

tide mha

Score = Throughput x Availability% x SoftAcc% / 10,000
done - epoch 1 - 2026-08-18 09:38:06 - 0.0.0.0:8110

This epoch 2346 / 2346 cells. Recorded 2346 results.

Score 0 usually means the cell finished before a Lucy pulse (SoftAcc never sampled) or true-class mass was 0. Those rows do not vote holistically.

mha - associative recall: match query key - modes all - min 2000ms/cell - 1024 train - pulse 50ms - SIMD true

Lucy champions (this tide)

Axis	Cell	Score	Soft	Acc	Thru	Avail
score	float32 none TweenSplitHeadProxy single simd	2628.31	25.0	24.8	26101.1	40.3
throughput	float32 none TweenSplitHeadProxy single simd	2628.31	25.0	24.8	26101.1	40.3
availability	float32 none TweenSplitSparse tricameral simd	2331.49	25.0	26.6	21244.6	43.9
accuracy	fp8e5m2 none StepTweenAlt bicameral simd	126.67	25.1	26.3	2649.6	19.0
mobile score (train)	binary none TweenSplitSparse single simd	2267.59	25.0	25.0	23310.0	38.9
t->50%	int6 none step_sgd bicameral simd	46.35	25.0	26.4	909.8	20.4
acc/sec	uint8 none sgd single simd	1528.83	25.0	24.7	16823.9	36.3

Lucy axis champions (this tide)

Axis	Mode	DType	Arch	Value
score	TweenSplitHeadP~	float32	singlex1	2628.31
soft_acc	StepTweenAlt	fp8e5m2	bicameralx2	25.15
hard_acc	TweenSplitHeadP~	fp8e5m2	bicameralx2	34.01
throughput	TweenSplitHeadP~	float32	singlex1	26101.09
availability	TweenSplitSparse	float32	tricameralx3	43.90
acc_thru	TweenSplitHeadP~	float32	singlex1	6525.18
realtime	TweenSplitHeadP~	float32	singlex1	10513.39
adapt	StepTweenAlt	int	tricameralx3	25.16
keep_learn	MeshTweenAlt	float16	tricameralx3	12.54
acc_per_sec	sgd	uint8	singlex1	12.50
time_to_50	step_sgd	int6	bicameralx2	0.47
consistency	sgd	float64	singlex1	100.00
stability	sgd	fp4	singlex1	100.00
mobile_score	TweenSplitSparse	binary	singlex1	37152123.41
lpd	TweenSplitSparse	binary	singlex1	29.98
mspeed	TweenSplitHeadP~	float32	singlex1	1.00
mavail	TweenSplitSparse	float32	tricameralx3	1.00
mix	TweenSplitHeadP~	float32	singlex1	0.97

Best settings per train mode

Mode	DType	Format	Score	Soft	Acc	Avail	n
TweenSplitHeadProxy	float32	none	2628.3	25.0	24.8	40.3	102
MeshTweenSplitSparse	float32	none	2518.0	25.0	24.1	40.3	102
TweenSplit	float32	none	2478.8	25.0	25.1	39.4	102
tween_chain	float32	none	2464.6	25.0	26.0	38.7	102
TweenSplitSparse	float32	none	2459.1	25.0	24.9	43.1	102
TweenSplitFastProxy	float32	none	2457.4	25.0	25.2	40.3	102
TweenSplitLinearCache	float32	none	2437.1	25.0	25.1	39.4	102
MeshTweenSplitFastProxy	float32	none	2413.7	25.0	25.1	40.1	102
TweenSplitHeadProxyAsync	float32	none	2380.9	25.0	25.0	39.5	102
MeshTweenSplit	float32	none	2301.0	25.0	24.8	39.8	102
MeshBP	float32	none	2244.1	25.0	25.3	37.9	102

MeshTweenChain	float32	none	2166.1	25.0	25.7	37.7	102
MeshTween	float32	none	1951.6	25.0	21.8	36.1	102
TweenSplitLinear	float32	none	1885.5	25.0	25.8	36.5	102
StepTweenSplit	float32	none	1869.5	25.0	24.9	35.5	102
step_tween_chain	float32	none	1739.8	25.0	24.5	33.7	102
tween	binary	none	1726.9	25.0	26.7	34.9	102
sgd	int8	none	1686.6	25.0	26.2	37.7	102
step_tween	float32	none	1602.8	25.0	22.7	32.8	102
step_sgd	float32	none	1389.5	25.0	24.9	33.4	102
TweenAlt	float32	none	1254.6	25.0	24.8	31.1	102
MeshTweenAlt	float32	none	1157.2	25.0	24.5	31.0	102
StepTweenAlt	float32	none	992.8	25.0	24.8	28.1	102

Best dtype per mode

Mode	Winner dtype	Score	Soft	Acc
TweenSplitHeadProxy	float32	2628.3	25.0	24.8
MeshTweenSplitSparse	float32	2518.0	25.0	24.1
TweenSplit	float32	2478.8	25.0	25.1
tween_chain	float32	2464.6	25.0	26.0
TweenSplitSparse	float32	2459.1	25.0	24.9
TweenSplitFastProxy	float32	2457.4	25.0	25.2
TweenSplitLinearCache	float32	2437.1	25.0	25.1
MeshTweenSplitFastProxy	float32	2413.7	25.0	25.1
TweenSplitHeadProxyAsync	float32	2380.9	25.0	25.0
MeshTweenSplit	float32	2301.0	25.0	24.8
MeshBP	float32	2244.1	25.0	25.3
MeshTweenChain	float32	2166.1	25.0	25.7
MeshTween	float32	1951.6	25.0	21.8
TweenSplitLinear	float32	1885.5	25.0	25.8
StepTweenSplit	float32	1869.5	25.0	24.9
step_tween_chain	float32	1739.8	25.0	24.5
tween	binary	1726.9	25.0	26.7
sgd	int8	1686.6	25.0	26.2
step_tween	float32	1602.8	25.0	22.7
step_sgd	float32	1389.5	25.0	24.9
TweenAlt	float32	1254.6	25.0	24.8
MeshTweenAlt	float32	1157.2	25.0	24.5
StepTweenAlt	float32	992.8	25.0	24.8

Best mode per dtype

DType	Winner mode	Score	Soft	Acc
float32	TweenSplitHeadProxy	2628.3	25.0	24.8
int8	TweenSplit	2324.0	25.0	24.8
binary	TweenSplitSparse	2267.6	25.0	25.0
ternary	TweenSplitSparse	2241.0	25.0	24.4
int2	TweenSplitHeadProxy	2232.6	25.0	24.3
float16	TweenSplit	2198.8	25.0	24.8
uint8	TweenSplit	2177.2	25.0	25.3
int4	MeshTweenSplitSparse	2157.2	25.0	24.1
bfloat16	TweenSplitHeadProxy	2044.5	25.0	25.5
float64	TweenSplit	2022.5	25.0	25.0
fp4	MeshTweenSplitSparse	1995.9	25.0	24.8

fp8e4m3	TweenSplitHeadProxy	1787.2	25.0	24.4
uint16	TweenSplitLinearCache	1749.8	25.0	25.3
uint32	TweenSplit	1737.4	25.0	25.1
uint64	TweenSplit	1735.8	25.0	24.7
uint4	TweenSplit	1732.1	25.0	24.9
fp8e5m2	TweenSplit	1687.9	25.0	25.4
uint2	TweenSplitHeadProxy	1649.8	25.0	22.3
int32	TweenSplit	1630.2	25.0	25.1
int64	TweenSplitHeadProxy	1588.4	25.0	25.2
int16	TweenSplit	1582.0	25.0	25.2
uintptr	TweenSplit	1463.6	25.0	24.7
uint	TweenSplitLinearCache	1424.1	25.0	26.0
complex128	TweenSplitHeadProxy	1368.8	25.0	25.8
complex64	MeshTweenSplit	1368.5	25.0	24.9
int	TweenSplit	1366.0	25.0	24.8
nf4	TweenSplitSparse	1355.3	25.0	25.1
int3	TweenSplitHeadProxy	1073.1	25.0	19.6
uint3	TweenSplitHeadProxy	1066.8	25.0	23.8
uint5	MeshTweenSplit	895.5	25.0	25.1
int5	TweenSplit	884.6	25.0	24.6
int6	TweenSplit	854.2	25.0	24.6
uint6	TweenSplit	839.0	25.0	25.0
fp6	TweenSplitHeadProxyAsync	836.2	25.0	26.0

Leaderboard (Lucy Score)

