	-9	+0	-15	+13	-23	+13	+1	+15	-9
Mesh[T][S]Sparse	-11	+16	-2	+4	+26	+23	-7	+3	-16	+6	+8	-21
Step[T]Alt	-10	+8	+12	-6	+9	+15	-5	-11	-16	+7	+8	-6
Step[T][S]	-16	+14	+8	-20	+1	+9	-11	-6	-10	+19	+6	-12
[T]Alt	-18	+22	+7	-10	-4	+6	+11	-3	-8	+1	-1	-8
[T][S]	-8	+13	+13	-11	-0	+0	-2	+2	-11	+11	+7	+1
[T][S][FP]	-14	+10	+8	-21	-1	-0	-5	-7	-26	+20	+1	+1
[T][S][HP]	-10	+15	+8	-9	+3	+10	-1	-2	-1	+15	+2	-2
[T][S][HP]Async	-16	+10	+3	-3	+6	-3	+10	-12	-13	+6	+17	-12
[T][S][L]	-35	+8	+0	-18	-5	-0	-5	-19	-7	+11	+12	-6
[T][S][L]Cache	-31	+16	+8	-31	-14	+1	+15	-29	-23	+5	+2	-9
[T][S]Sparse	-18	+6	+23	-22	-9	-1	-7	-15	+1	+13	+8	+2
step_sgd	-8	+13	-6	-6	+1	+1	-5	+1	+5	-1	+7	-4
step_tween	-7	+18	-4	-7	-3	+5	-9	-11	-12	-1	+11	-6
step_tween_chain	-1	+14	+4	-6	-3	+1	+5	-1	+4	+2	+13	+13
tween	-17	+12	+4	-8	+2	-3	-11	-13	-6	+8	+9	-9
tween_chain	-2	+7	+3	-3	-1	+7	+18	+5	+3	+11	+6	+6

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	+8	+3	-3	+14	+3	+17	-5	+5	+16
Mesh[T]	-7	+8	+6	-12	+2	-11	+2	-1	-10	-8
Mesh[T]Alt	-21	-8	+0	-36	-2	-8	-19	-23	-16	-12
Mesh[T]Chain	+4	+12	+6	-14	-1	-2	+16	+3	-7	-5
Mesh[T][S]	-25	+18	+4	-32	+5	-4	-20	-14	-15	-13
Mesh[T][S][FP]	+2	+5	+23	-30	-2	+1	-1	-23	-25	-10
Mesh[T][S]Sparse	+2	-8	+17	-16	-15	+3	+9	-2	-3	-15
Step[T]Alt	-4	+10	+13	-13	+2	-1	-8	-13	-10	-16
Step[T][S]	-12	+9	+7	-21	+13	-3	+14	-19	-18	-13
[T]Alt	-10	-6	+14	-19	+1	-3	-0	-14	-17	-2
[T][S]	-5	-2	+21	-17	-11	+1	+4	-8	-17	-8
[T][S][FP]	-2	+8	+6	-33	+8	-4	-22	-26	-27	-2
[T][S][HP]	-1	-11	+3	-22	+10	+0	+4	-9	-8	-3
[T][S][HP]Async	-25	+10	+3	-23	-10	+10	-17	-14	-20	-27
[T][S][L]	-13	-5	+14	-13	+8	+13	-11	-15	-28	+3
[T][S][L]Cache	-22	-9	+27	-23	-2	-16	-4	-26	-31	-21
[T][S]Sparse	-10	+11	+8	-32	+14	+16	-13	-15	-24	-16
step_sgd	-7	-0	+1	-15	-6	-1	-1	-6	-6	-13
step_tween	-8	+15	+10	-15	-6	+5	-5	-10	-18	-10
step_tween_chain	-3	+3	+4	-4	+2	+12	+4	+3	-7	+4
tween	-10	+6	+6	-16	+8	-10	-10	-11	-15	-9
tween_chain	+4	+12	+13	-9	+2	+2	+10	+3	-0	-3