#	Cell	Score	Soft	Acc	Thru	Avail
1	float32 none TweenSplitHeadProxy single simd	2628.3	25.0	24.8	26101.1	40.3
2	float32 none MeshTweenSplitSparse single simd	2518.0	25.0	24.1	24969.7	40.3
3	float32 none TweenSplit single simd	2478.8	25.0	25.1	25147.4	39.4
4	float32 none tween_chain single simd	2464.6	25.0	26.0	25458.7	38.7
5	float32 none TweenSplitSparse bicameral simd	2459.1	25.0	24.9	22847.6	43.1
6	float32 none TweenSplitFastProxy single simd	2457.4	25.0	25.2	24409.2	40.3
7	float32 none TweenSplitLinearCache single simd	2437.1	25.0	25.1	24763.0	39.4
8	float32 none MeshTweenSplitFastProxy single simd	2413.7	25.0	25.1	24054.1	40.1
9	float32 none TweenSplitHeadProxyAsync single simd	2380.9	25.0	25.0	24085.1	39.5
10	float32 none TweenSplitSparse single simd	2355.8	25.0	24.2	23511.3	40.1
11	float32 none TweenSplitSparse tricameral simd	2331.5	25.0	26.6	21244.6	43.9
12	int8 none TweenSplit single simd	2324.0	25.0	24.8	23356.6	39.8
13	float32 none MeshTweenSplitSparse bicameral simd	2303.9	25.0	25.1	21539.9	42.8
14	float32 none MeshTweenSplit single simd	2301.0	25.0	24.8	23121.9	39.8
15	int8 none TweenSplitSparse bicameral simd	2273.3	25.0	23.5	21284.0	42.7
16	binary none TweenSplitSparse single simd	2267.6	25.0	25.0	23310.0	38.9
17	int8 none TweenSplitSparse single simd	2248.7	25.0	25.3	22218.1	40.5
18	float32 none MeshBP single simd	2244.1	25.0	25.3	23669.4	37.9
19	ternary none TweenSplitSparse bicameral simd	2241.0	25.0	24.4	21265.7	42.2
20	ternary none TweenSplitHeadProxy single simd	2239.8	25.0	25.6	23019.1	38.9

Leaderboard (SoftAcc)

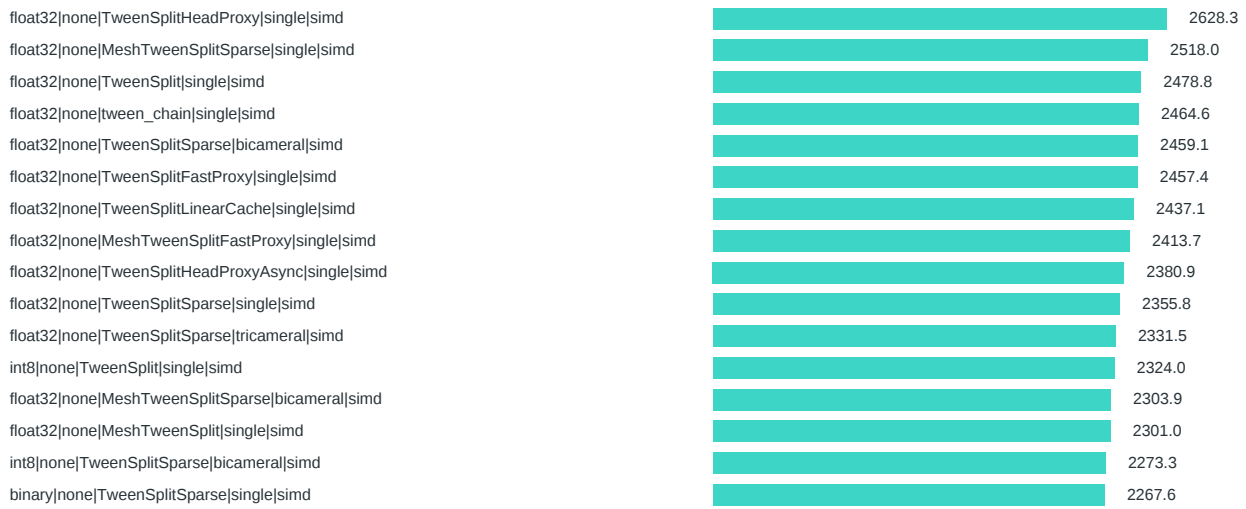
#	Cell	Score	Soft	Acc	Thru	Avail
1	binary none TweenSplitSparse single simd	2267.6	25.0	25.0	23310.0	38.9
2	float32 none tween_chain single simd	2464.6	25.0	26.0	25458.7	38.7
3	float32 none MeshTweenChain single simd	2166.1	25.0	25.7	23000.8	37.7

4	float32 none MeshTweenSplitFastProxy single simd	2413.7	25.0	25.1	24054.1	40.1
5	float16 none TweenSplitLinearCache single simd	2182.7	25.0	24.3	22571.5	38.7
6	ternary none MeshTweenSplit single simd	2172.3	25.0	25.5	22763.5	38.2
7	float32 none MeshTweenSplit single simd	2301.0	25.0	24.8	23121.9	39.8
8	float32 none TweenSplitFastProxy single simd	2457.4	25.0	25.2	24409.2	40.3
9	float32 none TweenSplit single simd	2478.8	25.0	25.1	25147.4	39.4
10	ternary none TweenSplit single simd	2211.6	25.0	25.0	22319.3	39.6
11	float16 none TweenSplitFastProxy single simd	2164.1	25.0	25.4	22432.4	38.6
12	uint8 none TweenSplit single simd	2177.2	25.0	25.3	22079.4	39.4
13	float32 none TweenSplitHeadProxyAsync single simd	2380.9	25.0	25.0	24085.1	39.5
14	int8 none TweenSplitFastProxy single simd	2222.6	25.0	24.9	22725.7	39.1
15	int8 none TweenSplitSparse single simd	2248.7	25.0	25.3	22218.1	40.5
16	ternary none MeshTweenSplitSparse single simd	2212.1	25.0	25.1	22428.5	39.5
17	float32 none MeshTweenSplitSparse bicameral simd	2303.9	25.0	25.1	21539.9	42.8
18	float32 none MeshTweenSplitSparse single simd	2518.0	25.0	24.1	24969.7	40.3
19	float32 none TweenSplitSparse tricameral simd	2331.5	25.0	26.6	21244.6	43.9
20	int8 none MeshTweenSplitSparse bicameral simd	2184.4	25.0	29.3	20388.0	42.9

Leaderboard (hard Acc)

#	Cell	Score	Soft	Acc	Thru	Avail
1	int8 none MeshTweenSplitSparse bicameral simd	2184.4	25.0	29.3	20388.0	42.9
2	float32 none TweenSplitSparse tricameral simd	2331.5	25.0	26.6	21244.6	43.9
3	float32 none tween_chain single simd	2464.6	25.0	26.0	25458.7	38.7
4	float32 none MeshTweenChain single simd	2166.1	25.0	25.7	23000.8	37.7
5	ternary none TweenSplitHeadProxy single simd	2239.8	25.0	25.6	23019.1	38.9
6	ternary none MeshTweenSplit single simd	2172.3	25.0	25.5	22763.5	38.2
7	float16 none TweenSplitFastProxy single simd	2164.1	25.0	25.4	22432.4	38.6
8	ternary none TweenSplitFastProxy single simd	2186.7	25.0	25.3	22149.2	39.5
9	uint8 none TweenSplit single simd	2177.2	25.0	25.3	22079.4	39.4
10	float32 none MeshBP single simd	2244.1	25.0	25.3	23669.4	37.9
11	int8 none TweenSplitSparse single simd	2248.7	25.0	25.3	22218.1	40.5
12	float32 none TweenSplitFastProxy single simd	2457.4	25.0	25.2	24409.2	40.3
13	float32 none MeshTweenSplitFastProxy single simd	2413.7	25.0	25.1	24054.1	40.1
14	float32 none MeshTweenSplitSparse bicameral simd	2303.9	25.0	25.1	21539.9	42.8
15	float32 none TweenSplit single simd	2478.8	25.0	25.1	25147.4	39.4
16	ternary none MeshTweenSplitSparse single simd	2212.1	25.0	25.1	22428.5	39.5
17	float32 none TweenSplitLinearCache single simd	2437.1	25.0	25.1	24763.0	39.4
18	int8 none TweenSplitLinearCache single simd	2163.1	25.0	25.1	22094.5	39.2
19	binary none TweenSplitSparse single simd	2267.6	25.0	25.0	23310.0	38.9
20	float32 none TweenSplitHeadProxyAsync single simd	2380.9	25.0	25.0	24085.1	39.5

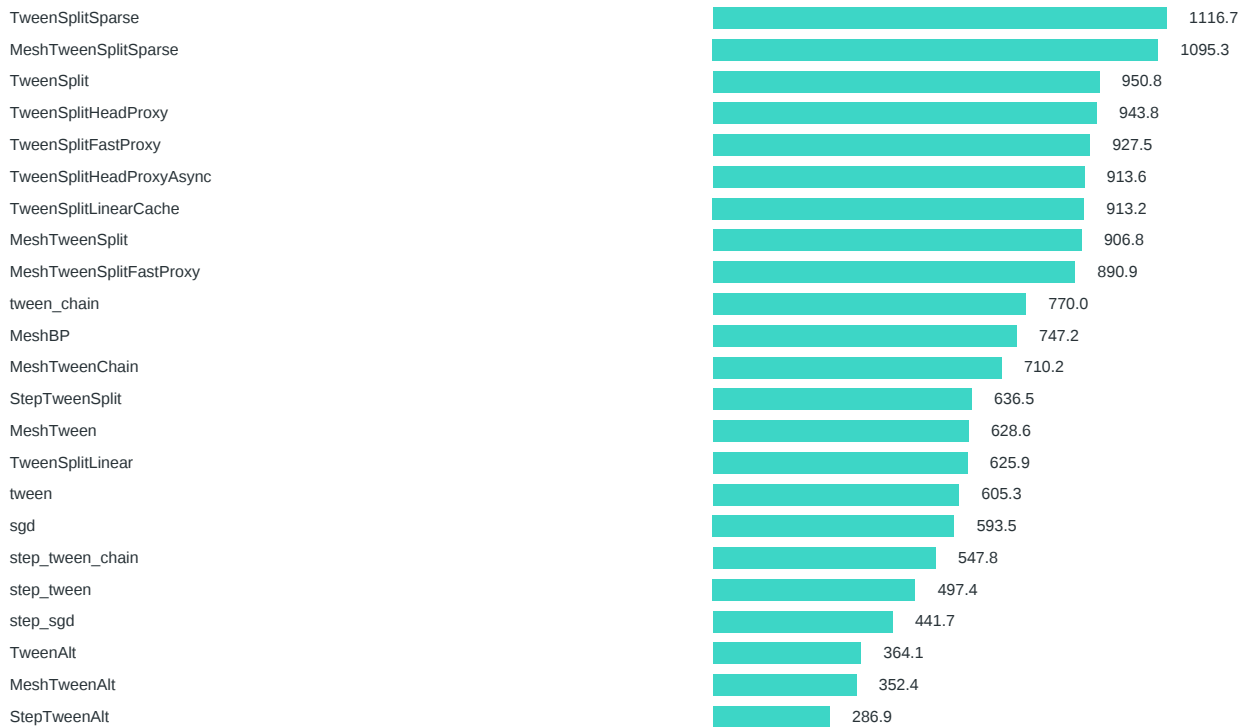
Top scores



Best settings per mode



Mean Score by train mode



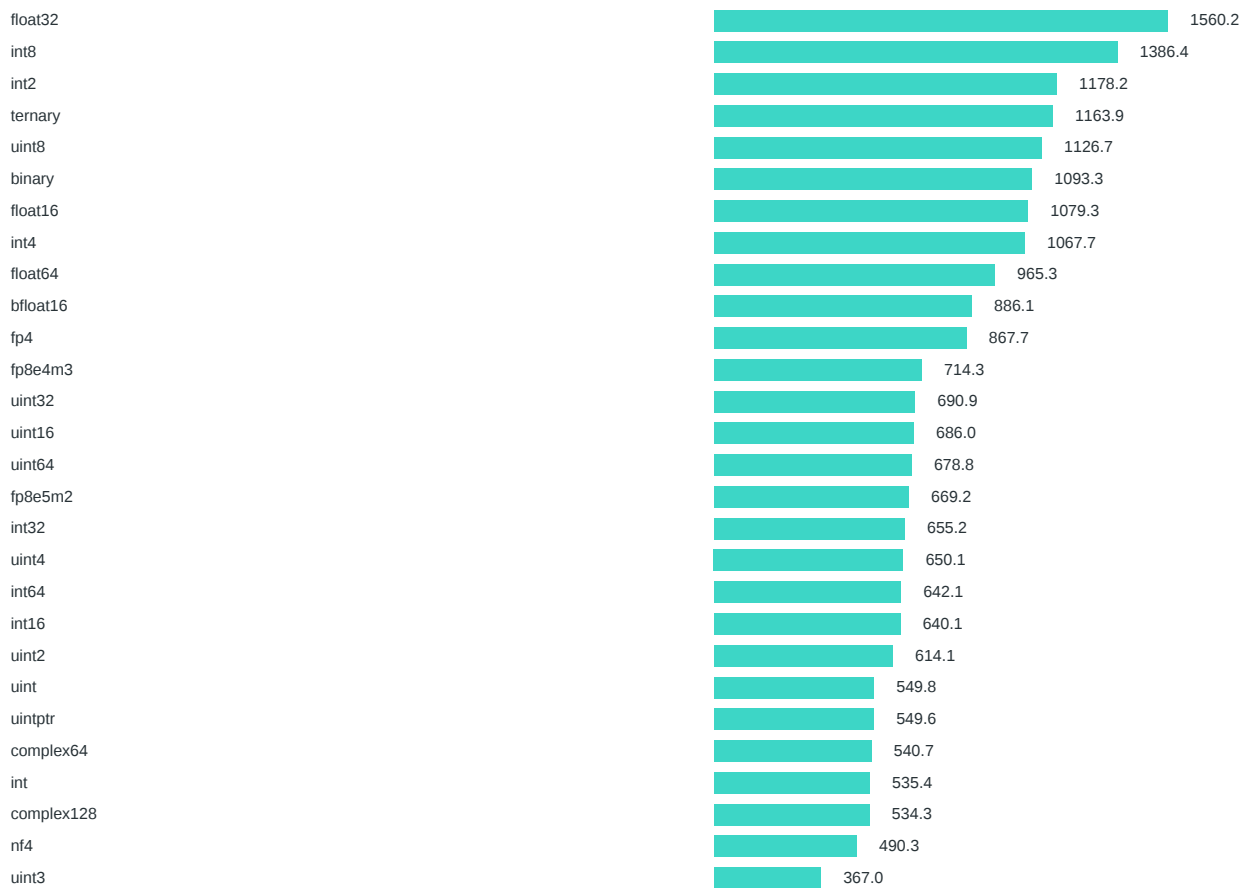
Mean hard Acc by train mode

TweenSplitLinear	25.5
TweenSplitHeadProxy	25.4
TweenSplitFastProxy	25.3
tween	25.2
step_tween_chain	25.2
MeshTweenSplitSparse	25.2
TweenSplitHeadProxyAsync	25.2
TweenSplitLinearCache	25.2
step_tween	25.2
MeshTweenChain	25.1
MeshTweenSplit	25.0
TweenAlt	25.0
StepTweenSplit	25.0
TweenSplit	25.0
step_sgd	25.0
MeshTweenAlt	25.0
TweenSplitSparse	24.9
StepTweenAlt	24.8
tween_chain	24.8
MeshBP	24.8
MeshTween	24.8
MeshTweenSplitFastProxy	24.8
sgd	24.5

Mean SoftAcc by train mode

StepTweenAlt	25.0
MeshTweenChain	25.0
TweenSplitFastProxy	25.0
TweenSplitSparse	25.0
MeshTweenSplitFastProxy	25.0
TweenSplitLinearCache	25.0
MeshBP	25.0
sgd	25.0
TweenSplitHeadProxyAsync	25.0
MeshTween	25.0
MeshTweenSplitSparse	25.0
TweenSplit	25.0
TweenSplitLinear	25.0
MeshTweenSplit	25.0
TweenSplitHeadProxy	25.0
StepTweenSplit	25.0
MeshTweenAlt	25.0
TweenAlt	25.0
step_tween_chain	25.0
tween	25.0
tween_chain	25.0
step_tween	25.0
step_sgd	25.0

Mean Score by dtype



Mean hard Acc by dtype



Mean Score by arch



Honesty - mean Score, every mode x dtype (cols 1-16)

	bfloat16	binary	complex1	complex6	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int	int16	int2	int3	int32
MeshBP	899	1085	558	546	1177	1669	1038	933	275	725	723	538	687	1191	373	711
MeshTween	813	916	460	466	939	1483	874	766	219	640	581	465	571	1017	311	567
MeshTweenAlt	470	503	269	272	504	811	473	420	135	357	330	281	306	535	164	340
MeshTweenChain	879	1024	521	522	1086	1611	989	852	264	700	690	547	653	1186	358	631
MeshTweenSplit	1087	1392	709	732	1321	1755	1166	1110	368	960	857	703	805	1454	467	846
MeshTweenSplitFa	1095	1384	672	672	1321	1897	1222	1008	348	892	820	690	812	1442	480	825
MeshTweenSplitSp	1358	1808	783	789	1735	2342	1423	1348	388	1092	1007	789	956	1968	505	956
StepTweenAlt	366	428	200	208	435	689	406	351	94	278	291	204	256	495	127	264
StepTweenSplit	792	1041	451	467	968	1390	812	796	225	625	596	480	553	1063	302	565
TweenAlt	470	489	279	270	536	872	541	449	134	374	347	262	319	599	177	344
TweenSplit	1160	1460	720	710	1397	1921	1277	1128	372	964	901	725	865	1483	502	888
TweenSplitFastPr	1133	1421	716	699	1404	1897	1245	1102	359	906	888	705	839	1500	478	857
TweenSplitHeadPr	1188	1469	727	734	1398	1993	1287	1083	375	978	879	706	829	1549	504	874
TweenSplitHeadPr	1168	1386	704	694	1369	1893	1233	1094	382	939	860	700	798	1500	488	837
TweenSplitLinear	768	838	470	496	909	1427	891	813	233	664	596	498	604	958	324	601
TweenSplitLinear	1149	1393	702	688	1388	1885	1180	1114	359	943	846	672	832	1430	472	849
TweenSplitSparse	1358	1866	800	823	1736	2382	1476	1338	393	1075	1028	800	960	1976	537	984
sgd	680	877	470	484	801	1244	752	747	217	526	527	470	543	1015	303	555
step_sgd	567	658	309	320	666	1040	615	571	157	439	412	309	389	742	203	393
step_tween	620	786	339	353	771	1171	689	625	160	503	466	347	440	857	223	463
step_tween_chain	681	823	396	406	879	1311	739	660	188	540	495	382	476	908	263	501
tween	721	975	481	489	904	1388	825	707	237	564	554	479	525	969	339	508
tween_chain	958	1121	552	596	1178	1815	1049	939	290	747	699	561	705	1260	395	712