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	-164	-28	-47	-70	-157	-45	-14	-37	-7	-56	-145	-106
Mesh[T]	-287	-89	-101	-134	-297	-354	-153	-52	-61	-115	-214	-153
Mesh[T]Alt	-422	-128	-162	-210	-354	-524	-268	-86	-88	-164	-279	-191
Mesh[T]Chain	-223	-32	-67	-71	-186	-200	-14	+1	-32	-28	-124	-109
Mesh[T][S]	-430	-114	-136	-185	-292	-438	-262	-52	-67	-104	-242	-196
Mesh[T][S][FP]	-329	+6	-150	-192	-300	-442	-239	-55	-80	-139	-249	-173
Mesh[T][S]Sparse	-388	-42	-137	-183	-309	-514	-238	-45	-66	-147	-227	-169
Step[T]Alt	-392	-121	-149	-195	-335	-514	-248	-75	-83	-156	-267	-201
Step[T][S]	-250	-58	-109	-126	-219	-331	-150	-29	-39	-41	-179	-136
[T]Alt	-375	-121	-147	-178	-328	-491	-221	-71	-76	-126	-241	-180
[T][S]	-165	-4	-17	-98	-152	-251	-68	-5	-50	-31	-127	-80
[T][S][FP]	-356	-41	-96	-148	-260	-213	-135	+1	-30	-79	-237	-138
[T][S][HP]	-247	-79	-94	-127	-207	-283	-135	-25	-39	-111	-229	-104
[T][S][HP]Async	-371	-50	-107	-182	-284	-347	-230	-27	-55	-139	-207	-170
[T][S][L]	-373	-15	-111	-197	-272	-496	-255	-22	-67	-124	-204	-176
[T][S][L]Cache	-346	-45	-160	-171	-274	-386	-200	-21	-73	-14	-209	-162
[T][S]Sparse	-375	-53	-146	-168	-257	-398	-197	-27	-84	-93	-208	-166
step_sgd	-224	-7	-37	-67	-139	-256	-79	-22	-45	-55	-166	-88
step_tween	-346	-87	-117	-152	-252	-388	-172	-37	-79	-135	-239	-176
step_tween_chain	-291	-37	-121	-127	-189	-309	-106	-37	-39	-92	-176	-112
tween	-242	-64	-77	-119	-204	-310	-89	-5	-54	-140	-162	-105
tween_chain	-194	-52	+16	-38	-91	+23	-4	+14	-23	+15	-79	-35

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	-22	-24	-8	-67	-63	-36	-9	-75	-20	-19	-34	-49
Mesh[T]	-103	-34	-18	-145	-75	-55	-64	-165	-179	-37	+5	-122
Mesh[T]Alt	-190	-82	-33	-231	-125	-66	-74	-224	-304	-52	-116	-166
Mesh[T]Chain	-41	-4	+13	-128	-103	-12	-37	-88	-80	-22	-49	-52
Mesh[T][S]	-139	-17	-8	-214	-131	-25	-68	-210	-255	-58	-60	-138
Mesh[T][S][FP]	-169	-73	-18	-191	-128	-63	-65	-217	-234	-50	-30	-135
Mesh[T][S]Sparse	-126	-33	-35	-183	-26	-45	-66	-187	-249	-55	-74	-152
Step[T]Alt	-171	-88	-36	-218	-145	-60	-78	-221	-288	-58	-105	-159
Step[T][S]	-103	-10	-15	-186	-75	-28	-50	-141	-203	-31	-56	-118
[T]Alt	-171	-67	-23	-200	-130	-61	-70	-208	-289	-55	-100	-149
[T][S]	-68	-11	+11	-100	-24	-23	-30	-83	-135	-7	-29	-52
[T][S][FP]	-120	-11	-33	-205	-62	-45	-43	-176	-262	+43	+2	-61
[T][S][HP]	-94	+2	-15	-147	-38	-34	-16	-138	-135	-25	-46	-87
[T][S][HP]Async	-137	-41	-2	-158	-11	-45	-49	-151	-237	-46	-53	-116
[T][S][L]	-169	-89	-12	-195	-145	-38	-62	-233	-249	-44	-66	-105
[T][S][L]Cache	-157	-18	-15	-200	-103	-36	-23	-222	-300	-21	-37	-86
[T][S]Sparse	-124	-29	+4	-208	-99	-58	-55	-172	-148	-56	-10	-62
step_sgd	-51	-12	-23	-122	-67	-33	-39	-144	-18	-21	+26	-50
step_tween	-124	-3	-33	-173	-103	-49	-68	-189	-242	-51	-50	-133
step_tween_chain	-111	-13	-23	-165	-120	-31	-47	-155	-125	-52	-47	-71
tween	-112	+13	-13	-128	-79	-36	-63	-153	-127	-30	-20	-71
tween_chain	-57	-52	-3	-89	-30	-2	-11	-66	+20	-2	-41	-25