Honesty - mean Score, every mode x dtype (cols 17-32)

Honesty - mean Score, every mode x dtype (cols 17-32)

	int4	int5	int6	int64	int8	nf4	ternary	uint	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64
MeshBP	1052	309	287	671	1470	514	1134	573	743	667	393	719	677	303	287	697
MeshTween	886	252	233	567	1228	425	995	463	624	553	320	605	569	259	229	577
MeshTweenAlt	520	144	131	312	724	228	536	265	341	320	158	365	332	141	124	340
MeshTweenChain	1024	283	271	640	1422	459	1040	534	696	624	362	713	638	299	290	715
MeshTweenSplit	1368	394	375	838	1618	638	1541	742	866	780	488	891	827	408	366	849
MeshTweenSplitFa	1335	361	346	796	1630	629	1512	679	841	750	487	866	831	386	337	857
MeshTweenSplitSp	1787	429	399	928	2153	734	1956	804	1030	902	516	1014	950	443	405	1013
StepTweenAlt	427	106	91	261	613	186	447	214	260	250	135	265	264	103	99	267
StepTweenSplit	1032	249	238	553	1252	436	1076	489	599	519	307	614	548	259	229	617
TweenAlt	501	137	125	323	723	246	542	274	371	320	178	354	325	142	137	339
TweenSplit	1404	415	391	862	1759	653	1582	741	916	810	495	928	908	413	389	932
TweenSplitFastPr	1390	383	358	836	1722	636	1548	730	919	794	485	947	829	403	352	879
TweenSplitHeadPr	1401	402	378	864	1698	633	1533	737	883	848	498	890	872	395	379	905
TweenSplitHeadPr	1365	375	358	820	1730	614	1453	726	865	787	487	890	844	397	369	874
TweenSplitLinear	881	265	248	580	1145	452	904	487	598	538	332	607	601	262	248	587
TweenSplitLinear	1368	380	357	824	1666	640	1473	739	929	816	467	898	863	379	359	888
TweenSplitSparse	1784	420	409	987	2216	774	2050	808	1035	918	544	1037	970	445	416	1054
sgd	852	248	233	561	1197	418	927	470	596	523	322	594	552	247	229	572
step_sgd	634	160	156	387	950	302	698	328	405	371	211	411	409	174	147	423
step_tween	778	173	156	433	1049	317	849	346	460	405	226	463	458	176	164	473
step_tween_chain	801	206	180	485	1155	369	884	405	511	473	275	526	488	207	198	516
tween	865	257	237	525	1209	452	919	500	539	497	355	558	515	270	244	523
tween_chain	1104	299	285	715	1559	521	1170	589	751	659	400	735	684	306	281	715

Honesty - mean Score, every mode x dtype (cols 33-34)

Honesty - mean Score, every mode x dtype (cols 33-34)

	uint8	uintptr
MeshBP	1215	566
MeshTween	1025	475
MeshTweenAlt	555	274
MeshTweenChain	1093	533
MeshTweenSplit	1386	724
MeshTweenSplitFa	1384	685
MeshTweenSplitSp	1725	806
StepTweenAlt	469	205
StepTweenSplit	1025	474
TweenAlt	603	274
TweenSplit	1481	774
TweenSplitFastPr	1431	745
TweenSplitHeadPr	1445	758
TweenSplitHeadPr	1359	705
TweenSplitLinear	964	493
TweenSplitLinear	1376	723
TweenSplitSparse	1758	811
sgd	966	460
step_sgd	729	330
step_tween	822	351
step_tween_chain	886	412
tween	973	477
tween_chain	1244	586

Honesty - mean hard Acc, every mode x dtype (cols 1-16)

Honesty - mean hard Acc, every mode x dtype (cols 1-16)

	bfloat16	binary	complex1	complex6	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int	int16	int2	int3	int32
MeshBP	25	22	25	26	25	27	26	25	25	25	25	24	24	26	20	26
MeshTween	24	26	27	27	25	25	27	25	26	25	22	25	25	22	25	26
MeshTweenAlt	25	23	25	24	25	25	25	25	27	25	25	25	25	25	27	25
MeshTweenChain	25	28	26	24	25	26	25	25	23	26	24	24	24	27	26	25
MeshTweenSplit	25	25	25	25	25	25	25	25	26	25	25	25	25	24	26	25
MeshTweenSplitFa	25	27	25	23	25	26	25	25	22	25	26	23	26	27	24	24
MeshTweenSplitSp	27	27	24	25	25	24	25	26	28	24	25	26	25	24	26	25
StepTweenAlt	25	24	25	25	25	25	25	25	25	24	26	25	25	24	23	25
StepTweenSplit	25	24	25	25	25	25	25	25	25	25	25	25	25	26	23	25
TweenAlt	25	24	25	25	25	25	25	25	25	25	24	25	25	23	27	25
TweenSplit	25	25	24	25	25	25	25	25	25	25	25	25	25	26	25	25
TweenSplitFastPr	25	27	26	25	26	26	25	26	26	23	23	25	27	24	26	24
TweenSplitHeadPr	26	26	25	25	27	24	25	25	28	25	24	24	25	25	24	26
TweenSplitHeadPr	25	24	25	25	26	25	26	25	26	27	26	23	25	27	24	24
TweenSplitLinear	25	26	25	25	26	25	28	25	25	25	29	27	26	26	25	25
TweenSplitLinear	25	25	27	25	26	24	23	25	22	27	25	27	25	27	23	25
TweenSplitSparse	26	26	25	25	26	25	25	25	24	25	25	25	26	26	25	25
sgd	25	25	26	24	25	25	24	25	22	25	22	25	26	25	25	26
step_sgd	25	24	26	24	27	26	26	25	23	26	26	24	23	23	28	25
step_tween	26	28	25	24	28	25	25	25	23	25	26	25	24	24	26	26
step_tween_chain	25	24	25	26	25	23	25	25	23	25	25	25	28	27	27	25
tween	26	28	24	24	25	25	26	25	25	25	23	26	24	25	27	26
tween_chain	25	25	25	24	25	25	27	25	23	24	23	25	25	24	26	24

Honesty - mean hard Acc, every mode x dtype (cols 17-32)

Honesty - mean hard Acc, every mode x dtype (cols 17-32)

	int4	int5	int6	int64	int8	nf4	ternary	uint	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64
MeshBP	25	27	24	23	25	23	24	26	26	26	25	24	24	25	25	24
MeshTween	24	26	24	24	23	21	26	24	23	26	24	24	24	27	28	23
MeshTweenAlt	25	25	25	25	25	24	24	26	25	25	23	25	25	26	25	25
MeshTweenChain	25	25	26	25	24	26	27	25	24	25	23	25	24	26	25	26
MeshTweenSplit	24	25	25	25	25	25	25	25	26	27	25	25	25	25	25	25
MeshTweenSplitFa	25	25	25	25	26	25	24	24	26	25	28	25	21	22	23	25
MeshTweenSplitSp	25	25	25	25	26	24	24	26	24	26	25	25	27	24	24	25
StepTweenAlt	25	25	24	25	25	25	24	25	25	25	27	24	25	25	25	25
StepTweenSplit	23	24	26	25	25	24	25	25	25	25	26	25	27	26	25	25
TweenAlt	25	25	25	24	25	25	25	26	25	26	24	25	24	25	25	25
TweenSplit	25	24	25	25	25	26	26	25	25	24	25	25	24	25	25	25
TweenSplitFastPr	26	23	26	25	27	25	25	26	25	27	26	25	25	23	27	25
TweenSplitHeadPr	24	25	28	26	24	24	26	25	25	24	24	24	26	31	26	27
TweenSplitHeadPr	25	25	26	25	25	26	24	25	25	26	25	26	26	24	25	25
TweenSplitLinear	27	24	25	23	24	25	26	27	26	25	27	24	26	24	26	26
TweenSplitLinear	25	26	24	27	27	26	25	26	26	28	25	26	24	24	24	23
TweenSplitSparse	24	23	23	24	24	27	26	24	24	26	24	24	26	24	24	25
sgd	22	23	22	27	24	23	23	24	26	27	24	26	23	23	25	25
step_sgd	25	26	25	27	25	26	26	24	22	24	25	25	26	23	24	27
step_tween	27	27	26	25	24	24	26	24	24	25	25	26	25	23	25	24
step_tween_chain	22	24	27	27	27	28	25	23	25	25	27	23	25	26	25	25
tween	26	25	24	24	24	26	27	26	26	23	25	27	27	25	23	25
tween_chain	25	24	24	24	24	24	24	25	23	26	24	27	27	27	25	25

Honesty - mean hard Acc, every mode x dtype (cols 33-34)

Honesty - mean hard Acc, every mode x dtype (cols 33-34)

	uint8	uintptr
MeshBP	26	25
MeshTween	25	27
MeshTweenAlt	25	24
MeshTweenChain	25	25
MeshTweenSplit	25	25
MeshTweenSplitFa	26	25
MeshTweenSplitSp	25	27
StepTweenAlt	25	25
StepTweenSplit	25	25
TweenAlt	25	24
TweenSplit	25	25
TweenSplitFastPr	24	25
TweenSplitHeadPr	25	26
TweenSplitHeadPr	27	25
TweenSplitLinear	26	25
TweenSplitLinear	25	26
TweenSplitSparse	25	25
sgd	26	26
step_sgd	25	25
step_tween	29	22
step_tween_chain	24	24
tween	25	27
tween_chain	23	25

Honesty - mean SoftAcc, every mode x dtype (cols 1-16)

Honesty - mean SoftAcc, every mode x dtype (cols 1-16)

	bfloat16	binary	complex1	complex6	float16	float32	float64	fp4	fp6	fp8e4m3	fp8e5m2	int	int16	int2	int3	int32
MeshBP	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTween	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTweenAlt	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTweenChain	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTweenSplit	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTweenSplitFa	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTweenSplitSp	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
StepTweenAlt	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
StepTweenSplit	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenAlt	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplit	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitFastPr	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitHeadPr	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitHeadPr	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitLinear	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitLinear	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitSparse	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
sgd	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
step_sgd	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
step_tween	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
step_tween_chain	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
tween	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
tween_chain	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

Honesty - mean SoftAcc, every mode x dtype (cols 17-32)

Honesty - mean SoftAcc, every mode x dtype (cols 17-32)

	int4	int5	int6	int64	int8	nf4	ternary	uint	uint16	uint2	uint3	uint32	uint4	uint5	uint6	uint64
MeshBP	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTween	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTweenAlt	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTweenChain	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTweenSplit	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTweenSplitFa	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
MeshTweenSplitSp	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
StepTweenAlt	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
StepTweenSplit	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenAlt	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplit	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitFastPr	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitHeadPr	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitHeadPr	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitLinear	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitLinear	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TweenSplitSparse	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
sgd	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
step_sgd	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
step_tween	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
step_tween_chain	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
tween	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
tween_chain	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

Honesty - mean SoftAcc, every mode x dtype (cols 33-34)

Honesty - mean SoftAcc, every mode x dtype (cols 33-34)

	uint8	uintptr
MeshBP	25	25
MeshTween	25	25
MeshTweenAlt	25	25
MeshTweenChain	25	25
MeshTweenSplit	25	25
MeshTweenSplitFa	25	25
MeshTweenSplitSp	25	25
StepTweenAlt	25	25
StepTweenSplit	25	25
TweenAlt	25	25
TweenSplit	25	25
TweenSplitFastPr	25	25
TweenSplitHeadPr	25	25
TweenSplitHeadPr	25	25
TweenSplitLinear	25	25
TweenSplitLinear	25	25
TweenSplitSparse	25	25
sgd	25	25
step_sgd	25	25
step_tween	25	25
step_tween_chain	25	25
tween	25	25
tween_chain	25	25

Mean Score, every mode x arch

Mean Score, every mode x arch

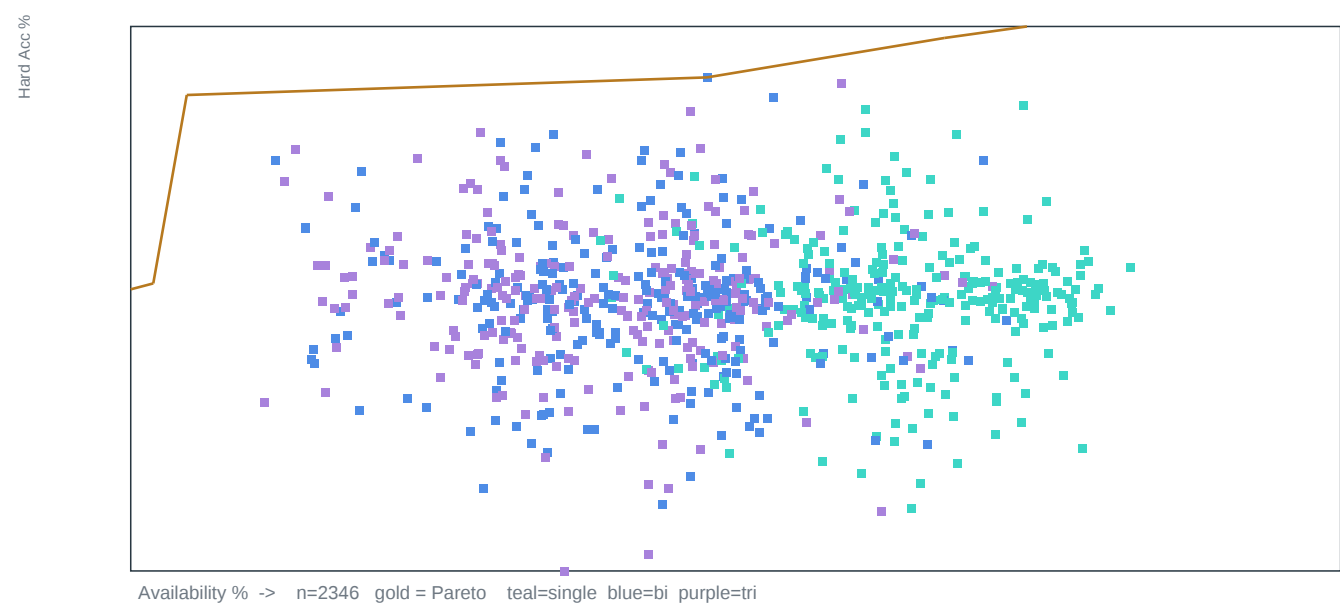
	bicamera	singlex1	tricamer
MeshBP	442	1442	357
MeshTween	383	1193	310
MeshTweenAlt	201	704	152
MeshTweenChain	422	1374	335
MeshTweenSplit	645	1537	539
MeshTweenSplitFa	635	1482	556
MeshTweenSplitSp	924	1550	812
StepTweenAlt	159	575	126
StepTweenSplit	424	1126	360
TweenAlt	207	722	163
TweenSplit	666	1615	572
TweenSplitFastPr	665	1553	564
TweenSplitHeadPr	670	1600	562
TweenSplitHeadPr	658	1532	550
TweenSplitLinear	424	1092	361
TweenSplitLinear	635	1552	553
TweenSplitSparse	966	1555	829
sgd	360	1128	292
step_sgd	257	862	207
step_tween	295	961	237
step_tween_chain	320	1066	258
tween	411	1068	338
tween_chain	453	1483	374

Mean hard Acc, every mode x arch

Mean hard Acc, every mode x arch

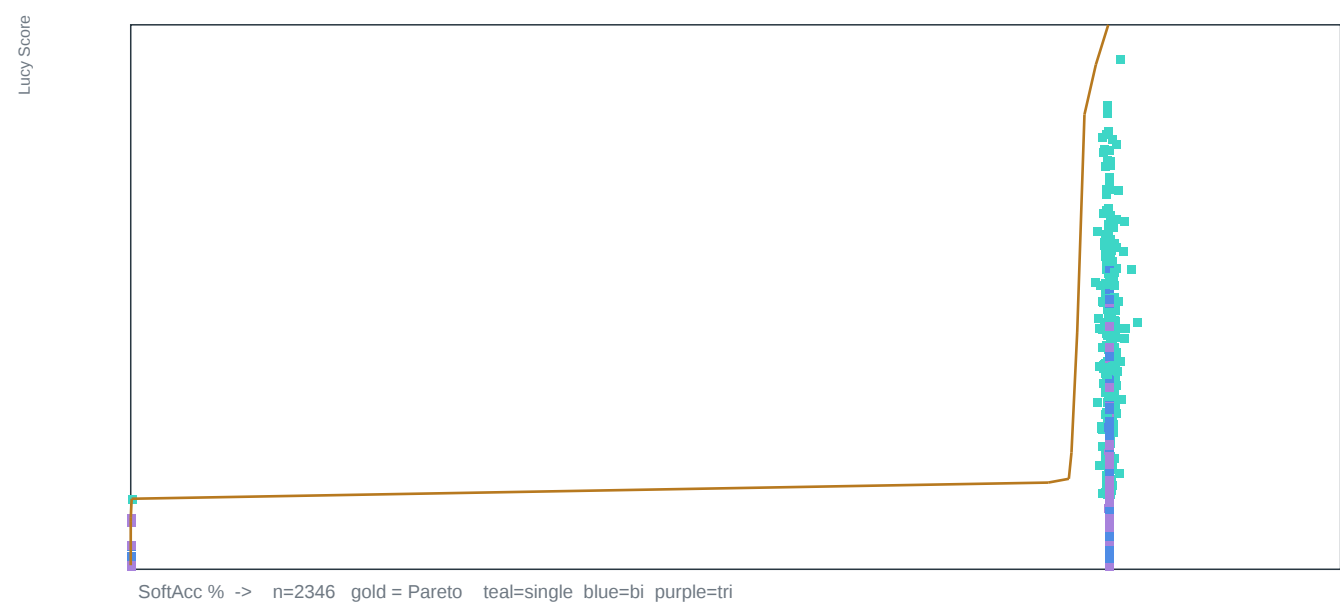
	bicamera	singlex1	tricamer
MeshBP	25	25	25
MeshTween	25	25	25
MeshTweenAlt	25	25	25
MeshTweenChain	25	25	25
MeshTweenSplit	25	25	25
MeshTweenSplitFa	24	25	25
MeshTweenSplitSp	25	25	25
StepTweenAlt	25	25	25
StepTweenSplit	25	25	25
TweenAlt	25	25	25
TweenSplit	25	25	25
TweenSplitFastPr	25	25	26
TweenSplitHeadPr	26	25	26
TweenSplitHeadPr	26	25	25
TweenSplitLinear	25	26	26
TweenSplitLinear	26	25	25
TweenSplitSparse	25	25	25
sgd	24	25	25
step_sgd	25	25	25
step_tween	25	25	25
step_tween_chain	25	25	25
tween	25	25	26
tween_chain	25	25	25