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	-65	+19	-17	-130	-38	-40	+13	-103	-83	-30
Mesh[T]	-149	-18	-29	-203	-47	-85	-49	-193	-183	-94
Mesh[T]Alt	-279	-50	-49	-323	-90	-97	-78	-283	-339	-166
Mesh[T]Chain	-95	+42	-29	-158	-68	-50	-13	-139	-71	-79
Mesh[T][S]	-248	-14	-35	-303	-57	-73	-59	-282	-269	-135
Mesh[T][S][FP]	-228	-22	-21	-282	-87	-80	-69	-253	-267	-151
Mesh[T][S]Sparse	-201	-41	-30	-277	-95	-81	-58	-260	-262	-144
Step[T]Alt	-257	-28	-46	-312	-93	-96	-74	-279	-300	-175
Step[T][S]	-217	+1	-17	-262	-44	-71	-33	-202	-188	-120
[T]Alt	-242	-48	-40	-294	-82	-88	-68	-264	-308	-161
[T][S]	-126	-28	+2	-198	-49	-22	-29	-138	-138	-101
[T][S][FP]	-133	+47	+4	-242	-20	-32	-56	-218	-277	-95
[T][S][HP]	-173	-42	-23	-227	-49	-56	-33	-170	-175	-90
[T][S][HP]Async	-252	-20	-20	-270	-77	-46	-64	-227	-262	-160
[T][S][L]	-208	-32	-15	-258	-30	-61	-59	-270	-308	-125
[T][S][L]Cache	-243	-43	+1	-302	-59	-81	-70	-263	-262	-129
[T][S]Sparse	-227	+17	-45	-279	-22	-58	-50	-239	-281	-114
step_sgd	-60	+11	-21	-137	-56	-45	-17	-110	-26	-108
step_tween	-187	-40	-27	-248	-69	-89	-59	-212	-262	-135
step_tween_chain	-152	-17	-32	-217	-39	-63	-37	-179	-173	-100
tween	-140	-23	-21	-205	-34	-72	-48	-171	-193	-69
tween_chain	-98	+63	-14	-63	-37	-47	-8	-64	+40	-4

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

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

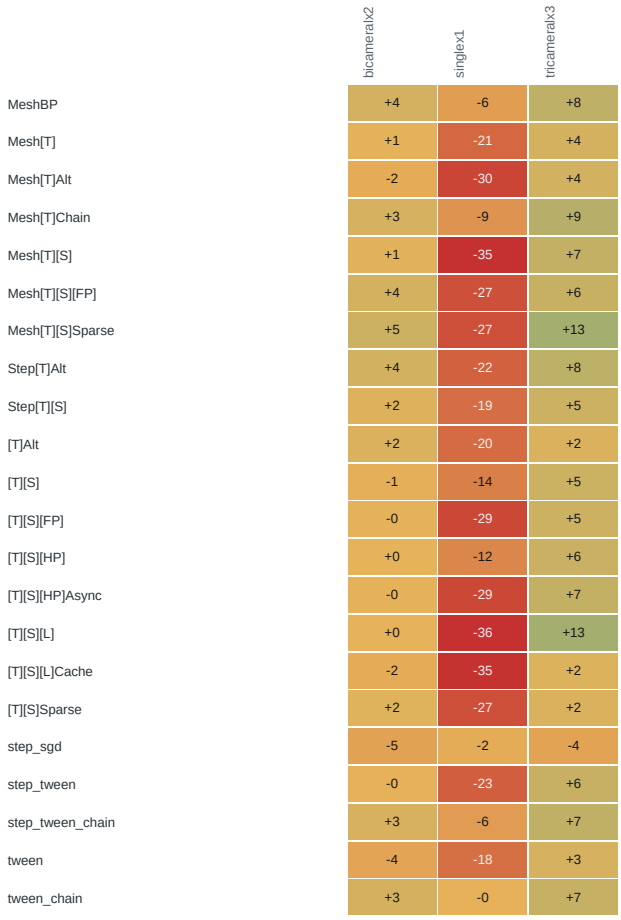
AvailD vs sgd, every mode x dtype (cols 25-34)