Avail vs hard Acc (headline scatter)

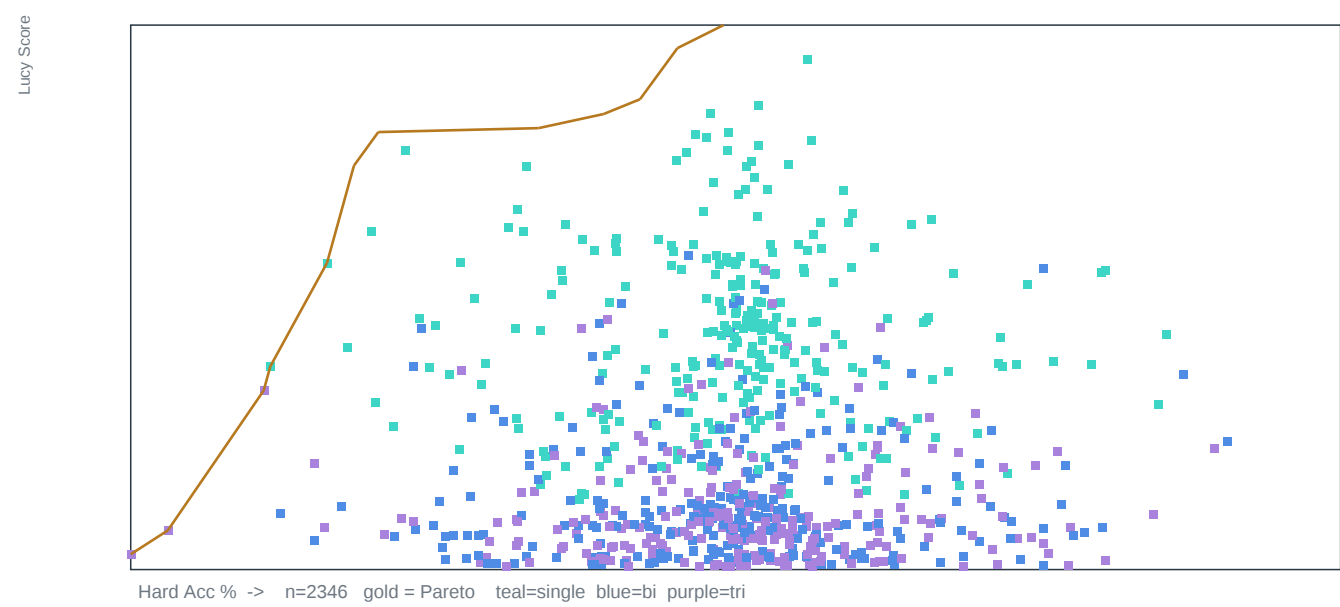


Pareto - SoftAcc vs Score

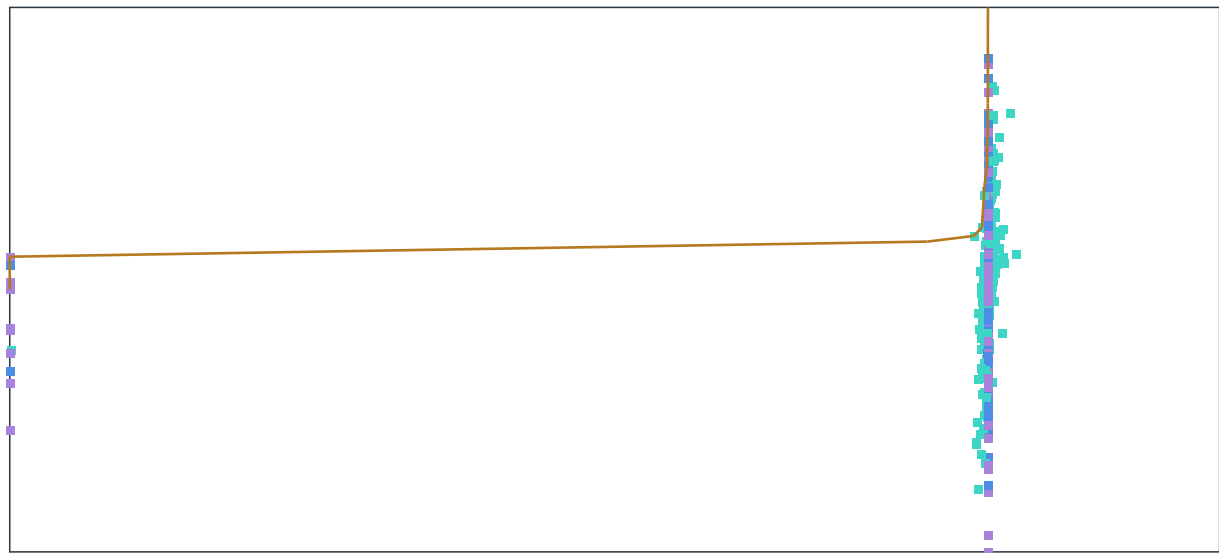
Pareto - SoftAcc vs Score



Pareto - hard Acc vs Score

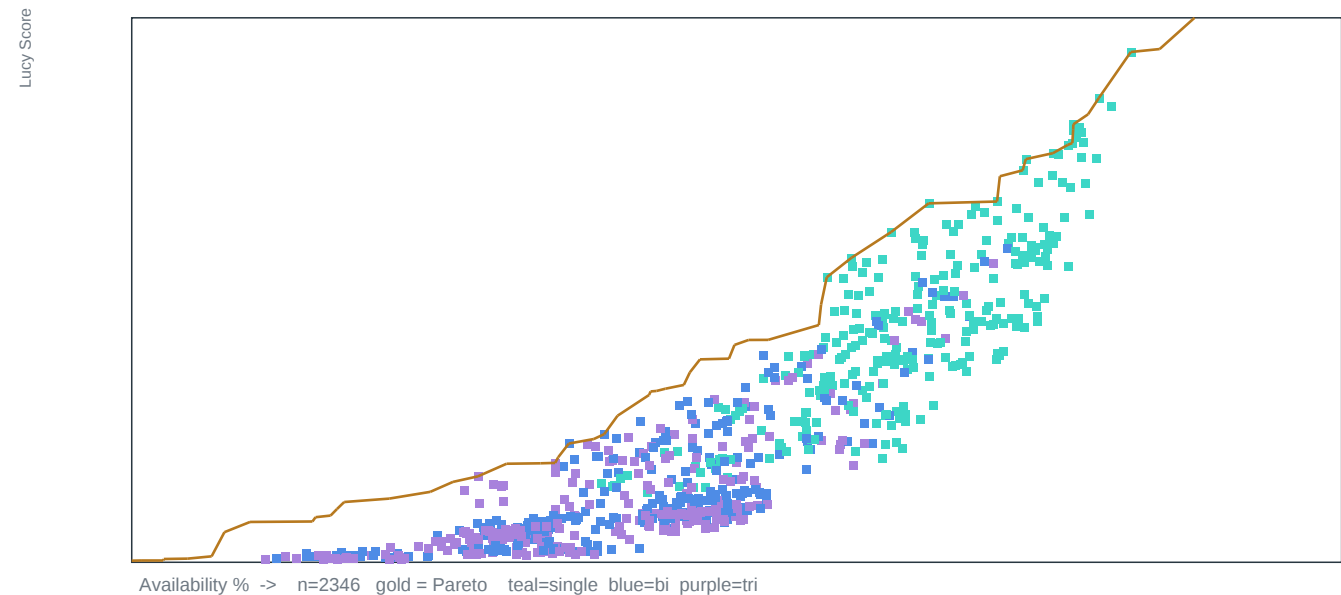


SoftAcc vs hard Acc



Hard Acc %

Avail vs Score (duty clock)



Lucy Pareto (LPD) - goldilocks

Q = geomean of Score/Soft/Acc/Thru vs the Lucy Score champion. LPD = 0 if Q<70%, else Q x shrink vs champ RAM (capped 32x). Gold = Q>=80% and RAM<=20% of champ. MSpeed = Thru vs the board's fastest (0 if Q<70%). MAvail = Availability vs the board's best duty cycle (0 if Q<70%). Mix = geomean(Q, MSpeed, MAvail). Raw Score/MiB is the binary trap.

Quality champ float32|none|TweenSplitHeadProxy|single|simd Score 2628.3 Soft 25 Acc 25 Thru 26101 RAM 2.0 KiB

Board fastest float32|none|TweenSplitHeadProxy|single|simd Thru 26101 Best availability

float32|none|TweenSplitSparse|tricameral|simd 43.9%

Gold - Q >= 80% of champ, RAM <= 20%

Band	Cell	Q%	RAM%	xSmall	LPD	Soft	Acc	Score	KiB
gold	binary none TweenSplitSparse single simd	94	3	32.0	29.98	25	25	2267.6	0.1
gold	binary none TweenSplit single simd	91	3	32.0	29.23	25	25	2151.1	0.1
gold	binary none tween_chain single simd	91	3	32.0	29.03	25	25	2092.4	0.1
gold	binary none MeshTweenSplitSparse single simd	90	3	32.0	28.84	25	25	2090.3	0.1
gold	binary none TweenSplitLinearCache single simd	90	3	32.0	28.78	25	26	2086.2	0.1
gold	binary none MeshTweenSplit single simd	90	3	32.0	28.78	25	24	2112.4	0.1
gold	binary none TweenSplitFastProxy single simd	90	3	32.0	28.77	25	26	2092.0	0.1
gold	binary none MeshTweenSplitFastProxy single simd	90	3	32.0	28.72	25	28	2090.2	0.1
gold	binary none TweenSplitHeadProxy single simd	90	3	32.0	28.70	25	23	2134.1	0.1
gold	binary none MeshBP single simd	89	3	32.0	28.46	25	24	2019.8	0.1
gold	binary none MeshTweenChain single simd	88	3	32.0	28.26	25	30	1968.8	0.1
gold	binary none TweenSplitHeadProxyAsync single simd	87	3	32.0	27.99	25	23	2026.4	0.1
gold	binary none tween single simd	84	3	32.0	26.89	25	27	1726.9	0.1
gold	binary none MeshTween single simd	83	3	32.0	26.59	25	27	1687.1	0.1
gold	binary none sgd single simd	81	3	32.0	25.81	25	26	1628.1	0.1
gold	binary none StepTweenSplit single simd	81	3	32.0	25.78	25	23	1625.2	0.1

Near-gold - Q >= 70%, RAM <= 50%

Band	Cell	Q%	RAM%	xSmall	LPD	Soft	Acc	Score	KiB
near	binary none step_tween_chain single simd	79	3	32.0	25.26	25	23	1545.9	0.1
near	binary none step_tween single simd	79	3	32.0	25.19	25	30	1456.4	0.1
near	binary none TweenSplitLinear single simd	77	3	32.0	24.53	25	28	1404.3	0.1
near	binary none step_sgd single simd	71	3	32.0	22.87	25	26	1205.0	0.1
near	ternary none sgd single simd	79	6	16.0	12.71	25	22	1673.7	0.1
near	ternary none step_tween single simd	79	6	16.0	12.63	25	24	1479.2	0.1

Band	Cell	Q%	RAM%	xSmall	LPD	Soft	Acc	Score	KiB
near	int2 none step_tween_chain single simd	79	6	16.0	12.62	25	27	1470.6	0.1
near	ternary none StepTweenSplit single simd	79	6	16.0	12.59	25	25	1508.3	0.1
near	int2 none TweenSplitLinear single simd	78	6	16.0	12.51	25	25	1467.1	0.1
near	int2 none StepTweenSplit single simd	78	6	16.0	12.44	25	26	1455.1	0.1
near	int2 none MeshTween single simd	77	6	16.0	12.38	25	20	1641.7	0.1
near	ternary none TweenSplitLinear single simd	77	6	16.0	12.34	25	27	1424.2	0.1

LPD rank (Q x shrink; 0 if Q < 70%)

Band	Cell	Q%	RAM%	xSmall	LPD	Soft	Acc	Score	KiB
gold	binary none TweenSplitSparse single simd	94	3	32.0	29.98	25	25	2267.6	0.1
gold	binary none TweenSplit single simd	91	3	32.0	29.23	25	25	2151.1	0.1
gold	binary none tween_chain single simd	91	3	32.0	29.03	25	25	2092.4	0.1
gold	binary none MeshTweenSplitSparse single simd	90	3	32.0	28.84	25	25	2090.3	0.1
gold	binary none TweenSplitLinearCache single simd	90	3	32.0	28.78	25	26	2086.2	0.1
gold	binary none MeshTweenSplit single simd	90	3	32.0	28.78	25	24	2112.4	0.1
gold	binary none TweenSplitFastProxy single simd	90	3	32.0	28.77	25	26	2092.0	0.1
gold	binary none MeshTweenSplitFastProxy single simd	90	3	32.0	28.72	25	28	2090.2	0.1
gold	binary none TweenSplitHeadProxy single simd	90	3	32.0	28.70	25	23	2134.1	0.1
gold	binary none MeshBP single simd	89	3	32.0	28.46	25	24	2019.8	0.1
gold	binary none MeshTweenChain single simd	88	3	32.0	28.26	25	30	1968.8	0.1
gold	binary none TweenSplitHeadProxyAsync single simd	87	3	32.0	27.99	25	23	2026.4	0.1
gold	binary none tween single simd	84	3	32.0	26.89	25	27	1726.9	0.1
gold	binary none MeshTween single simd	83	3	32.0	26.59	25	27	1687.1	0.1
gold	binary none sgd single simd	81	3	32.0	25.81	25	26	1628.1	0.1
gold	binary none StepTweenSplit single simd	81	3	32.0	25.78	25	23	1625.2	0.1
near	binary none step_tween_chain single simd	79	3	32.0	25.26	25	23	1545.9	0.1
near	binary none step_tween single simd	79	3	32.0	25.19	25	30	1456.4	0.1
near	binary none TweenSplitLinear single simd	77	3	32.0	24.53	25	28	1404.3	0.1
near	binary none step_sgd single simd	71	3	32.0	22.87	25	26	1205.0	0.1

Mobile speed - Thru vs board fastest (Q >= 70%)

Band	Cell	Q%	Spd%	Duty%	Mix%	LPD	Thru	Avail
keep	float32 none TweenSplitHeadProxy single simd	100	100	92	97	1.00	26101	40.3
keep	float32 none tween_chain single simd	98	98	88	94	0.98	25459	38.7
keep	float32 none TweenSplit single simd	98	96	90	95	0.98	25147	39.4
keep	float32 none MeshTweenSplitSparse single simd	97	96	92	95	0.97	24970	40.3
keep	float32 none TweenSplitLinearCache single simd	97	95	90	94	0.97	24763	39.4
keep	float32 none TweenSplitFastProxy single simd	97	94	92	94	0.97	24409	40.3
keep	float32 none TweenSplitHeadProxyAsync single simd	96	92	90	93	0.96	24085	39.5
keep	float32 none MeshTweenSplitFastProxy single simd	96	92	91	93	0.96	24054	40.1
keep	float32 none MeshBP single simd	94	91	86	90	0.94	23669	37.9
keep	float32 none TweenSplitSparse single simd	94	90	91	92	0.94	23511	40.1

Mobile availability - duty cycle vs board best (Q >= 70%)

Band	Cell	Q%	Spd%	Duty%	Mix%	LPD	Thru	Avail
keep	float32 none TweenSplitSparse tricameral simd	92	81	100	91	0.03	21245	43.9
keep	int8 none MeshTweenSplitSparse tricameral simd	89	76	99	88	0.11	19905	43.4
keep	float32 none MeshTweenSplitSparse tricameral simd	88	78	98	88	0.03	20384	43.2
keep	float32 none TweenSplitSparse bicameral simd	95	88	98	93	0.04	22848	43.1
keep	uint8 none TweenSplitSparse bicameral simd	81	65	98	80	0.13	16858	43.0
keep	int8 none MeshTweenSplitSparse bicameral simd	90	78	98	88	0.14	20388	42.9

keep	float32 none MeshTweenSplitSparse bicameral simd	92	83	97	91	0.04	21540	42.8
-	float16 none MeshTweenSplitSparse bicameral simd	79	60	97	77	0.06	15704	42.7
keep	int8 none TweenSplitSparse bicameral simd	90	82	97	90	0.14	21284	42.7
-	binary none MeshTweenSplitSparse tricameral simd	77	58	97	76	0.75	15213	42.6