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

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

AccD vs sgd, every mode x arch

AccD vs sgd, every mode x arch



Family collapse - Step* vs non-Step

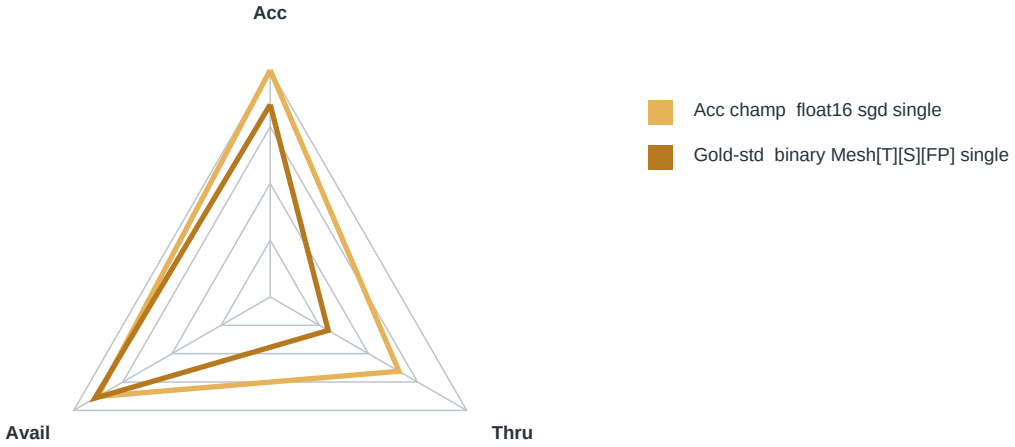
Step* is a 1D pipe (one sample enters layer 0 per tick; output is the sample that entered depth ticks ago). Non-Step of the same family is a full-chain update. AccD is a real scheduler split, not leftover warm-up forwards.

step	plain	n	mean |AccD|
Step[T]Alt	[T]Alt	102	10.82
Step[T][S]	[T][S]	102	10.83
step_sgd	sgd	102	7.81
step_tween	tween	102	9.85
step_tween_chain	tween_chain	102	9.73

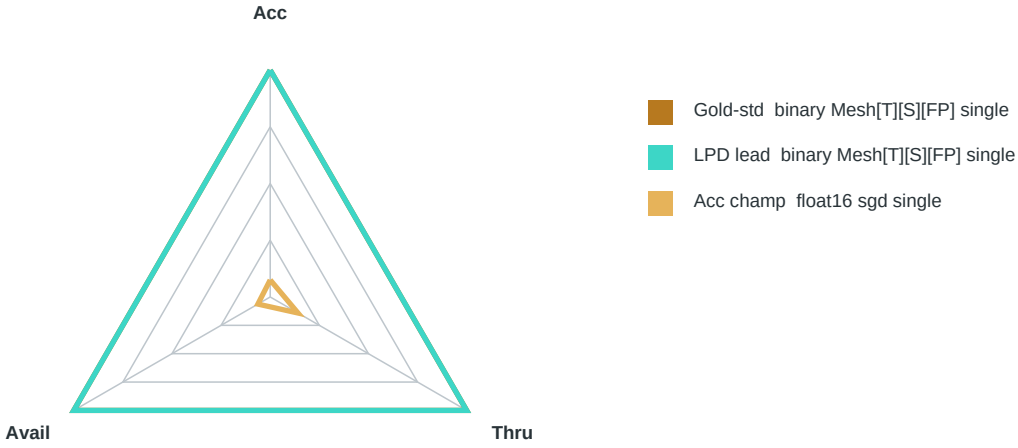
Consciousness - Acc, Throughput, Availability

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 float16|none|sgd|single|simd Acc 87.6 Thru 3565 Avail 34.6% 0.6 KiB (RAM reference)
Lucy Score champ (T x Avail x Acc) float32|none|tween_chain|single|simd Score 1713.6 Acc 86.7 Soft 36 1.2 KiB
Live-fit champ (best Q) float32|none|tween_chain|single|simd Acc 86.7 Thru 5439 Avail 36.4% 1.2 KiB
Gold-std (2+ pillars, Acc keep >= 80%, then smallest then fastest): binary|none|Mesh[T][S][FP]|single|simd mode Mesh[T][S][FP] Acc 74.3 Thru 1606 0.0 KiB
Board fastest float32|none|tween_chain|single|simd Thru 5439 (traps may own this) Best availability float32|none|[T][S][HP]Async|single|simd 43.2%
Learner Thru peak 5439 learner Avail peak 39.5%

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
Mesh[T][S][FP]	2	74.3	0.0	1606	binary Mesh[T][S][FP] single
tween_chain	6	86.7	0.3	5439	int8 tween_chain single / float32 tween_chain single
sgd	14	87.6	0.3	4934	int8 sgd single / float32 sgd single
MeshBP	4	80.2	0.3	4850	int8 MeshBP single / float32 MeshBP single
Mesh[T]Chain	2	75.9	0.6	2972	bfloat16 Mesh[T]Chain single / float64 Mesh[T]Chain single
[T][S]	2	73.7	0.6	2957	bfloat16 [T][S] single
[T][S][HP]	4	75.0	0.6	2821	float16 [T][S][HP] single / float32 [T][S][HP] single
step_sgd	1	77.6	0.6	2698	uint16 step_sgd single
[T][S]Sparse	1	77.6	2.4	1330	uint [T][S]Sparse single
Mesh[T][S]Sparse	2	87.5	10.3	502	int4 Mesh[T][S]Sparse tricameral
[T][S][FP]	1	75.0	15.4	82	fp6 [T][S][FP] tricameral

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

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB

Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
near	binary Mesh[T][S][FP] single	85	30	89	61	6	15.7	9.52	74.3	1606	0.0
near	int8 tween_chain single	91	73	81	81	50	2.0	1.63	80.1	3978	0.3
near	int8 sgd single	92	65	88	81	50	2.0	1.61	80.3	3535	0.3
near	int8 MeshBP single	84	69	85	79	50	2.0	1.58	73.4	3771	0.3

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
near	binary Mesh[T][S][FP] single	85	30	89	61	6	15.7	9.52	74.3	1606	0.0
keep	uint8 tween_chain single	88	82	87	86	51	1.9	1.67	77.1	4448	0.3
near	int8 tween_chain single	91	73	81	81	50	2.0	1.63	80.1	3978	0.3
near	int8 sgd single	92	65	88	81	50	2.0	1.61	80.3	3535	0.3
keep	uint8 sgd single	88	77	82	82	51	1.9	1.61	77.3	4196	0.3
acc	uint8 step_sgd single	95	73	78	81	51	1.9	1.58	82.8	3974	0.3
near	int8 MeshBP single	84	69	85	79	50	2.0	1.58	73.4	3771	0.3
acc	int8 step_sgd single	94	67	78	79	50	2.0	1.57	82.2	3639	0.3
-	fp8e5m2 sgd single	78	62	92	76	50	2.0	1.53	68.8	3348	0.3
-	uint8 Mesh[T]Chain single	76	72	84	77	51	1.9	1.50	66.9	3893	0.3
-	int8 Mesh[T]Chain single	79	55	91	74	50	2.0	1.48	69.5	3008	0.3
acc	uint8 MeshBP single	86	62	78	75	51	1.9	1.46	75.7	3392	0.3
-	fp6 sgd single	78	24	78	52	38	2.7	1.39	67.9	1280	0.2
acc	int8 step_tween_chain single	87	57	65	68	50	2.0	1.37	76.2	3075	0.3
-	int6 sgd single	75	22	80	51	38	2.7	1.35	65.8	1177	0.2
acc	fp6 MeshBP single	82	22	71	50	38	2.7	1.34	72.2	1190	0.2
-	uint6 MeshBP single	77	25	73	52	39	2.6	1.34	67.5	1374	0.2
acc	uint8 step_tween_chain single	86	53	66	67	51	1.9	1.31	75.8	2877	0.3
-	int6 MeshBP single	73	18	87	49	38	2.7	1.30	64.3	1001	0.2
-	uint6 sgd single	73	24	70	50	39	2.6	1.28	64.0	1325	0.2