Mix - geomean of Q, MSpeed, MAVail

Band	Cell	Q%	Spd%	Duty%	Mix%	LPD	Thru	Avail
keep	float32 none TweenSplitHeadProxy single simd	100	100	92	97	1.00	26101	40.3
keep	float32 none MeshTweenSplitSparse single simd	97	96	92	95	0.97	24970	40.3
keep	float32 none TweenSplit single simd	98	96	90	95	0.98	25147	39.4
keep	float32 none tween_chain single simd	98	98	88	94	0.98	25459	38.7
keep	float32 none TweenSplitFastProxy single simd	97	94	92	94	0.97	24409	40.3
keep	float32 none TweenSplitLinearCache single simd	97	95	90	94	0.97	24763	39.4
keep	float32 none TweenSplitSparse bicameral simd	95	88	98	93	0.04	22848	43.1
keep	float32 none MeshTweenSplitFastProxy single simd	96	92	91	93	0.96	24054	40.1
keep	float32 none TweenSplitHeadProxyAsync single simd	96	92	90	93	0.96	24085	39.5
keep	float32 none TweenSplitSparse single simd	94	90	91	92	0.94	23511	40.1

Trap - tiny RAM, Q < 70% (why Score/MiB lies)

Band	Cell	Q%	RAM%	xSmall	LPD	Soft	Acc	Score	KiB
trap	binary none TweenAlt single simd	65	3	32.0	0.00	25	24	950.4	0.1
trap	binary none StepTweenAlt single simd	62	3	32.0	0.00	25	24	841.5	0.1
trap	binary none MeshTweenAlt single simd	66	3	32.0	0.00	25	24	996.2	0.1
trap	int2 none step_sgd single simd	68	6	16.0	0.00	25	20	1223.8	0.1
trap	int2 none TweenAlt single simd	70	6	16.0	0.00	25	27	1085.7	0.1
trap	ternary none TweenAlt single simd	69	6	16.0	0.00	25	26	1086.1	0.1
trap	int2 none StepTweenAlt single simd	59	6	16.0	0.00	25	20	852.2	0.1
trap	ternary none StepTweenAlt single simd	61	6	16.0	0.00	25	23	839.2	0.1
trap	int2 none MeshTweenAlt single simd	65	6	16.0	0.00	25	26	946.6	0.1
trap	ternary none MeshTweenAlt single simd	67	6	16.0	0.00	25	22	1061.8	0.1

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

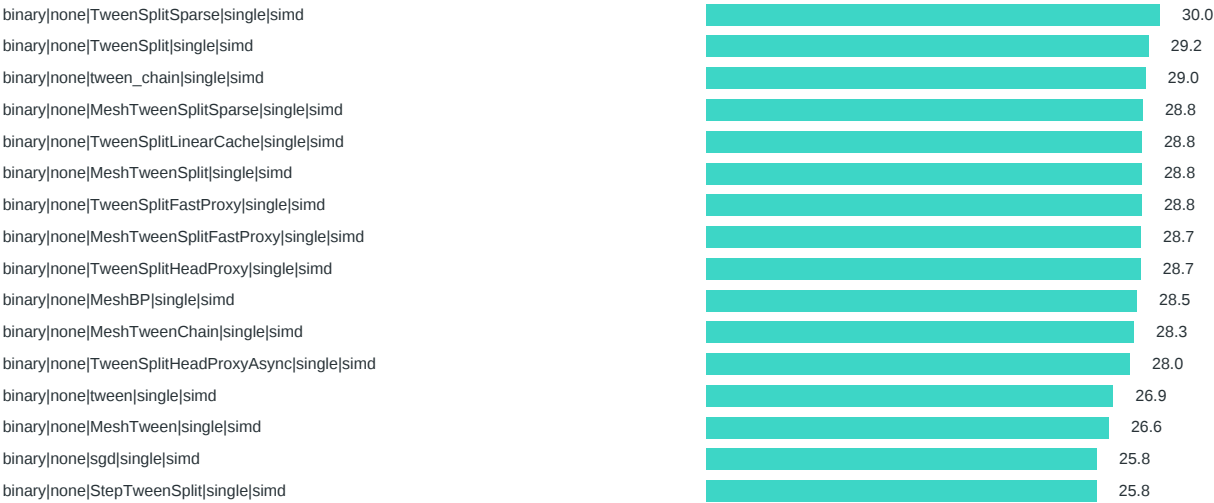


LPD - Q% vs shrink vs champ (gold = upper right)

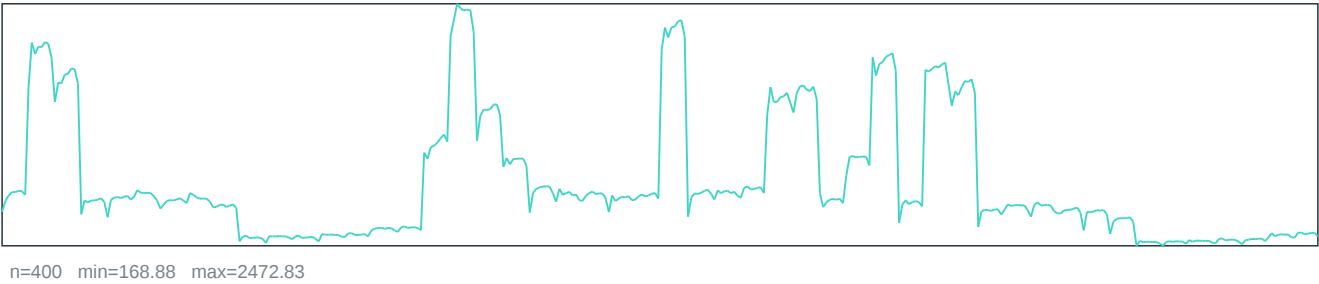
LPD - Q% vs shrink vs champ (gold = upper right)



Top LPD



Live pulse (Score)

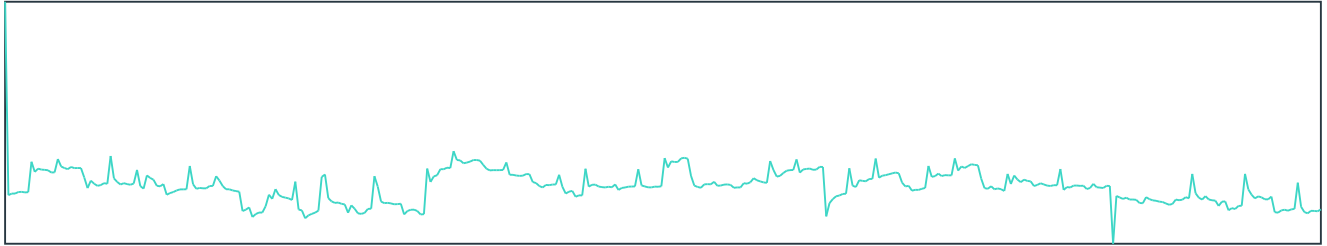


Live pulse (SoftAcc)



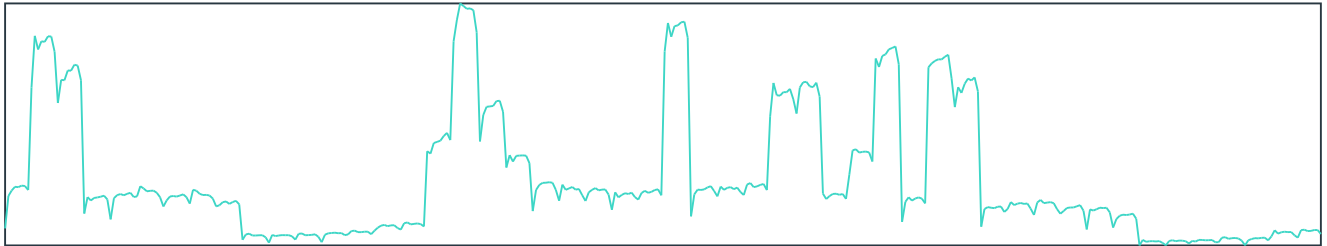
n=400 min=25.00 max=25.00

Live pulse (Availability)



n=400 min=33.96 max=60.73

Live pulse (Throughput)



n=400 min=1755.86 max=22905.30

Queue by train mode (this epoch)

Mode	Done	Run	Left	Total
sgd	102	0	0	102
step_sgd	102	0	0	102
tween	102	0	0	102
tween_chain	102	0	0	102
step_tween	102	0	0	102
step_tween_chain	102	0	0	102
MeshBP	102	0	0	102
MeshTween	102	0	0	102
MeshTweenChain	102	0	0	102
TweenSplit	102	0	0	102
StepTweenSplit	102	0	0	102
TweenAlt	102	0	0	102
StepTweenAlt	102	0	0	102
TweenSplitHeadProxy	102	0	0	102
TweenSplitLinear	102	0	0	102
TweenSplitFastProxy	102	0	0	102
TweenSplitLinearCache	102	0	0	102
TweenSplitHeadProxyAsync	102	0	0	102
TweenSplitSparse	102	0	0	102
MeshTweenSplit	102	0	0	102
MeshTweenAlt	102	0	0	102
MeshTweenSplitFastProxy	102	0	0	102
MeshTweenSplitSparse	102	0	0	102