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

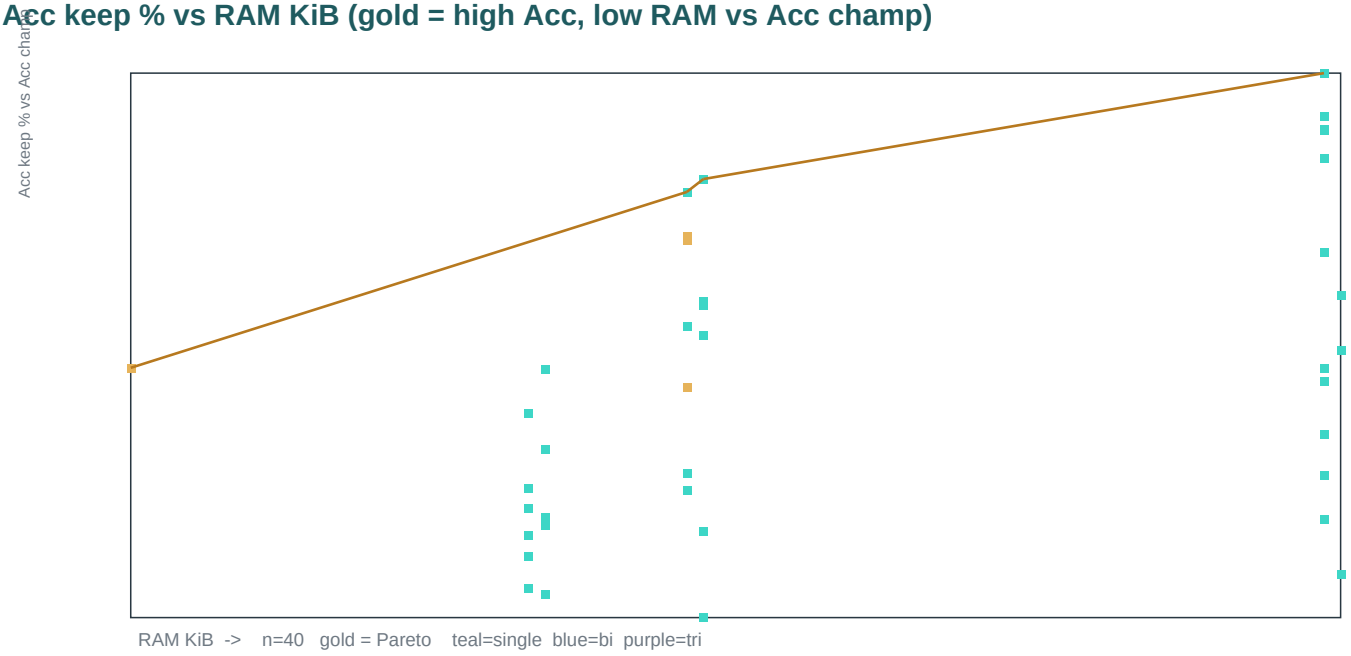
Band	Cell	Acc%	Thru%	Avail%	Q%	LPD	Thru	Avail
keep	float32 tween_chain single	99	100	92	97	0.48	5439	36.4
keep	float32 sgd single	98	91	99	96	0.48	4934	38.9
keep	float32 MeshBP single	92	89	96	92	0.46	4850	38.0
keep	bfloat16 sgd single	98	77	91	88	0.88	4163	35.7
keep	uint8 tween_chain single	88	82	87	86	1.67	4448	34.4
-	float32 Mesh[T]Chain single	75	89	86	83	0.42	4858	34.1
keep	float16 sgd single	100	66	88	83	0.83	3565	34.6
keep	uint8 sgd single	88	77	82	82	1.61	4196	32.4
near	int8 tween_chain single	91	73	81	81	1.63	3978	31.9
acc	uint8 step_sgd single	95	73	78	81	1.58	3974	30.7

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

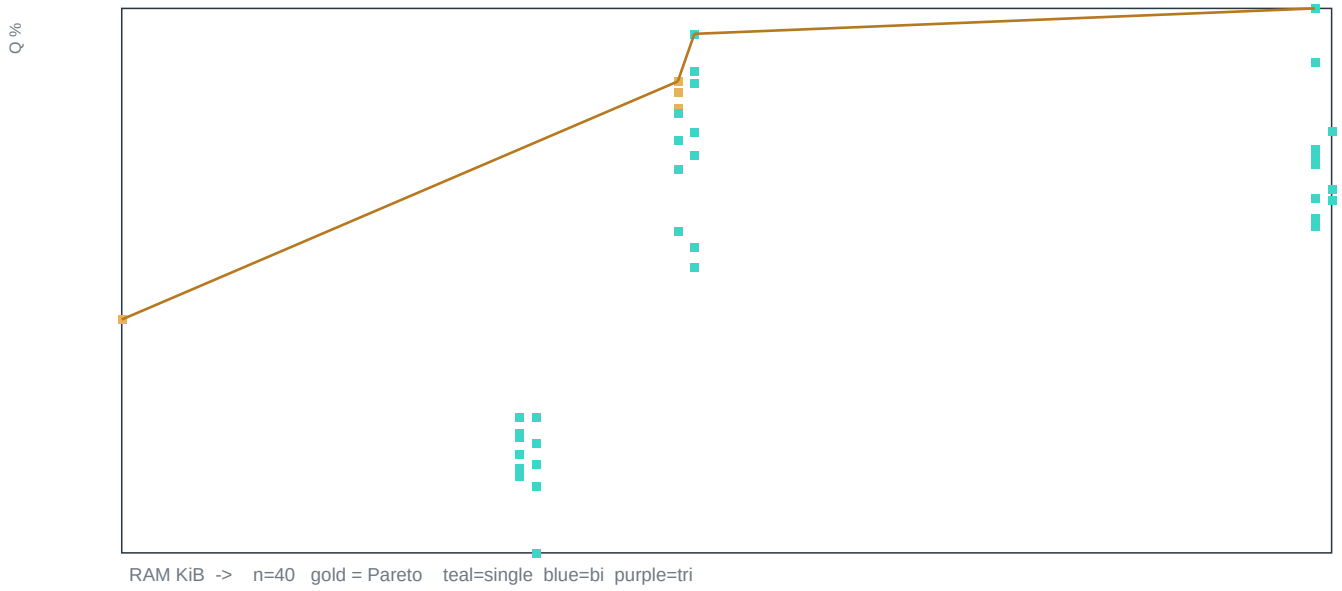
Band	Cell	Acc%	Thru%	Avail%	Q%	RAM%	xSmall	LPD	Acc	Thru	KiB
trap	binary sgd single	28	83	85	58	6	15.7	0.00	24.7	4493	0.0
trap	binary step_sgd single	42	62	76	58	6	15.7	0.00	37.1	3385	0.0
trap	binary tween single	23	63	69	47	6	15.7	0.00	20.3	3444	0.0
trap	binary tween_chain single	20	74	82	50	6	15.7	0.00	17.9	4035	0.0
trap	binary step_tween single	32	42	58	43	6	15.7	0.00	27.9	2283	0.0
trap	binary step_tween_chain single	38	49	79	53	6	15.7	0.00	33.7	2677	0.0
trap	binary MeshBP single	32	67	79	55	6	15.7	0.00	28.3	3635	0.0
trap	binary Mesh[T] single	15	52	69	38	6	15.7	0.00	13.2	2824	0.0

trap	binary Mesh[T]Chain single	34	63	81	56	6	15.7	0.00	29.4	3453	0.0
trap	binary [T][S] single	38	56	85	56	6	15.7	0.00	33.0	3038	0.0

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



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

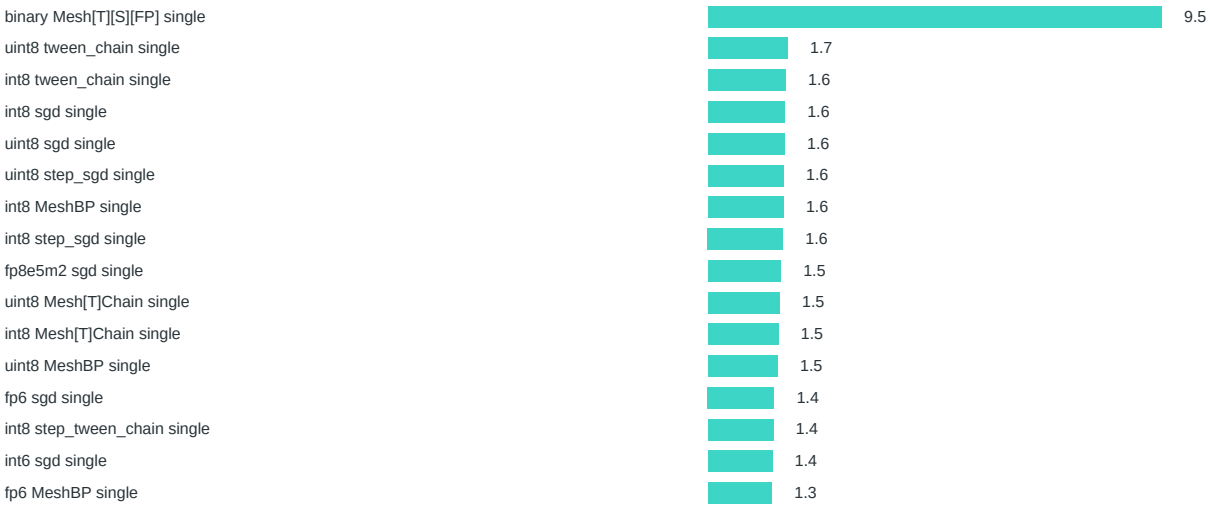


Q% vs shrink vs Acc champ (gold = upper right)

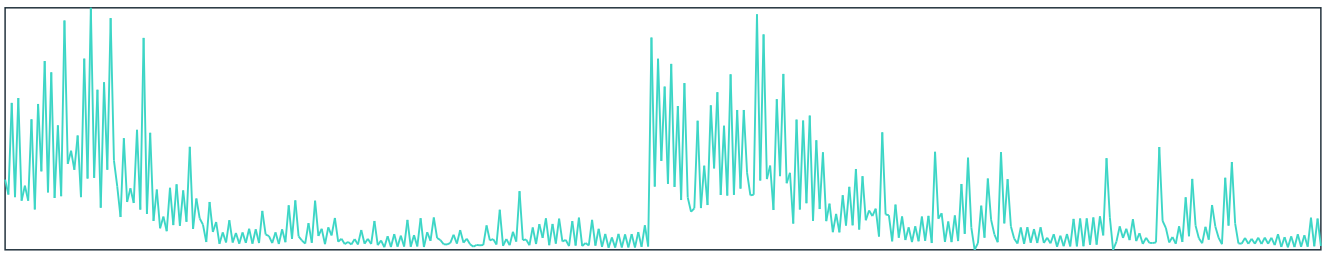
Q% vs shrink vs Acc champ (gold = upper right)



Top Lucy density (LPD)

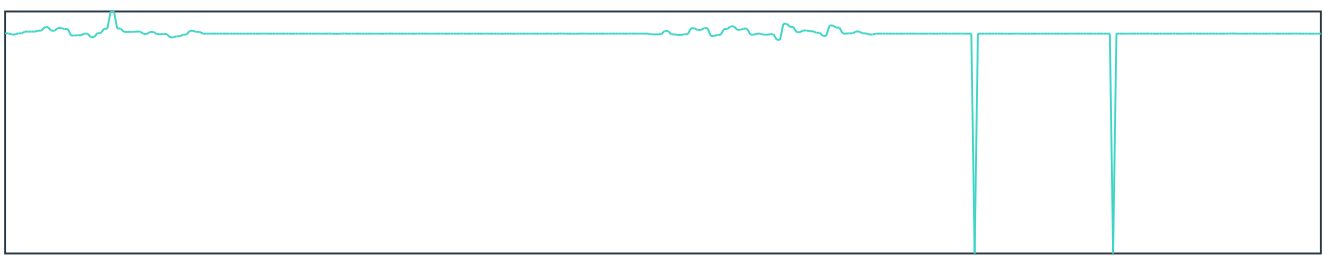


Live pulse (Score)



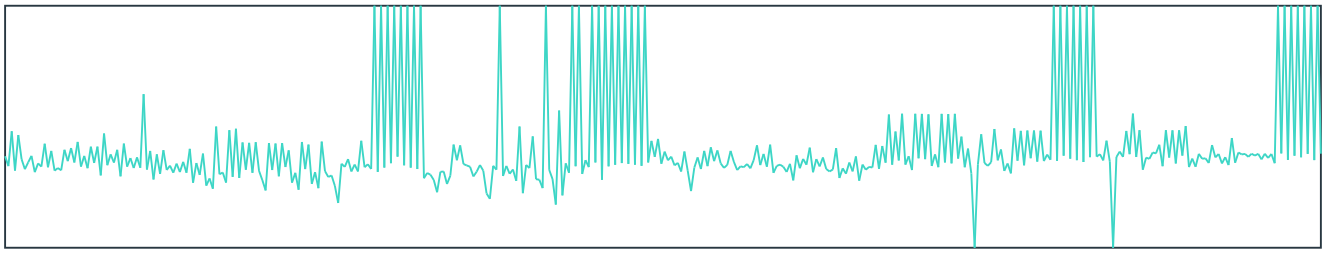
n=400 min=0.00 max=421.01

Live pulse (SoftAcc)



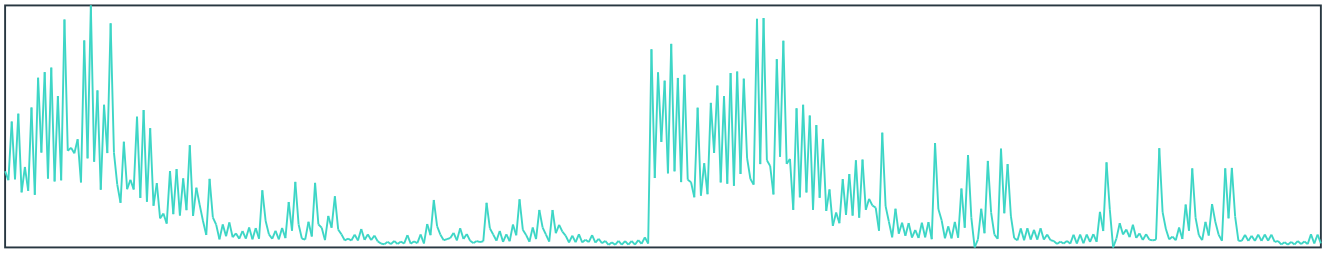
n=400 min=0.00 max=27.52

Live pulse (Availability)



n=400 min=0.00 max=100.00

Live pulse (Throughput)



n=400 min=0.00 max=4097.88

Queue by train mode (this epoch)

Mode	Done	Run	Left	Total